

CRN# Country State County Locality GPS reading Longitude split out beginning record
12958 Elevation Date Start Date End Collector, C. R. Nelson CRN# Other collectors CRN
Book Number GPS code Notes Taxa Project Number CRN#

PANAMA: Gamboa 08-Aug-1986 10-Aug-1986 C. R. Nelson # , H. Black, C. Jorgensen, & J. Whiting. 1 This is the beginning of my numbering system. I renumbered backward from Book 4 at #4055 on 6 April 2003. I'll figure out how to number previous collections later malaise traps, light traps, a few hand collections

3969 USA: UTAH: Carbon Co., Price Canyon Recreation Area, 16 miles N of Price 19-Sep-1986 C. R. Nelson # 3969 1 Efferia frewingi? female; Machimus; Stenopogon; Agapostemon; Mutillidae? males; Bombylius 3969

3970 USA: UTAH: Carbon Co., Jct Hwy 6 & 123, 8 miles W of East Carbon 19-Sep-1986 C. R. Nelson # 3970 1 Efferia frewingi? ; Stichopogon; Proctacanthella f; Cicindela 2 spp., Crossidius. 3970

3971 USA: UTAH: Grand Co., Green River, 5 miles S of Green River town 19-Sep-1986 C. R. Nelson # 3971 & R. W. Baumann 1 Take frontage road 4-5 miles east of Green River town, then take a road south, Map says Crystal Geyser is nearby. Stichopogon; Cophura; Proctacanthella; Xylocopa; bombyliidae: Poecilanthrax?; Aeshnidae 3971

3972 USA: UTAH: Emery Co., Wildhorse Creek, 1 miles N of Goblin Valley 20-Sep-1986 C. R. Nelson # 3972 & R. W. Baumann 1 leafhoppers, one on composite plant specimen; much sedge sweeping; small anthophorid? in a huge colony, turn to Wildhorse Creek, first dry wash upstream on right, from flat camping area; water beetles 3972

3973 USA: UTAH: Emery Co., 3 miles W of Hwy 24, Goblin Valley Road 20-Sep-1986 C. R. Nelson # 3973 & R. W. Baumann 1 stopped at excavation below area where sand drifted on road. Acrolophitis, green grasshopper; Melanopline; red sphecid; Bombyliidae; 3973

3974 USA: UTAH: Juab Co., West Tintic Mountains, Cherry Creek headwaters 08-Apr-1987 C. R. Nelson # 3974 & S. A. Wells. 1 Lonchopteridae, several; Ephydriidae; Elmidae; Zapada cinctipes 1 f; Hesperoperla nymphs; Tingidae; spiders; Corimelaenidae; centipede. 3974

3975 USA: UTAH: Juab Co., Cherry Creek, S of West Tintic Mountains, 1820 meters elev. 08-Apr-1987 C. R. Nelson # 3975 & S. A. Wells. 1 Zapada kept alive & eggs; Prostoia?; Cicadellidae; Miridae; Curculionidae; Halictidae; Salticidae. 3975

3976 USA: UTAH: Juab Co., South slope of West Tintic Mountains, near Cherry Creek, 1750 meters elev. 08-Apr-1987 C. R. Nelson # 3976 & S. A. Wells. 1 Efferia (pogonias group female); Chrysomelidae; Scolytidae; Curculionidae; Miridae; spiders. 3976

3977 USA: UTAH: Juab Co., Burrison Ponds, 6 mi N of Nephi 08-Apr-1987 C. R. Nelson # 3977 & S. A. Wells. 1 Elmidae; Dytiscidae: Agabus, Hydroporus; Laccophilus; Hygrotus; Limnephilus; Empididae: Clinocera; acalypterate flies; Ephemerella; Lonchopteridae. 3977

3978 USA: UTAH: Juab Co., Mona Reservoir, West side 08-Apr-1987 C. R. Nelson # 3978 & S. A. Wells. 1 Meloidae 3978

3979 USA: UTAH: Juab Co., Currant Creek, in canyon below Mona, 1510 meters elev. 08-Apr-1987 C. R. Nelson # 3979 & S. A. Wells. 1 fast flowing turbid stream, lots of Baetis & Hydropsyche Heteroceridae; Carabidae; Elateridae; Lonchopteridae; Delphacidae; Hydrophilidae. saw Baetis and Hydropsyche. 3979

3980 USA: UTAH: Utah Co., Diamond Fork Creek jct Little Diamond Creek 14-Apr-1987 C. R. Nelson # 3980 & S. A. Wells. 1 Isocapnia crinita m f; Isocapnia vedderensis m f; Prostoia besametsa m f; brought back nymphs of Isogenoides zionensis to rear; Tetrigidae; Cicadellidae; Saldidae; caught Pogonomyrmex queens to rear 3980

3981 USA: UTAH: Utah Co., Right Fork Hobbie Creek, Balsam Campground 14-Apr-1987 C. R. Nelson # 3981 & S. A. Wells. 1 Prostoia besametsa adults; Capnia gracilaria adults; Utacapnia logana females; Zapada cinctipes adults; Stenus adults, Staphylinidae. 3981

3982 USA: UTAH: Carbon Co. Dragerton turnoff, Hwy 28, jct Hwy 23 near Grassy Trail Creek 26-May-1987 C. R. Nelson # 3982 & B. A. Haws. 2 1 1 plant, healthy Atriplex 3982

3983 USA: UTAH: Grand Co. 3 mi W of Crescent Junction, I-70 roadside 26-May-1987 C. R. Nelson # 3983 & B. A. Haws. 2 2 2 plant, Atriplex 3983

3984 USA: UTAH: Grand Co. 1.5 mi N of Crescent Junction, Thompson Pass Road 26-May-1987 C. R. Nelson # 3984 & B. A. Haws. 2 3 set up malaise trap; plant: purple composite. 3984

3985 USA: UTAH: Grand Co. Colorado River, Hwy 128, 6 mi NE jct Hwy 163 26-May-1987 C. R. Nelson # 3985 & B. A. Haws. 2 4 Corydalus; saw Isoperla nymphs; on 4 wing: Miridae, 3 kinds, grasshopper nymphs, ants, weevil (hairy). Galls on Chrysothamnus taken alive. 3985

3986 USA: UTAH: Grand Co. Mill Creek, Moab 27-May-1987 C. R. Nelson # 3986 & B. A. Haws. 2 5 Chrysomelidae abundant in riparian vegetation, not host specific; gray coccinellidae; Isoperla, with red abdomens; Rhaphidiidae 1m; small Trichoptera; Stratiomyidae, Nemotelus; Empididae. 3986

3987 USA: UTAH: San Juan Co. Dry Valley BLM exclosure, 34 mi S of Moab; 27-May-1987
C. R. Nelson # 3987 & B. A. Haws. 2 6

set up malaise trap, no plants Many green Miridae nymphs; Miridae adults; Carabidae;
moths; caterpillars; cleridae; Cicadellidae; Efferia f; Ichneumonidae; Curculionidae;
Ortheziidae; Aphididae; 3 scales?; leaf miners; bagworms; small coccinellidae; galls on
Atriplex. 3987

3988 USA: UTAH: San Juan Co. Mill Creek, Moab 27-May-1987 C. R. Nelson # 3988 & B. A.
Haws. 2 7

light trap and streamside searching. Omophron, Carabidae; bombardier beetles; other
carabidae; tipulidae; Hydroptilidae; other adult Trichoptera; misc beetles. 3988

3989 USA: UTAH: Grand Co. Moab, BLM district office 28-May-1987 C. R. Nelson # 3989 &
B. A. Haws. 2 8

8:30 am Efferia males & females; Villa; small anthophorid & nest; nest is 10 meters from
fence along same line as back gate to the yard, then two meters "north". drawn diagram of
turret, approximately 30 nest holes of configuration shown; pictures taken 3989

3990 USA: UTAH: San Juan Co. Dry Valley BLM exclosure, 34 mi S of Moab; 28-May-1987
C. R. Nelson # 3990 & B. A. Haws. 2 9

changed malaise trap, picture malaise trap, picture 4 wing. moths; calypterate flies;
leafhoppers; Ichneumonidae; Pantarbes, Bombyliidae? bee fly; plants: Delphinium, 2
composites; Cryptantha 3990

3991 USA: UTAH: Grand Co. 1.5 mi N of Crescent Junction, Thompson Pass Road N
38.956162 W 109.828061 1526 m 28-May-1987 C. R. Nelson # 3991 & B. A. Haws. 2 10
saw tufted grass = Sporobolus; 100 sweeps on galleta - Hilaria jamesii; took Opuntia with
Dactylopius.

Muhlenbergia makes fairy circles near La Sal Junction

malaise trap sample taken. Efferia females; Buprestidae; mealybugs. 3991

3992 USA: UTAH: Tooele Co. Rush Valley, Faust Road 03-Jun-1987 C. R. Nelson # 3992 &
B. A. Haws. 2 500 sweeps on Atriplex confertifolia; blew out freeze plug on truck at 9:55
am; truck died at 97113;

starting mileage 97040, gas at 46. Efferia benedicti; Negasilus mesae?; galls on Tetradytmia,
Artemesia?; set up malaise trap; buprestidae on globe mallow; photos: site photos taken,
including of Mount Timpanogos; globe mallow, Sphaeralcea parviflora; Artemesia pygmaea
with Cecidomyiidae galls; ant hill; Braconidae; 3992

3993 USA: UTAH: Tooele Co. Rush Valley, East of Faust Station, off road site 04-Jun-1987 C. R. Nelson # 3993 & B. A. Haws. 2 collected *Sphaeralcea parviflora*, a lot of shadscale to rear, cuttings; *Piesmatidae, *Efferia* male; 100 sweeps shadscale. 3993

3994 USA: UTAH: Tooele Co. Rush Valley, 0.5 mi West of Faust Railroad Station 04-Jun-1987 C. R. Nelson # 3994 & B. A. Haws. 2 changed malaise trap and pitfall traps; took shadscale material to try to rear galls; big bombyliidae in malaise trap 3994

3995 USA: UTAH: Tooele Co. Rush Valley, 0.5 mi West of Faust Railroad Station 05-Jun-1987 C. R. Nelson # 3995 & B. A. Haws. 2 changed malaise trap and pitfall traps; collected a mat forming *Eriogonum*, in plant press. 3995

3996 USA: UTAH: Tooele Co. Rush Valley, 0.5 mi West of Faust Railroad Station 11-Jun-1987 C. R. Nelson # 3996 & S. A. Wells. 2 Provo to Railroad site, 54 miles. changed malaise trap, many Ichneumonidae; changed pitfall traps, many buprestidae; *Negasilus mesae*; *Efferia benedicti*; Sam has a Pentatomidae on *Artemesia tridentata*. 100 sweeps shadscale. 3996

3997 USA: UTAH: Salt Lake Co. Butterfield Creek, 10 mi W of Riverton 11-Jun-1987 C. R. Nelson # 3997 & S. A. Wells. 2 nice stream. 1:00 pm Stratiomyidae: *Myxosargus*; *Alloperla*; *Sweltsa color*; *Prostoia*; *Capnia*; *Megarcys*; Elateriae: *Dalopius*, *Ctenicera*, *Melanotus*; Empididae; 3997

3998 USA: UTAH: Salt Lake Co. Butterfield Creek, 7 mi W of Riverton 11-Jun-1987 C. R. Nelson # 3998 & S. A. Wells. 2 also stopped at Jordan River in Riverton, 1 Naucoridae, saw *Tricorythodes*. short - winged perlodid, *Sweltsa coloradensis*; Curculionidae; small *Isoperla* nymphs. 3998

3999 USA: UTAH: Grand Co. Mill Creek, Moab 13-Jun-1987 C. R. Nelson # 3999 & J. K. Nelson 2 Mileage trip odometer, 3.5 Springville, 34.2 Dad's land; Provo 68968; Kaye's notes...

38.0 Tucker Rest Area; gas in Moab, 200.6; 32 mpg; cost \$5.50; 518 miles total, arrived back home 9 pm; 12 June 1987; stayed in cabin in Slickrock Campground on north end of Moab, \$14 for a bed, pool.

69487 - 518 = 68969. 8:00 am, Lampyridae; Empididae; Chrysomelidae; Tetrigidae. 3999

4000 USA: UTAH: Grand Co. Arches National Park, Delicate Arch Trail 13-Jun-1987 C. R. Nelson # 4000 & J. K. Nelson 2 *Efferia* female, male looked like *benedicti*; Cicadidae on shadscale; Tabanidae. 4000

4001 USA: UTAH: San Juan Co. Dry Valley BLM enclosure, 34 mi S of Moab; 13-Jun-1987 C. R. Nelson # 4001 & J. K. Nelson 2 Kaye loves Riley. changed malaise trap; last changed 28

May; many cicadas emerging; some caught on *Atriplex canescens*; Others caught in brown of bottlebrush squirreltail & indian ricegrass; *Cerambycidae* also in trap; 150 Hundred & 50 sweeps on blue gramma. Noted leafhoppers in material especially many small nymphs.

Asilidae: *Efferia* m f; *Stenopogon*?, *Negasilus*. 4001

4002 USA: UTAH: Grand Co. 1.5 mi N of Crescent Junction, Thompson Pass Road 13-Jun-1987 C. R. Nelson # 4002 & J. K. Nelson 2 larger Cicadas (2); reset malaise trap; did not empty malaise trap specimens; 100 sweeps on galleta grass. 4002

4003 USA: UTAH: Grand Co. 1.5 mi N of Crescent Junction, Thompson Pass Road T 21 S R 19E s28SW 18-Jun-1987 C. R. Nelson # 4003 & J. K. Nelson 2 5 shadscale dug, sifted root area: plant 1: 1 stem gall; plant 2: 2 Pentatomidae nymphs, 1 Curculionidae, mealybugs; plant 3: 1 stem gall, 2 Curculionidae, 4 small Tenebrionidae; plant 4: 1 stem gall; plant 5: 1 web spinning caterpillar;

5 ricegrass plant: plant 1: 1 scorpion; plant 2: 14 weevils and 2 small Tenebrionidae; plant 3: 1 Corimelaenidae; plant 4: 8 weevils, 1 small Tenebrionidae, 1 grub, 1 *Cerambycidae* larva; plant 5: 0;

weevils and things on biggest clumps. *Hilaria jamesii* collected 4003

4004 USA: UTAH: Grand Co. Green River at Green River 18-Jun-1987 19-Jun-1987 C. R. Nelson # 4004 & family 2 *Isoperla longisetata*?; *Acroneuria* skins & nymph; *Micropezidae*; *Smicridea* caddis. 4004

4005 USA: UTAH: San Juan Co. Dry Valley BLM exclosure, 34 mi S of Moab; T 20S R23E s21 19-Jun-1987 C. R. Nelson # 4005 2 rare blue gramma in head; *Ephedra viridis*; 200 sweeps 4 wing; 100 sweeps blue gramma, plant voucher, caught *Geometridae* adults on 4 wing, many *Meloidae* on 4 wing. blood scale = *Ortheziidae*, so transforming adult. changed malaise trap bottle.

2 *Scleropogon*; *Negasilus*; *Efferia*; random checked & dug, 5 four wing:

Plant 1: 80% dead, 1 fulgorid; 10 blood scales; 1 *Carabidae*; 1 *Ortheziidae*; plant 2, 20% dead: 5 blood scales; 1 green *Miridae*; 1 tan and black *Miridae*; 1 colorful leafhopper; 1 round headed borer damage; plant 3, 50% dead: 5 adults and nymphs, coiled terminal; 1 round headed borer damage; 1 *Curculionidae*; 1 thrips; 1 bagworm damage; plant 4, no dead: 1 blood scale; 4 *Ortheziidae*; 2 bagworm larvae; 5 *Scolops* nymphs; 1 *Psocoptera*; plant 5, 20% dead: 2 *Carabidae*; 2 *Ortheziidae* nymphs; 1 round headed borer damage; 1 thrips; 1 green caterpillar. 4005

4006 USA: UTAH: San Juan Co. 33 mi s of Moab, Hwy 191, Canyon Rims Road turnoff T30S R23E s22 19-Jun-1987 C. R. Nelson # 4006 2 3 100 sweeps *Stipa comata*. *Negasilus*. 4006

4007 USA: UTAH: San Juan Co. 29 mi S of Moab T29.5S R23E s3? 19-Jun-1987 C. R. Nelson # 4007 2 4 pinyon juniper slickrock, plants on open sand; bladder plant, *Astragalus ceramicus*, tangled with composite, *Hymenopappus filifolius*; 100 sweeps on muley, *Muhlenbergia pungens*. 4007

4008 USA: UTAH: San Juan Co. Dry Valley, BLM exclosure, 34 mi S of Moab, 20-Jun-1987 C. R. Nelson # 4008 & family 2 starting mileage, 69930, Moab; ending mileage 70295, Provo. changed pitfall traps; changed malaise trap; swept *Ephedra*, interesting Miridae and leafhoppers; saw 2 horned lizards and 1 eastern fence lizard; no cicadas. 4008

4009 USA: UTAH: San Juan Co. La Sal Mountains, springs entering Lake Oowah N 38.501133 W 109.272966 2679 m 20-Jun-1987 C. R. Nelson # 4009 & family 2 *Amphinemura*? NO! *malenka flexura*!; *Sweltsa lamba*, now a new species named by Surdick; *Plumipерla diversa*; Tephritidae; Cerambycidae; *Capnia gracilaria*; *Zapada cinctipes*. 4009

4010 USA: UTAH: San Juan Co. La Sal Mountains, Mill Creek above Lake Oowah 20-Jun-1987 C. R. Nelson # 4010 & family 2 Tephritidae; *Taenionema pallidum*; *Zapada haysi*; *Sweltsa*, green borealis; *Zapada frigida*; Empididae; *Prostoia besametsa*; *Doddsia occidentalis*. 4010

4011 USA: UTAH: Grand Co. 1.5 mi N of Crescent Junction, Thompson Pass Road 20-Jun-1987 C. R. Nelson # 4011 & family 2 changed pitfall traps then covered them:

Joke by Kaye: some certicids emerging. End joke. 4011

4012 USA: UTAH: Duchesne Co. 19 mi W of Duchesne, Hwy 40; 25-Jun-1987 C. R. Nelson # 4012 & B. A. Haws & Haws brother. 2 notes for recent work: Bob Whitcomb, thanks to Vernal people, BLM; 26 June 1987, signed travel authorizations; Vernon & vicinity, 3-4 June 1987, per diem \$50, mileage \$93; given to Haws 26 June 1987: Vernon, 11 June, 108 miles; Moab, 12-13 June 275 miles, 24 hours per diem; Moab, 1-19-20 June, 487 miles, 44 hours per diem. *Leptogaster*, *Scleropogon* 4012

4013 USA: UTAH: Duchesne Co. 4 mi W of Duchesne, Hwy 40 25-Jun-1987 C. R. Nelson # 4013 & B. A. Haws & Haws brother. 2 100 sweeps galleta; *Efferia benedicti* 4013

4014 USA: UTAH: Daggett Co. Browns Park Wildlife management Area T2N R25E s35 26-Jun-1987 C. R. Nelson # 4014 & B. A. Haws & Haws brother. 2 mormon crickets, light trap; shadscale site about 0.1 mi W of Colorado line on north side of Green River; also collected a few things at Jarvie Ranch, 100 sweeps galleta, 2 *Athysanella* females? 4014

4015 USA: UTAH: Daggett/Uintah Co. Crouse Creek Road, 1 mi e of Crouse Reservoir turnoff 26-Jun-1987 C. R. Nelson # 4015 & B. A. Haws & Haws brother. 2 mormon crickets; 1 large weevil; on grassy meadows west of Hoy Mountain; pictures taken 4015

4016 USA: UTAH: Uintah Co. Diamond Mountain Plateau, 2 mi S of Crouse Reservoir turnoff 26-Jun-1987 C. R. Nelson # 4016 & B. A. Haws & Haws brother. 2 mormon crickets; ants with aphids and Chamaemyiidae on sagebrush; pictures taken. 4016

4017 USA: UTAH: Tooele Co. Rush Valley, 0.5 mi W of Faust Railroad Station 29-Jun-1987 C. R. Nelson # 4017 2 start 70408, arrive 70463, home 70517; 55 miles Provo to site; 12 miles from site to Hwy 73; 3.5 miles from this site to off road site turnoff. 70463.3 RR site, 70466.8 turnoff, 70467.1 off road site. reset malaise trap, no specimens; checked and covered pitfall traps; 200 sweeps shadscale; overcast day; was raining when I finished. 4017

4018 USA: UTAH: Tooele Co. Rush Valley, 3.2 mi East of Faust Railroad Station 29-Jun-1987 C. R. Nelson # 4018 2 200 sweeps shadscale; swept seeds of *Sphaeralcea parviflora* 4018

4019 USA: UTAH: Tooele Co. Rush Valley, 3.2 mi East of Faust Railroad Station 07-Jul-1987 C. R. Nelson # 4019 2 mileage: start 70603, off road site 70653, RR site 70657, end 70729, miles = 126; Provo - Lehi - RR site = 54 miles; RR site - Goshen - Provo - 72 miles. 200 sweeps shadscale; collected living bagworms 4019

4020 USA: UTAH: Tooele Co. Rush Valley, 0.5 mi W of Faust Railroad Station 07-Jul-1987 C. R. Nelson # 4020 2 200 sweeps shadscale; emptied malaise trap; opened pitfalls & filled with antifreeze; caught *Asilus* in badger holes; brought galls on *Artemesia pygmaea*; brought in galls of cottony type of shadscale 4020

4021 USA: UTAH: Salt Lake Co. Salt Lake Airport 09-Jul-1987 C. R. Nelson # 4021 & Bob Whitcomb 2 3001: 100 sweeps saltgrass, twice; 3002: 70 sweeps muhley and 50 sweeps muhley; 3003 30 swept *Hordeum*. #1 *Muhly specimen kept, *asperifolia*, OK. 4021

4022 USA: UTAH: Emery Co. Huntington Creek, 0.5 mi N of Old Folks Campground, called Stuarts Guard Station?, 1 mi N 10-Jul-1987 C. R. Nelson # 4022 & Bob Whitcomb 2 3004: *Isoperla fulva* female; *Triznaka*; *Pipunculidae*; *Trichoptera* adults. 4022

4023 USA: UTAH: Emery Co. Huntington Canyon at power plant 10-Jul-1987 C. R. Nelson # 4023 & Bob Whitcomb 2 8.5 3005 - 3007: 2 x 100 sweeps blue gramma, 25 sweeps galleta. *Megaphorus*; *Efferia*; *Scenopinidae*.

4023

4024 USA: UTAH: Emery Co. Huntington Canyon, 5 mi NW of Huntington 10-Jul-1987 C. R. Nelson # 4024 & Bob Whitcomb 2 15.5 - 10.8 = 4.7 plant #3008: 25 sweeps *Muhlenbergia richardsonus*, OK. 4024

4025 USA: UTAH: Emery Co. San Rafael Swell, Huntington Creek, 5 mi E of Castledale 10-Jul-1987 C. R. Nelson # 4025 & Bob Whitcomb 2 3009 & 3010: 300 sweeps galleta and 100 sweeps blue gramma; *Efferia*; *Proctacanthella*; *Geron*; *Chrysomelidae*. Large gall on shadscale.

#3011 blue gramma specimen, OK 4025

4026 USA: UTAH: Emery Co. San Rafael Swell, 6 mi E of Castledale, road to San Rafael 10-Jul-1987 C. R. Nelson # 4026 & R. F. Whitcomb 2 3012 & 3013: 200 sweeps galleta and 100 sweeps blue gramma. *Asilus* in prairie dog burrows; tiger beetle, *Cicindelidae*; grasshoppers, *Acrididae*; #3014 galleta specimen kept, checked, *Hilaria jamesii* 4026

4027 USA: UTAH: Emery Co. San Rafael Swell, road to San Rafael River, 6.5 mi E of Castledale 10-Jul-1987 C. R. Nelson # 4027 & R. F. Whitcomb 2 3015 & 3016: *Sporobolus airoides*, 100 sweeps, OK; *Efferia*; *Leptogaster*; grasshopper, *Acrididae*. 4027

4028 USA: UTAH: Emery Co. San Rafael Swell, road to San Rafael River, 12 mi E of Castledale 10-Jul-1987 C. R. Nelson # 4028 & R. F. Whitcomb 2 3017 & 3018: 25 sweeps blue gramma and 50 sweeps galleta; *Xanthippus* *Acrididae*; *Negasilus*. 4028

4029 USA: UTAH: Emery Co. San Rafael Swell, road to San Rafael River, 23 mi E of Castledale 10-Jul-1987 C. R. Nelson # 4029 & R. F. Whitcomb 3 3019: 100 sweeps *Sporobolus airoides*, OK; *Proctacanthella*; *Efferia* 4029

4030 USA: UTAH: Emery Co. San Rafael Swell, San Rafael River Campground 10-Jul-1987 C. R. Nelson # 4030 & R. F. Whitcomb 3 *Apiocera* female; *Stichopogon*; *Proctacanthella*; 3020: 50 sweeps *Distichlis stricta*, OK. 4030

4031 USA: UTAH: Emery Co. San Rafael Swell, 5 mi S of San Rafael River Campground 10-Jul-1987 C. R. Nelson # 4031 & R. F. Whitcomb 3 100 sweeps blue gramma; ant lion, *Myrmeleontidae*; *Acrididae*. 4031

4032 USA: UTAH: Emery Co. San Rafael Swell, Sagebrush Bench, I-70, 30 mi W of Green River 10-Jul-1987 C. R. Nelson # 4032 & R. F. Whitcomb 3 200 sweeps blue gramma; for Merv: *Sitanion*, *Oryzopsis*, *Stipa*; *Therevidae*. 4032

4033 USA: UTAH: Grand Co. Green River, below Crystal Geyser, S of Green River town 11-Jul-1987 C. R. Nelson # 4033 & R. F. Whitcomb 3 *Acroneuria*; odd *Gerridae*; *Ephoron*; 3023: 50 sweeps *Sporobolus cryptandrus*; *Efferia albibarbis*; *Carabidae* on *Sporobolus cryptandrus*. 4033

4034 USA: UTAH: Grand Co. Green River, below Crystal Geyser, S of Green River town 11-Jul-1987 C. R. Nelson # 4034 & R. F. Whitcomb 3 light trap 4034

4035 USA: UTAH: Emery Co. San Rafael Swell (Desert), Hwy 24, 15 mi N of Goblin Valley turnoff 11-Jul-1987 C. R. Nelson # 4035 & R. F. Whitcomb 3 75.5 - 60.4 = 15.1 *Efferia* females; Geron:

3024: 30 sweeps *Aristida purpurea*, plant pressed, no leafhoppers, OK. also plant: *Astragalus*? NO1 *Amsonia tomentosa*, OK. 150 sweeps *Muhlenbergia pungens*, only *Balclutha*. 3025: 50 sweeps *Sporobolus*, mixed sp. 4035

4036 USA: UTAH: Emery Co. 3.7 mi W of Hwy 24, Goblin Valley Road 11-Jul-1987 C. R. Nelson # 4036 & R. F. Whitcomb 3 79.2 *Acrolophitis*, *Pedioscirtes*?; *Efferia*; *Laphystia*; *Scleropogon*; *Tettigoniidae*; 3026: 300 sweeps *Muhlenbergia pungens*, *Flexamia*, *Athysanella*, and *Balclutha*. 4036

4037 USA: UTAH: Emery Co. San Rafael Swell, 4 mi N of Temple Mountain 11-Jul-1987 C. R. Nelson # 4037 & R. F. Whitcomb 3 3027: 250 sweeps galleta, *Athysanella*. plant: *Caesalpineia repens*. 4037

4038 USA: UTAH: Wayne Co. Caineville 11-Jul-1987 C. R. Nelson # 4038 & R. F. Whitcomb 3 3028: *Eleocharis palustris*; 3029: same; 3030 *Eleocharis* sp., thrown out. Swept in mixed *Typha*, *Juncus*, *Carex*, *Eleocharis*. *Delphacidae*; *Stratiomyidae*, *Nemotelus*; misc flies. scales on *Salix exigua*; and *Scirpus*. pressed *Salix*. and a chenopod: *Sueda torreyana*, and timothy, *Polypogon monspeliensis*; *Eleocharis* 3 spp. in field ID. 4038

4039 USA: UTAH: Wayne Co. Bicknell, Hwy 24 11-Jul-1987 C. R. Nelson # 4039 & R. F. Whitcomb 3 -69.9 3031-3033: 800 sweeps blue gramma; 50 sweeps *Chrysothamnus viscidifolia*, pressed, checked OK. *Chrysomelidae* on *Chrysothamnus viscidifolia*; ant lions, *Myrmeleontidae*; grasshoppers *Acrididae*; green leafhoppers. 4039

4040 USA: UTAH: Wayne Co. Hwy 24, 1 mi NW of Loa 11-Jul-1987 C. R. Nelson # 4040 & R. F. Whitcomb 3 3034: 200 sweeps blue gramma 3035: 50 sweeps *Aristida purpurea*, pressed, OK. 3036: 100 sweeps *Sporobolus cryptandrus*. 4040

4041 USA: UTAH: Tooele Co. Vernon, BLM housing 13-Jul-1987 C. R. Nelson # 4041 & R. F. Whitcomb & B. A. Haws. 3 15% *Agropyron smithii*, 25 sweeps, *Athysanella*, 3035x. also, tight headed grass, collected, under accession #3035, timothy: *Phleum pratense*. 4041

4042 USA: UTAH: Tooele Co. Davis Mountain, 15 air miles W of Vernon T8S R7W s19 13-Jul-1987 C. R. Nelson # 4042 & R. F. Whitcomb & B. A. Haws. 3 pitfall traps installed; 200

sweeps shadscale; dug ten plants;

3036X (X to straighten out numbers): 150 sweeps galleta; 3037: 100 sweeps galleta; 3038: 100 sweeps Stipa; 3039: 10 sweeps Aristida? Elymus spicata. 4042

4043 USA: UTAH: Tooele Co. 2 mi W of Lookout Pass, about 10 mi W of Vernon T8S R7W s19 13-Jul-1987 C. R. Nelson # 4043 & R. F. Whitcomb & B. A. Haws. 3 3040: 200 sweeps Elymus smithii 4043

4044 USA: UTAH: Tooele Co. Rush Valley, off road site 14-Jul-1987 C. R. Nelson # 4044 & R. F. Whitcomb & B. A. Haws. 3 200 sweeps shadscale; 25 sweeps Sphaeralcea. 4044

4044.1 USA: UTAH: Tooele Co. Rush Valley, 0.5 mi W of Faust Railroad Station T7S R5W s27, middle north 14-Jul-1987 C. R. Nelson # 4044.1 & R. F. Whitcomb & B. A. Haws. 3 malaise trap bottle off, no sample; pitfall traps changed after 1 week 4044.1

4044.2 USA: UTAH: Tooele Co. Davis Mountain, 15 air mi W of Vernon 14-Jul-1987 C. R. Nelson # 4044.2 & R. F. Whitcomb & B. A. Haws. 3 changed pitfall traps; took Opuntia infested with Dactylopius; cicadas; live Efferia benedicti. 4044.2

4045 USA: UTAH: Tooele Co. 1 mi W of Lookout Pass, W of Vernon 14-Jul-1987 C. R. Nelson # 4045 & R. F. Whitcomb & B. A. Haws. 3 3041: 100 sweeps Sporobolus cryptandrus.

3042: 50 sweeps Aristida purpurea.

3043: 50 sweeps Big Agropyron intermedium.

3044: 15 sweeps Poa pratense.

3045: 100 sweeps Agropyron smithii.

Agelopsis plants collected. cicada, Geron bombyliidae, Centauria plant. 4045

4046 USA: UTAH: Emery Co. Hwy 6, Horse Canyon turnoff, 25 mi S of Price 22-Jul-1987 C. R. Nelson # 4046 & B. A. Haws. 4 3046: 150 sweeps blue gramma.

much Stipa hymenoides; 10% Stipa comata, much Gutierrezia in juniper area.

Galls taken on 4 wing; shadscale also present 4046

4047 USA: UTAH: Grand Co. 1.5 mi N of Crescent Junction, Thompson Pass Road 22-Jul-1987 C. R. Nelson # 4047 & B. A. Haws. 4 3047: ?

emptied malaise trap; set pitfall traps. saw Efferia and Scleropogon. 4047

4048 USA: UTAH: San Juan Co. Dry Valley BLM exclosure, 34 mi S of Moab; 22-Jul-1987 C. R. Nelson # 4048 & B. A. Haws. 4 Surveyed fire damage: malaise trap burned! 3048: 100 sweeps blue gramma; Efferia with harvester ant alates; Mutillidae?; Cicindelidae. 4048

4049 USA: UTAH: San Juan Co. 1 mi N of Wilson Arch, Hwy 191 22-Jul-1987 C. R. Nelson # 4049 & B. A. Haws. 4 Muhley specimens in press with two others, Eriogonum corymbosum

and *Heterotheca villosa*, labeled 3050 in press. 3049: 300 sweeps *Muhlenbergia pungens*. 4049

4050 USA: UTAH: San Juan Co. 1 mi N of Wilson Arch, Hwy 191 22-Jul-1987 C. R. Nelson # 4050 & B. A. Haws. 4 Muhley specimens in press with two others, *Eriogonum corymbosum* and *Heterotheca villosa*, labeled 3050 in press. 3050: 200 sweeps blue gramma 4050

4051 USA: UTAH: San Juan Co. Dry Valley BLM exclosure, 34 mi S of Moab; 23-Jul-1987 C. R. Nelson # 4051 & B. A. Haws. 4 sprayed transect plots with Mallathion & treated with granular diazinon. harvested 10 leaders from burned plants. 3051: 150 sweeps blue gramma. *Efferia* with "Microdon"; Sphecid with Acrididae. 3 pitfall traps harvested from overnight. 4051

4052 USA: UTAH: Grand Co. 2 mi N of Moab, Hwy 191 23-Jul-1987 C. R. Nelson # 4052 & B. A. Haws. 4 3052: *Sporobolus giganteus*? near Atlas Mineral on roadside. 4052

4053 USA: UTAH: Grand Co. 10 mi S of Crescent Junction, Hwy 191 23-Jul-1987 C. R. Nelson # 4053 & B. A. Haws. 4 3053: *Sporobolus cryptandrus* plant specimen. Yes. 4053

4054 USA: UTAH: Grand Co. 1.5 mi N of Crescent Junction, Thompson Pass Road 23-Jul-1987 C. R. Nelson # 4054 & B. A. Haws. 4 sprayed Malathion and put diazinon granules on shadscale. Saw burrowing owls. 3054: 150 sweeps galleta; 200 sweeps shadscale. emptied malaise trap, after 1 day; large buprestidae; *Scleropogon*; *Efferia*; Chrysomelidae: flea beetle; pressed different morphs of shadscale. 4054

4055 USA: UTAH: Carbon Co. 17 mi S of Price, Hwy 6/191 23-Jul-1987 C. R. Nelson # 4055 & B. A. Haws. 4 * Collected at roadside 2 miles south of Sunnyside turnoff (Hwy 123)

Notes: from intervening period: Received malaise trap material from Ted Tibbets for trap at: UTAH: Grand Co., 1.5 mi N Crescent Junction, Thompson Pass Road, range of dates: CRN emptied: 28 May 1987, CRN then 9 June 1987, Ted; then 12 June 1987, Ted; then killing jar on ground 23 June 1987, Ted; then 2 July 1987, Ted; then 10 July 1987, Ted; then changed by CRN on 23 July 1987, CRN. 3055:

large Buprestidae; collected thistle heads to "rear" Tephritidae. 4055

4055.1 USA: UTAH: Utah Co., Jordan River, Hwy 73, West of Lehi 28-Jul-1987 C. R. Nelson # 4055.1 & S. A. Wells. 4 71102.0 Start, 51247.0 end. 145 miles. Hydropsychidae; goldenrod flowers; milkweed infested with yellow aphids. 4055.1

4056 USA: UTAH: Utah Co., Cedar Valley, Hwy 73, 3 mi E of Cedar Fort; 28-Jul-1987 C. R. Nelson # 4056 & S. A. Wells. 4 safflower 4056

4057 USA: UTAH: Tooele Co. Rush Valley, 0.5 mi W of Faust Railroad Station, 5000 feet elev. 28-Jul-1987 C. R. Nelson # 4057 & S. A. Wells. 4 emptied malaise trap, good catch; emptied 4 pitfall traps, 1 dug up by animal. 100 sweeps shadscale. Pompilidae; Acrididae; Geron Bombyliidae; Promachus Asilidae. 4057

4058 USA: UTAH: Tooele Co. Davis Mountain, 15 air mi W of Vernon, 5000 feet elev. 28-Jul-1987 C. R. Nelson # 4058 & S. A. Wells. 4 emptied pit fall traps - 13; 3055: 100 sweeps galleta CRN; 3056: 100 sweeps galleta SAW; Ospricerus; Leiodidae; Meloidae; Curculionidae. 4058

4059 USA: UTAH: Tooele Co. Rush Valley, 0.5 mi W of Faust Railroad Station 04-Aug-1987 C. R. Nelson # 4059 & D. E. Hardy. 4 start mileage: 9 am: BYU #84: 10222.0 end 10371.5, 6:35 pm 3057: 40 sweeps Sporobolus cryptandrus; 100 sweeps shadscale; emptied 5 pitfall traps; emptied malaise trap, good catch; hand caught: Reduviidae, Bombyliidae; tried badger holes for Asilus, no luck; saw Efferia benedicti and Promachus aldrichii 4059

4060 USA: UTAH: Tooele Co. 3 mi W of Lookout Pass 04-Aug-1987 C. R. Nelson # 4060 & D. E. Hardy. 4 Efferia; Megaphorus; Ospricerus; bees; Bombyliidae; collected a composite. 4060

4061 USA: UTAH: Tooele Co. Davis Mountain, 15 air mi W of Vernon 04-Aug-1987 C. R. Nelson # 4061 & D. E. Hardy. 4 emptied 13 pitfall traps; collected a spider eating a Megaphorus; Ospricerus; Efferia frewingi?; Efferia benedicti?; 3058: 100 sweeps galleta. 4061

4062 USA: UTAH: Tooele Co. Lookout Pass, West of Vernon 04-Aug-1987 C. R. Nelson # 4062 & D. E. Hardy. 4 3059: 150 sweeps Sporobolus cryptandrus. 3060: 150 sweeps Sporobolus cryptandrus. 4062

4063 USA: UTAH: Utah Co., South Fork American Fork River, 1 mi E of jct North Fork 10-Aug-1987 C. R. Nelson # 4063 & J. R. Nelson. 4 Clinocera; Pictetiella & Philopotamidae live to rear. 4063

4064 USA: UTAH: Tooele Co. Rush Valley, 7 mi E of Faust Railroad Station 13-Aug-1987 C. R. Nelson # 4064 & D. E. Hardy & S. A. Wells 4 mileage start BYU: 10508.0 end 106077. swept purple Cleome. various flies, bees, and wasps 4064

4065 USA: UTAH: Tooele Co. Rush Valley, 0.5 mi W of Faust Railroad Station; 13-Aug-1987 C. R. Nelson # 4065 & D. E. Hardy & S. A. Wells 4 emptied pitfall traps, 4-13 August; emptied malaise trap, hardly any insects. Megaphorus; Phthiria; Geron 4065

4066 USA: UTAH: Tooele Co. Davis Mountain, 15 air mi W of Vernon 13-Aug-1987 C. R. Nelson # 4066 & D. E. Hardy & S. A. Wells 4 100 sweeps shadscale; emptied pitfall traps; Megaphorus; Reduviidae; Villa; Phthiria; swept Gutierrezia and Ceratoides.

3061: 100 sweeps galleta.

3062: 100 sweeps galleta. 4066

4067 USA: UTAH: Tooele Co. Lookout Pass, 10 mi W of Vernon 13-Aug-1987 C. R. Nelson # 4067 & D. E. Hardy & S. A. Wells 4 3063: 100 sweeps Sporobolus cryptandrus.

misc sweeping; Promachus; Megaphorus. 4067

4068 USA: UTAH: Tooele Co. Benmore, 5 mi s of Vernon N 012500 W 112.416622 1816 m 13-Aug-1987 C. R. Nelson # 4068 & D. E. Hardy & S. A. Wells 4 Wypt 129benmoreswale GPS reading by C. R. Nelson 11496, on 8 August 2015. Heteropogon f; Efferia; Promachus with Megaphorus; Villa. 4068

4069 USA: UTAH: Utah Co., Goshen Ponds, near old mine (smelter) 13-Aug-1987 C. R. Nelson # 4069 & D. E. Hardy & S. A. Wells 4 3066: 50 sweeps Muhlenbergia asperifolia.

3065: 50 sweeps Sporobolus airoides.

3064: 100 sweeps Distichlis stricta.

general sweeping, Tephritidae. 4069

4070 USA: UTAH: Carbon Co. 3 mi NW of Emery Co. line, Hwy 6/50 19-Aug-1987 C. R. Nelson # 4070 & B. A. Haws 4 crossed out label says Iceland Creek, 19 mi S Wellington, Hwy 28. I don't remember why I crossed it out. 3067: 100 sweeps galleta.

3068: 100 sweeps salt grass, Distichlis stricta.

3069: 100 sweeps Sporobolus airoides, plant kept #4070. Acrididae. 4070

4071 USA: UTAH: Grand Co. 1.5 mi N of Crescent Junction, Thompson Pass Road; 19-Aug-1987 C. R. Nelson # 4071 & B. A. Haws 4 3070: 100 sweeps galleta in flower 4071

4072 USA: UTAH: Grand Co. Potash Road at Jughandle Arch 19-Aug-1987 C. R. Nelson # 4072 & B. A. Haws 4 swept Sueda, 4 wing, Ambrosia acanthocarpa. Exema Chrysomelidae on Chrysothamnus nauseosus; galls on 4 wing; collected two plants: grass & composite; large weevils on 4 wing, 1 on ragweed; also Agrilus walsinghami. 4072

4073 USA: UTAH: San Juan Co. Dry Valley BLM exclosure, 34 mi S of Moab, 20-Aug-1987 C. R. Nelson # 4073 & B. A. Haws 4 100 sweeps 4 wing.

3071: 100 sweeps blue gramma.

100 sweeps winterfat.

kept larvae to rear. checked #s of plants in plot. 3072: 200 sweeps blue gramma.

Geometridae, "Eleodes" Tenebrionidae with flange, laying eggs? near Pogonomyrmex occidentalis nest. photos taken, 2 spp. Efferia feeding on Athysanella leafhoppers. 4073

4074 USA: UTAH: Grand Co. Colorado River, Hwy 279, 4 mi SW of Hwy 191 20-Aug-1987 C. R. Nelson # 4074 & B. A. Haws 4 mealy bugs on 4 wing. scales on oak (Kermesidae?); Acanaloniidae on grass. Mirabilis plant with white lined sphinx larva. Conyza with Tephritidae galls. 4074

4075 USA: UTAH: Grand Co. 1.5 mi N of Crescent Junction, Thompson Pass Road 21-Aug-1987 C. R. Nelson # 4075 & B. A. Haws & Ted Tibbetts. 4 100 sweeps shadscale, emptied pitfall traps; emptied malaise trap, last emptied 9 August 1987 by Ted Tibbetts. Sweeps Chrysothamnus nauseosus and Gutierrezia. Efferia, Promachus, Scleropogon. Agrilus walsinghami on Chrysothamnus nauseosus. red Crossidius on Chrysothamnus nauseosus. 4075

4076 USA: UTAH: Utah Co., Diamond Fork Canyon, Palmyra Campground 28-Aug-1987 29-Aug-1987 C. R. Nelson # 4076 & family 4 ward campout: blacklight: many Noctuidae, Hydropsychidae, 3 other Trichoptera. Dixidae 1 f; 1 m Corixidae. 4076

4077 USA: UTAH: Tooele Co. Rush Valley, 0.5 mi W of Faust Railroad Station; 10-Sep-1987 C. R. Nelson # 4077 4 BYU vehicle: end mileage: 4781.5, start 4630.0 = 151.5 at \$0.27 per mile = \$40.91 took down malaise trap; emptied pitfall traps; caught a Therevidae and several pyralid moths on shadscale; many more of the moths were in the malaise trap sample. 4077

4078 USA: UTAH: Tooele Co. Davis Mountain, 15 air mi W of Vernon 10-Sep-1987 C. R. Nelson # 4078 4 emptied pitfall traps
3073: 100 sweeps galleta.
Efferia (pogonias group) one with Calliphoridae, one with Pieridae. 4078

4079 USA: UTAH: Utah Co., Silver Creek above Silver Creek Flat Reservoir 11-Sep-1987 C. R. Nelson # 4079 & M. A. Franklin 4 malenka; Amphinemura?; Triznaka; Trichoptera; Papilio on alder, Populus tremuloides. 4079

4080 USA: UTAH: Utah Co., spring tributary North Fork American Fork River, 0.5 mi above Tibble Fork Reservoir 11-Sep-1987 C. R. Nelson # 4080 & M. A. Franklin 4 malenka, abundant; Hesperoperla nymphs. 4080

4081 USA: UTAH: Utah Co., South Fork American Fork River, 1 mi above North Fork; 11-Sep-1987 C. R. Nelson # 4081 & M. A. Franklin 4 Pictetiella, adults and nymphs. 4081

4082 USA: UTAH: Utah Co., spring tributary of South Fork American Fork River, above Mutual Dell on switchbacks 11-Sep-1987 C. R. Nelson # 4082 & M. A. Franklin 4 Sweltsa borealis female; Megarcys male? 4082

4083 USA: UTAH: Utah Co., South Fork American Fork River, at Altamont Campground 11-Sep-1987 C. R. Nelson # 4083 & M. A. Franklin 4 Megarcys adults; Clinocera; Mycetophilidae 4083

4084 USA: UTAH: Wasatch Co. Cascade Springs 11-Sep-1987 C. R. Nelson # 4084 & M. A. Franklin 4 malenka, abundant; Hesperoperla; Plumiperla; Sweltsa coloradensis. 4084

4085 USA: UTAH: Utah Co., Provo Canyon, jct Squaw Peak Trail Road 18-Sep-1987 C. R. Nelson # 4085 & R. W. Baumann 4 other places: points to consider on trip to Provo Canyon, project: hillside cut: 100 -200' below Wicks Steakhouse, no problem; possible bridge, 650' above Wicks, hillside steep on south. This is near the reentry of the new channel. new channel in place, bridge, no new impact.; possible bridge, 200' below pump house below Squaw Peak turnoff, also near S. P. turnoff is start of new channel. On curve 400+ feet below Springdell, turnoff alternatives and existing are very close to the river. Bridge at Nunn's. Curve 600' below visible green snake (water tube). Alt B approaches river curve 400' above green head house, alt B approaches river. Tunnel approx. 800' below widening of flats at Wildwood (1800' below road). Double bridges on Alt B (2) 600' and 1200 feet below Sundance Road. Heteropogon maculinervis; metallic Syrphidae 4085

4086 USA: UTAH: Utah Co., Provo River, springs entering below Hoovers 18-Sep-1987 C. R. Nelson # 4086 & R. W. Baumann 4 springs enter river between (near) Hoovers, and Wildwood and above the Sundance turnoff at Wildwood. malenka californica; Hesperoperla pacifica; Lonchopteridae; Bibionidae; Lauxaniidae; Chloropidae; Empididae; Tachinidae; Mycetophilidae. 4086

4087 USA: UTAH: Millard Co. Fillmore, I-15 23-Sep-1987 C. R. Nelson # 4087 & K. Thorne & M. A. Franklin 4 misc moths at service station lights, caught 9:00 am 4087

4088 USA: UTAH: Iron Co. Zion National Park, Camp Creek, 5400 - 6000 feet elev. 23-Sep-1987 C. R. Nelson # 4088 & K. Thorne & M. A. Franklin 4 Note the Morseia!!!! Lestidae: Archilestes; Bombyliidae; Heteropogon m & f perched on juniper; Syrphidae; Eumastacidae! Morseia; Cicindelidae; Acrididae; Phymatidae; Satyridae 4088

4089 USA: UTAH: Washington Co. Zion National Park, Huber Wash, 3700 - 4000 feet elev. 24-Sep-1987 C. R. Nelson # 4089 & K. Thorne & M. A. Franklin 4 Saturniidae: Hemileuca neumoegenii; Pieridae; red Crossidius on rabbitbrush; Curculionidae. 4089

4090 USA: UTAH: Washington Co. Zion National Park, Coalpits Wash, 3700 - 4200 feet elev. 25-Sep-1987 C. R. Nelson # 4090 & K. Thorne & M. A. Franklin 4 Promachus aldrichii, one with Paradejeania rutiloides; Efferia zonata; Sintoria cazieri; Lasiopogon? f; Trimerotropis cyanipennis; small yellow Crossidius; Villa; Tenebrionidae; Coreidae; Lestidae: Archilestes; 3074: 50 sweeps Muhlenbergia asperifolia

3075: 50 sweeps *Bouteloua curtipendula*

3076: 50 sweeps *Galleta rigida*, too late by about one month. 4090

4091 USA: UTAH: Washington Co. Zion National Park, Parunuweap Canyon 26-Sep-1987 C. R. Nelson # 4091 & K. Thorne & M. A. Franklin 4 *Efferia* sm & lg females 1 male; *Sintoria cazieri*; Sphecidae; misc sweepings along the East Fork of the Virgin River: Tetrigidae; Tridactylidae; Ephydriidae; Dolichopodidae. 4091

4092 USA: UTAH: Washington Co. Zion National Park, Crawford Wash, 4500 feet elev. 26-Sep-1987 C. R. Nelson # 4092 & K. Thorne & M. A. Franklin 4 *Promachus dimidiatus* 2 m; *Nicocles abdominalis* 1 m; Aeshnidae. Nice Catches!!!! 4092

4093 USA: UTAH: Washington Co. Zion National Park, Watchman Campground 25-Sep-1987 27-Sep-1987 C. R. Nelson # 4093 & K. Thorne & M. A. Franklin 4 light trap night 25-26 Sep misc things at lights 26 & 27 Sep: Berothidae; Arctiidae; Sphingidae; Noctuidae; Hydropsychidae; Limnephilidae. 4093

4094 USA: ARIZONA: Mohave Co. Virgin River Recreation Area, I-15 08-Oct-1987 C. R. Nelson # 4094 & family 4 checked lights at rest area at about 8:00 pm: Chrysopidae; Chrysomelidae: Crypto.; Curculionidae; Embioptera, 1 !!!!!; Mantidae: small yellow brown; Cicadellidae; Lepismatidae. 4094

4095 USA: NEVADA: Clark Co. Logandale 08-Oct-1987 09-Oct-1987 C. R. Nelson # 4095 & family 4 used a UV light for some of the collecting. Heleomyzidae; Pyralidae, 2 spp. including *Petrophila*; Tipulidae (collected at Paul Wheeler's house on south end of town near west hills); Miridae, *Coquillettia*; Pentatomidae; *Efferia* female; Bombyliidae mating pair caught in wash north of town. Also collected on Muddy River at Hwy crossing: Hydropsychidae, Dolichopodidae; Ephydriidae; Tephritidae. 4095

4096 USA: NEVADA: Clark Co. Logandale 09-Oct-1987 10-Oct-1987 C. R. Nelson # 4096 & family 4 malaise trap near *Acacia greggii* in desert shrubs: *Sintoria*: *Cophura*?; Bombyliidae; Sphecidae; Pompilidae; Myrmeleontidae; Mutillidae; Syrphidae. Cecidomyiidae, numerous galls on *Atriplex canescens* and *Atriplex torreyi*. preserved some, other wet; also reared some galls in paper bag, in separate vials; Miridae. 4096

4097 USA: NEVADA: Clark Co. Muddy River, Logandale 10-Oct-1987 C. R. Nelson # 4097 & family 4 UV light: *Petrophila* moths; Trichoptera adults: Hydropsychidae; Limnephilidae; Hydroptilidae, 2 spp.; misc. Diptera, Coleoptera. Opilionida; Mutillidae; Ceratopogonidae; Chironomidae. 4097

4098 USA: NEVADA: Lincoln Co. Cathedral Gorge State Park, Miller Overlook near Panaca
10-Oct-1987 C. R. Nelson # 4098 & family 4 11 October in Great Basin National Park.
collected one plant, *Eriogonum numulare* var. *numiulare*; some flowers red some white.
4098

4099 USA: UTAH: Grand Co. 1.5 mi N of Crescent Junction, Thompson Pass Road; 27-Oct-
1987 C. R. Nelson # 4099 & B. A. Haws 4 Before we left the site we marked the plants with
red wire flags, numbers on flags mean nothing.

The last recorded time I have of the malaise trap being emptied is 29 September 1987 by
Ted Tibbetts. changed malaise trap; changed pitfall traps; small asilid; *Efferia "bicaudata"*
group; 2 *Efferia* f had prey, 1 with Calliphoridae, one with Ichneumonidae. The small robber
fly would perch on flat, larger rocks. They were only slightly skittish. Later (by 1989) I had
identified these small flies as *Backomyia seminoensis*. When I first found them I thought
they were a new species, then I found Lavigne's description. . .

Examined plants and rated in 5 categories: 1, dead; 2, 1-25% alive; 3, 26-50; 4, 51-75; 5, 76-
100%. metal tag # on plant: 1 4y; 2 3o; 3 2y; 4 2o; 5 3y; 6 4o; 7 5y; 8 2o; 9 3y; 10 2o; 11 3y; 12
4o; 13 3y; 14 5o; 15 4y; 16 4o; 17 2y; 18 3o; 19 4y; 20 4o.

total o = 33; total y = 33. In 2003 when I am transcribing this I can't remember what o and y
mean. 4099

5100 USA: UTAH: Grand Co. Moab 27-Oct-1987 C. R. Nelson # 5100 & B. A. Haws 4
Mantidae 5100

5101 USA: UTAH: San Juan Co. Dry Valley BLM exclosure, 34 mi S of Moab 28-Oct-1987 C.
R. Nelson # 5101 & B. A. Haws 4 Asilidae: *Comantella*? 1; 100 sweeps 4 wing; put metal
tags on 4 wing plants outside exclosure. Formerly numbered 1 - 20, now numbered 21 - 40,
also tagged ten plants in exclosure; emptied pitfall traps. Took 10 longest leaders from #s
21-40 to weigh and check for differences, starting date for pitfall unknown. Collected
Bouteloua gracilis seed. 5101

5102 USA ARIZONA: Mohave Co. Virgin River Recreation Area, I-15, 2400 ft. elev. 08-Jan-
1988 C. R. Nelson # 5102 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 We
stopped and dropped 14 insect drawers off to Dr. Andrew Barnum in St. George. Sorted 29
Jan 1988. Psychodidae 2; Psocoptera 1; Chilorius? Coccinellidae 2; saw dragonfly
Symptetrum corruptum flying; 5102

5103 USA NEVADA: Clark Co. Virgin River, Mesquite 08-Jan-1988 C. R. Nelson # 5103 & R.
W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Sorted 29 Jan 1988. *Mesocapnia frisoni*

3m 1f, new state record; Ephyridae; Chloropidae; leafhoppers 2, Cicadellidae; Sphaeroceridae; Phoridae. 5103

5104 USA CALIFORNIA: San Bernardino Co. Cleghorn Creek, Hwy 138, above Silverwood Lake 09-Jan-1988 C. R. Nelson # 5104 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 5104 in N2; BCK has one female nemourid. Sorted 29 Jan 1988. Mesocapnia frisoni? NO! lapwae, abundant, 53m 52f, 7 nymphs 5104

5105 USA CALIFORNIA: San Bernardino Co. East Fork of the West Fork of the Mohave River, Miller Canyon above Silverwood Lake, 3600 ft. elev. 09-Jan-1988 C. R. Nelson # 5105 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 5105 in N2; Bibionidae; Sorted 29 Jan 1988. Mesocapnia lapwae, abundant, 63 m 80 f 24 nymphs; Capnia coyote 5m 1f; Ephyridae; Bibionidae 5105

5106 USA CALIFORNIA: San Bernardino Co. East Miller Canyon, above Pilot Rock Camp 09-Jan-1988 C. R. Nelson # 5106 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Mesocapnia lapwae, 12 m 1 f, slender epiproct; Gerridae, pinned; Mycetophilidae; leafhopper and beetle found in sample on 28 Jan 1988 5106

5107 USA CALIFORNIA: San Bernardino Co. Seeley Creek, Hwy 138, Camp Seeley, 5000 ft. elev. 09-Jan-1988 C. R. Nelson # 5107 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 sorted 29 Jan 1988. Mesocapnia 46 m 32f; Capnia coyote 2m 1f; Sciaridae; Staphylinidae; Elateridae; Bibionidae 5107

5108 USA CALIFORNIA: San Bernardino Co. Waterman Canyon, Hwy 18 09-Jan-1988 C. R. Nelson # 5108 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 sorted 28 Jan 1988. Mesocapnia lapwae 4 m 7 f; Capnia ? 1f, female teresa 1f; Hemerobiidae pinned; malenka biloba 1 f. 5108

5109 USA CALIFORNIA: San Bernardino Co. Lytle Creek at Apple White Campground 09-Jan-1988 C. R. Nelson # 5109 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 sorted 28 Jan 1988. malenka; Amphizoa larva; Dixidae adults; Bibionidae adults; Heptageniidae subimagos in rearing containers. 5109

5109 USA CALIFORNIA: San Bernardino Co. Lytle Creek at Apple White Campground 09-Jan-1988 C. R. Nelson # 5109 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 sorted 28 Jan 1988. malenka; Amphizoa larva; Dixidae adults; Bibionidae adults; Heptageniidae subimagos in rearing containers. 5109

5109.5 USA CALIFORNIA: San Bernardino Co. Evey Canyon, West of San Antonio Creek 09-Jan-1988 C. R. Nelson # 5109.5 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5

Poor condition, flows into culvert, not allowed to enter downstream. no insects collected
5109.5

5110 USA CALIFORNIA: San Bernardino Co. San Antonio Creek, jct Mount Baldy and Mountain Road 09-Jan-1988 C. R. Nelson # 5110 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Sorted 29 January 1988. *Helicopsyche* adults 5 5110

5111 USA CALIFORNIA: San Bernardino Co. Icehouse Creek above jct San Antonio Creek, 5000 feet elev. 09-Jan-1988 C. R. Nelson # 5111 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Determinations & sorted 22 January 1988. *Capnia teresa* nymphs & adults in alcohol. *Mesocapnia projecta* female, CRN; *Zapada cinctipes* 1 m 1 f CRN; *malenka lobata*? 1 m 1 f CRN. Hydrophilidae; Lygaeidae. 5111

5112 USA CALIFORNIA: Orange Co. Anaheim Hills, Weir Canyon 10-Jan-1988 C. R. Nelson # 5112 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 *Trimerotropis* 3 small, 2 m 1 f. 5112

5112.5 USA CALIFORNIA: Los Angeles Co. Los Angeles County Museum 11-Jan-1988 C. R. Nelson # 5112.5 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 We also visited the La Brea Tar Pits, the museum there was closed. sorted some robber flies to genus level, including 54 *Proctacanthus*. *P. brevipennis* 7 NJ; *P. coquillettii* 4 Imperial Co.; *P. distinctus* 2 GA NJ; *P. micans* 9 AZ Cochise Co., UT Weber & Davis Co.; *P. nearno* 15 CA Riverside & Los Angeles Co., AZ; *P. occidentalis* 30 Los Angeles; *P. philadelphicus* 2 NJ; *P. rodecki* 2 KS; n. sp. 3 Ensenada. 5112.5

5113 USA CALIFORNIA: Orange Co. Silverado Creek above Silverado Fire Station #2, 1800 feet elev. 11-Jan-1988 C. R. Nelson # 5113 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Stream had good flow with plenty of sycamore leaves, much gravelly substrate. Sorted 29 Jan 1988. Bibionidae f; Elateridae 5113

5114 USA CALIFORNIA: Orange Co. Ladd Creek above Silverado Canyon, 1200 feet elev. 11-Jan-1988 C. R. Nelson # 5114 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Misty overcast day. Sorted 29 Jan 1988. *Mesocapnia lapwae* 1m 5114

5115 USA CALIFORNIA: Orange Co. Trabuco Creek, 1300 feet elev., Santa Ana Mountains 11-Jan-1988 C. R. Nelson # 5115 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Misty & overcast; alder and sycamore trees common; best collecting on *Baccharis* and *Urtica* plants. Sorted 22 Jan 1988. *Mesocapnia lapwae*; *Mesocapnia frisoni*; *Paraleuctra*? 2 f; Carabidae; Reduviidae; Elateridae; *Capnia*?; 5115

5116 USA CALIFORNIA: Orange Co. San Juan Capistrano 12-Jan-1988 C. R. Nelson # 5116 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Sorted 28 Jan 1988. Aleyrodidae, whiteflies on ornamental orange. 5116

5117 USA CALIFORNIA: Orange Co. San Juan Creek at Lower San Juan Campground, Cleveland National Forest, 1200 feet elev. 12-Jan-1988 C. R. Nelson # 5117 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 9:20 am; Sorted 28 Jan 1988. File number CRN2002 Mesocapnia lapwae 1 m 3 f; plants including sweet pea no in newspaper; Mimulus NO Zauchneria?; mustard; "peony", purple flowered sub shrub in riparian area, sweet pea in chaparral. 5117

5118 USA CALIFORNIA: Riverside Co. San Juan Creek at Upper San Juan Campground, Cleveland National Forest, 1800 feet elev. 12-Jan-1988 C. R. Nelson # 5118 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 field label said 1600 ft, should be 1800 ft. Sorted 28 Jan 1988. Mesocapnia lapwae 5 m 8 f; Elateridae, Dixidae 5118

5119 USA CALIFORNIA: San Diego Co. Mount Palomar, Fry Creek, Fry Creek Campground, 5000 feet elev. 12-Jan-1988 C. R. Nelson # 5119 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Photos taken of observatory and of Fry Creek; Hale 200 inch mirror in telescope. Sorted 28 Jan 1988. Capnia valhalla 3m; Mesocapnia frisoni 1 m 2 f; weevil Curculionidae; Mycetophilidae; Tephritidae; nymphs in rearing chamber. 5119

5119.5 USA CALIFORNIA: San Diego Co. San Felipe Creek in Sentenac Canyon, bridge near park border, 2000 feet elev. 12-Jan-1988 C. R. Nelson # 5119.5 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 No specimens collected; Plant community included: agave, Atriplex, Larrea, Encelia, barrel cactus, Prosopis; cattails in stream, high calcium carbonate; good place to find Asilidae. Mesocapnia was collected here 2 December 1981. 5119.5

5120 USA CALIFORNIA: San Diego Co. Banner Creek below Banner, Hwy 78, 3400 feet elev. 12-Jan-1988 C. R. Nelson # 5120 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Spent night of 12-13 January 1988 in motel, "budget Inn" in El Cajon, other reasonable (seasonable?) motels on I 8 west of San Diego State University. Sorted 28 Jan 1988. Mesocapnia frisoni 2 m 1 f; malenka biloba 1 m 3 f; Staphylinidae; Helicopsychidae; Chloroperlidae? 2 nymphs. 5120

5120.5 USA CALIFORNIA: San Diego Co. San Diego Natural History Museum, Entomology 13-Jan-1988 C. R. Nelson # 5120.5 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Spent night of 13-14 Jan 1988 in Motel 6 in San Ysidro, California. Proctacanthus arno, 1 m, Baja California Sur, 13.5 mi S of Loreto, 24 Sep 1981. P. coquilletii, 6 m 10 f, Baja California Sur, Isla Magdalena, Isla Santa Margarita, CALIFORNIA: Imperial Co., Glamis & 2 mi E of

Gordons Well; Other dark winged: Baja California , 13 m 6 f, 15 mi S of San Quintin, San Antonio del Mar, San Telmo, 9 mi E of Ej. Bonfil; *P. nearno*, Dona Ana Co., 1 m 1 f; *P. nigrofemoratus*, Dona Ana Co., 1 m 2 f; *P. occidentalis*, Springfield, Oregon 2 m 1 f; San Diego Co., 1 m 1 f; *P. udt* 28 specimens. total number of specimens: 75. Also 26 specimens of *Sialis*, only 2 identified as *S. mohri*. 5120.5

5121 MEXICO BAJA CALIFORNIA: Rio de las Palmas, Hwy 3, 0.5 mi W of valle de las Palmas, 500 feet elev. 14-Jan-1988 C. R. Nelson # 5121 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Sorted 29 January 1988. *Mesocapnia frisoni* 5 m 5 f 2 ny; Dryopidae: *Helichus* sp.; Anthicidae; saw *Sympetrum obtrusum*; Pentatomidae 1 5121

5122 MEXICO BAJA CALIFORNIA: Arroyo las Calabazas, .5 mi S of El Testarazo, Hwy 3 14-Jan-1988 C. R. Nelson # 5122 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Mileage at El Testarazo 6008, then 6008.6. Sorted 29 January 1988. *Mesocapnia frisoni* 3 f; Tipulidae 5122

5123 MEXICO BAJA CALIFORNIA: small stream 9 mi s of El Testarazo, Hwy 3 14-Jan-1988 C. R. Nelson # 5123 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 1 mi N of Ejido Ignacio Zaragoza. start 6017.3 site was 6018.7. Sorted 29 January 1988. *Mesocapnia lapwae* 11 m 10 f 6 ny; Dytiscidae; Hydrophilidae; Dixidae, *Dixella* larvae; grasshoppers pinned. 5123

5124 MEXICO BAJA CALIFORNIA: small creek, 0.5 mi S of Ejido Ignacio Zaragoza, 1700 feet elev. 14-Jan-1988 C. R. Nelson # 5124 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Mileage 6020.8 returned up the road, mileage restarts 6022.6. Spent evening & night at Mike's Sky Rancho, met some dirt bikers including a Tanner and others from Calgary, Alberta. Sorted 29 January 1988. *Mesocapnia lapwae* 3m 9 f; Carabidae; caddis adults, 2 spp.; Hydrophilidae 5124

5125 MEXICO BAJA CALIFORNIA: San Pedro Martir Mountains, Rio San Rafael, 4300 feet elev., Mikes Sky Rancho 15-Jan-1988 C. R. Nelson # 5125 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Sorted 29 January 1988. No adult stoneflies. Kick samples: Isoperla, Dryopidae, Libellulidae, Psephenidae?, Heptageniidae, Leptophlebiidae, Baetidae?, Philopotamidae?, tick. Pictures taken: horse hair worm nematomorpha, caddis larvae, Tenthredinidae larva, Psocoptera. 5125

5126 MEXICO BAJA CALIFORNIA: San Pedro Martir Mountains, Rio San Rafael, 1 mile above Mikes Sky Rancho 15-Jan-1988 C. R. Nelson # 5126 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 1 trout preserved in formalin, pictures taken 5126

5127 MEXICO BAJA CALIFORNIA: San Pedro Martir Mountains, 5 mi N of Mikes Sky Rancho, Arroyo Huico, 4500 feet elev. 15-Jan-1988 C. R. Nelson # 5127 & R. W. Baumann, B. C.

Kondratieff, & Brad Sargent. 5 Sorted 29 January 1988. file number CRN002 Mesocapnia frisoni 50 m 41 f 21 ny; Psocoptera; Hydrophilidae; collected plants Artemisia, Baccharis, Juniperus, Pinus, Eriogonum 5127

5128 MEXICO BAJA CALIFORNIA: Rio San Salvador, Hwy 3, 3 mi E of Ojos Negros, 2.3 mi E of Laguna Hanson turnoff, 3200 feet elev. 15-Jan-1988 C. R. Nelson # 5128 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Originally called it Rio San Carlos?. Mileage at stream: 6245, then 6247.3 Isoperla sobria? nymphs; Mesocapnia frisoni 4 m 7 f; Tipulidae; Dryopidae; Cecidomyiidae 1 f. 5128

5129 MEXICO BAJA CALIFORNIA: Arroyo Sauza, small stream about 3 miles s of Laguna Hanson, 5700 feet elev. 15-Jan-1988 C. R. Nelson # 5129 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Mexican Map # I 11-12 calls it Arroyo del Sauz. Sorted 29 January 1988. Mesocapnia frisoni 5 m 7 f 6 ny; Limnephilidae? larvae; aquatic beetles; Macroveliidae 5129

5130 MEXICO BAJA CALIFORNIA: about 20 mi E of Ensenada, Hwy 3 15-Jan-1988 C. R. Nelson # 5130 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Spent night in Ensenada at a Best Western Motel, Casa del Sol. Ate at a French Restaurant El Rey del Sol. Very good and reasonable nice restaurant. Sorted 29 January 1988. Gyrinidae 1; Psocoptera 1; Tipulidae 1; small beetle 1. 5130

5131 MEXICO BAJA CALIFORNIA: tributary of Rio San Isidro, Hwy 1, 10 mi N of San Vicente, 1200 feet elev. 16-Jan-1988 C. R. Nelson # 5131 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Going south road to observatory is just before flowing river before road on long straight plain. If you see ocean on right, you've gone too far. Picture taken of agave on this road. mileages: 6375, Saturday 6378 at Ejido Erendira, 6385 at San Vicente; File No. CRN002.). Sorted 29 January 1988. 1 thorn plant with flowers; Baetis, Hydropsyche, Naucoridae, Dryopidae 2 sizes;, Simulium; Petrophila larva 5131

5132 MEXICO BAJA CALIFORNIA: Rio San Telmo, first bridge East of Hwy 1, 200 feet elev. 16-Jan-1988 C. R. Nelson # 5132 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Below San Telmo, a high bridge. Sorted 29 January 1988. File no. CRN002 plant collected, a Carex. Hydropsychidae; Odonata; Dryopidae; Tricorythodes; Cicadellidae. 5132

5133 MEXICO BAJA CALIFORNIA: San Pedro Martir Mountains, Arroyo El Potrero, 3200 feet elev. 16-Jan-1988 C. R. Nelson # 5133 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 photo taken; Turnoff to Potrero's Ranch is 10-12 mi above Meling Ranch. Meling Ranch 6463.4. Sorted 1 February 1988. Dryopidae; Elmidae; Psephenidae; Hydropsychidae; Isoperla nymphs; Gelastocoridae; Nerthra with Boris; Naucoridae; Libellulidae; Argia; Hetaerina; Gerridae; aquatic Lepidoptera. 5133

5134 MEXICO BAJA CALIFORNIA: San Pedro Martir Mountains, headwaters Rio San Antonio, 6200 feet elev. 16-Jan-1988 C. R. Nelson # 5134 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Sorted 1 February 1988. Malenka biloba 5 m 3 f 10 ny (NOT Zapada); Dixidae NO!; Amphizoidae; millipede; Psychodidae; Opilionida; Isoperla nymph 5134

5135 MEXICO BAJA CALIFORNIA: San Pedro Martir Mountains, spring 0.5 mi above bridge on headwaters Rio San Antonio, 6400 feet elev. 16-Jan-1988 C. R. Nelson # 5135 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Sorted 1 February 1988. malenka nymphs (NOT Zapada); Chrysopidae; Limnephilidae case 5135

5136 MEXICO BAJA CALIFORNIA: San Pedro Martir Mountains, Arroyo La Corona, 7300 feet elev. National Park 16-Jan-1988 C. R. Nelson # 5136 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Nice photographs of plants & scenery; Snow on ground in patches. Sorted 1 February 1988.
crossed out notes on specimens from Laguna Hanson. Capnia nymphs 2 spp.; Corydalidae; Dryopidae; Dytiscidae: Hydroporus; Hydrophilidae. 5136

5136.5 MEXICO BAJA CALIFORNIA: about 10 mi W of San Telmo, road to San Pedro Martir Mountains 17-Jan-1988 C. R. Nelson # 5136.5 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Sorted 1 February 1988. File no. CRN002. The town of El Rosario had two gas stations and one motel. Agave flowers & two leaves. this species is common further south. 5136.5

5137 MEXICO BAJA CALIFORNIA: Pacific Ocean, Hwy 1, South of San Quintin 17-Jan-1988 C. R. Nelson # 5137 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Sorted 1 February 1988. File no. CRN002 large gastropod shells; 1 bivalve; 2 succulent plants, larger leaved species had mealy bugs. 5137

5138 MEXICO BAJA CALIFORNIA: 8 mi E of El Rosario, km Marker 72; 800 feet elev. 17-Jan-1988 C. R. Nelson # 5138 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Notes: area 1 - 20 miles N of Catavina is a beautiful area with saguaros & boojum, nice area to collect plants. Extensive area strewn with large boulders. Catavina, expensive motel, \$61.00 double. Gas, "extra" available. No phone.
More notes: Extensive dunes north of Guerrero Negro in sight of ocean airport in town plants collected: Idria!; Lotus; wolfberry; Cuscuta; Verbaena?; Encelia: vine. file no. CRN002 5138

5138.5 MEXICO BAJA CALIFORNIA: Santa Rosalia, ferry dock 17-Jan-1988 C. R. Nelson # 5138.5 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 bagworm, Psychidae, cases on ornamentals. 5138.5

5139 MEXICO Sonora: small stream, southwest of Tesopaco, 2 mi below Sabino, Hwy 11, 1600 feet elev. 18-Jan-1988 C. R. Nelson # 5139 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Local man agreed to call it Arroyo Sabino. turnoff Hwy 15 at Esperanza south of Guaymas. Sorted 1 February 1988. 7083. Naucoridae; Tricorythidae (now Leptohyphidae 2003); Dytiscidae, 3 spp. including Dytiscus larvae; Traverella; Corydalidae; Veliidae; Chimarra; Haliplidae. Stream full of Gambusia. 5139

5140 MEXICO Sonora: large mostly dry Arroyo Batella, near jct Hwy 11 and road to Nuri, 1200 feet elev. 35 km N of Pesopaco 18-Jan-1988 C. R. Nelson # 5140 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Saw "tricolored heron"?, vermilion flycatcher, yellow rumped warbler and many other birds. Nice bridge but very little flowing water. Sorted 1 February 1988. Naucoridae; Dytiscidae; Dryopidae; Elmidae; Formicidae; Staphylinidae Stenus; Corydalidae. 5140

5141 MEXICO Sonora: Rio Chico above el Chico, 700 feet elev. 18-Jan-1988 C. R. Nelson # 5141 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Ran out of light. Picked up Fellip Garcia (a drunk) and gave him a ride to the village of Rio Chico. He said the stream was called Rio Chico. We think it might be Rio Trinidad. We needed a better map. Sorted 1 February 1988. Corydalidae; Naucoridae 2 spp., Traverella, Leptohyphes, Belostomatidae, fish. 5141

5142 MEXICO Sonora: Rio magdalena at Imuris, Hwy 15, S of Nogales, 2900 feet elev. 19-Jan-1988 C. R. Nelson # 5142 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Sorted 1 February 1988. in water: Naucoridae: Ambrysus; Oligoneuridae: Isonychia; Baetidae: Baetodes; Gomphidae: Erpetogomphus; Libellulidae; Elmidae; Dryopidae; saw immature Abedus; Hydropsychidae: Smicridea adults; Hydroptilidae; Corydalidae; Carabidae; Haliplidae; Hydrophilidae, Tropisternus. 5142

5143 USA: ARIZONA: Yavapai Co., Big Bug Creek at Mayer, Hwy 69, 20-Jan-1988 C. R. Nelson # 5143 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 It snowed hard in Arizona on the previous day. 20-24 inches in Flagstaff. Stayed previous night in Tucson, many cheap motels on exit 258 of I-17 (Congress Street). Sorted 1 February 1988. Mesocapnia arizonensis 32 m 3 f 2 ny; Mesocapnia frisoni 2 m; Agabus. 5143

5144 USA: ARIZONA: Yavapai Co., stream near Lynx Lake above Prescott, 6000 feet elev. 20-Jan-1988 C. R. Nelson # 5144 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Sorted 1 February 1988. Capnia decepta 4 m 9 f 5 ny; Mesocapnia arizonensis; Blephariceridae, 1 larva; Tipulidae, 1 Antocha; Hydrophilidae; one narrow beetle larva; Nemouridae, nymphs. 5144

5145 USA: ARIZONA: Yavapai Co., 2 mi above Jerome, 5300 feet elev. 20-Jan-1988 C. R. Nelson # 5145 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 file no. CRN002
Nolima macrocarpaea, det CRN 5145

5146 USA: ARIZONA: Yavapai Co., Oak Creek below Sedona, Red Rock Crossing, 4000 feet elev. 20-Jan-1988 C. R. Nelson # 5146 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Colorado License: FML 618

On morning of 23 Jan 1988, dead alive, froze nymphs of *Anacroneuria* 2 vials & *Mesocapnia* 1 vials. Sorted 2 February 1988. *Mesocapnia werneri* 1 m; *Anacroneuria wipukupa* nymphs, collected along bank undercuts; *Mesocapnia frisoni* 17 m 18 f 3 ny, abundant; *Naucoridae*; *Corydalidae*; *Baetidae*; *Hydrophilidae*; *Psephenidae*; *Gomphidae*; *Heptageniidae*; *Tabanidae* larva; *Philopotamidae*; horsehair worm nematomorpha. 5146

5147 USA: ARIZONA: Coconino Co., Oak Creek above jct West Fork, North of Sedona, 5700 feet elev. 20-Jan-1988 C. R. Nelson # 5147 & R. W. Baumann, B. C. Kondratieff, & Brad Sargent. 5 Sorted 2 February 1988. The entire trip was sorted by 2 February 1988. Happy Groundhog Day. *Capnia decepta* 20 m 15 f; *Dixidae* adult & larvae; caddis adult to Boris; *Mesocapnia werneri* 1 m; *Clinocera* 1m. 5147

5148 USA: UTAH: Utah Co., American Fork River, Hanging Rock Picnic Area, 29-Feb-1988 C. R. Nelson # 5148 & S. A. Wells. 5 *Boreus coloradensis*; *Capnia nana*; *Capnia gracilaria*; *Utacapnia logana*; *Zapada cinctipes*; snow crawling beetles; some *Capnia* kept alive for protein work, now in deep freeze (7 March 1988). 5148

5149 USA: UTAH: Utah Co., Hobbie Creek, Kellys Grove above Springville, 5000 feet elev. 05-Mar-1988 C. R. Nelson # 5149 & family 5 7 March 1988: many in deep freeze for protein work. *Capnia utahensis*; *Utacapnia lemoniana*? 1 f; *Dixidae*. 5149

5150 USA: UTAH: Utah Co., Stewarts Creek above Sundance, 6200 feet elev. 23-Mar-1988 C. R. Nelson # 5150 & S. A. Wells. 5 in ultrafreeze for electrophoresis: *Zapada* 2 spp. *cinctipes* & *columbiana*; *Capnia nana* 1 f; *Thaumaleidae* larvae; *Dixidae*, adults & larvae; *Empididae* adults; snow crawling beetle; *Carabidae* larva. 5150

5151 USA: UTAH: Cache Co. Little Bear River, Hwy 89, Wellsville 24-Mar-1988 C. R. Nelson # 5151 5 *Taenionema uinta*; *Capnia confusa*; *Capnia vernalis*. some in ultrafreeze for electrophoresis. 5151

5152 USA: UTAH: Cache Co. Blacksmith fork River near jct Logan River, Hwy 89 24-Mar-1988 C. R. Nelson # 5152 5 about 1 mile S of Logan on Hwy 89/91 near junction of Logan and Blacksmith fork Rivers, nice cement bridge. *Taenionema uinta* abundant; *Skwala parallela* (now *americana* 2003); *Isocapnia*? 1 m?; *Prostoia besametsa*; *Utacapnia logana* dead in spider webs. Some in ultrafreeze for electrophoresis. 5152

5153 USA: UTAH: Cache Co. Logan Canyon, Spring Hollow 25-Mar-1988 C. R. Nelson # 5153 & N. Youssef 5 about 1 mile S of Logan on Hwy 89/91 near junction of Logan and Blacksmith fork Rivers, nice cement bridge. *Capnia nana*; *Capnia gracilaria*; *Utacapnia logana*; *Zapada cinctipes*; *Zapada columbiana*; *Prostoia besmetsa*. All but *Utacapnia* in ultrafreeze for electrophoresis. 5153

5154 USA: UTAH: Cache Co. Logan River, Logan Canyon, second bridge near canyon mouth 25-Mar-1988 C. R. Nelson # 5154 & N. Youssef 5 about 1 mile S of Logan on Hwy 89/91 near junction of Logan and Blacksmith fork Rivers, nice cement bridge. Empididae 5154

5154.5 USA: UTAH: Utah Co., Provo, BYU notes. 04-Apr-1988 C. R. Nelson # 5154.5 5 Joe & Doris Childers, 167 W 1485 N, Orem, Utah 84057; 225-3089 and 226-8259. Larsons: 1859 W 4655 S, Taylorsville.

Cedar Creek T6N R4E s 17; 1/2 mi E of Cedar Creek s16; Ruby Creek s15; East Fork Willow Creek s15. These localities are in northern California. 5154.5

5155 USA: UTAH: Utah Co., Provo River, Murdock Diversion, 15-Apr-1988 C. R. Nelson # 5155 & M. F. Whiting. 5 *Skwala parallela* (now *americana* 2003) 4 m 1 f; *Eucapnopsis brevicauda* 1 m; Curculionidae; Staphylinidae, Stenus; aquatic Muscidae. 5155

5156 USA: UTAH: Utah Co., Provo River, Orem, Center Street Bridge 15-Apr-1988 C. R. Nelson # 5156 & M. F. Whiting. 5 *Skwala parallela* (now *americana* 2003) 4 m 2 f; Chrysomelidae; Tenthredinidae; Rhyacophila 1 m 1 f. 5156

5157 USA: UTAH: Tooele Co. 1 mi N of Stockton, Hwy 36, on first bench above valley floor, 16-Apr-1988 C. R. Nelson # 5157 & family especially J. R. Nelson. 5 Took family trip with family to Lehi Clay Pits then to Tooele, Magna copper mine, and home. Kaye lost her camera. Looking for plant: *Sisyrinchium douglassii*, purple eyed grass, found vegetative phase, no blooms. "Ben" Franklin collected others earlier this month, saw *Astragalus utahensis*, *A. lentiginosus*, *Castilleja chromosa*, *Phlox hoodii* and *Phlox longifolia*. Carabidae, bright green; Elateridae, narrow; Anthophoridae, bee on *Astragalus utahensis*. 5157

5158 USA: IDAHO: Cassia Co. I-84 rest stop near Utah border T 15S R30E s 35 26-Apr-1988 C. R. Nelson # 5158 & T. Evans & B. A. Haws 5 in pinyon juniper. Cassia Creek, Connor Creek, Ask Standard Gas Jim Bennett, ID: *Bouteloua gracilis*, natural, P. S. Ogden, cazu casier, cassiu, de casar plant: mustard 5158

5159 USA: IDAHO: Cassia Co. 4 mi East of Malta T13S R27E s 4 26-Apr-1988 C. R. Nelson # 5159 & T. Evans & B. A. Haws 5 dug 40 plants; Asilidae: *Comantella pacifica* f; *Efferia pogonias* group female; *Orthezia mealybugs* on shadscale; *Orthezia annae* using

MacGillivray 1920, tended by *Lasius alienus* and *Camponotus vicinus*. Also
Pseudococcidae tended by *Solenopsis molesta*. 5159

5160 USA: IDAHO: Cassia Co. 14 mi SSW of Malta, Geothermal Road T15S R26E s 12 26-Apr-1988 C. R. Nelson # 5160 & T. Evans & B. A. Haws 5 North of turnoff to Cottonwood Creek. *Orthezia annae* using MacGillivray 1920, tended by *Camponotus vicinus*, large black & red ants on shadscale. also med. brown ants (*Lasius alienus*) with single mealybug. 5160

5161 USA: UTAH: Box Elder Co. Brigham City, 211 North 300 West, 26-Apr-1988 C. R. Nelson # 5161 & W. P. Nelson 5 *Cantharidae* 5161

5162 USA: UTAH: Utah Co., Provo, 14th West 5th North 27-Apr-1988 C. R. Nelson # 5162 & J. R. Nelson 5 *Cantharidae*, mating pair 5162

5163 USA: UTAH: Utah Co., Provo, Brigham Young University, M. L. Bean Museum, 28-Apr-1988 C. R. Nelson # 5163 5 Took pictures of shadscale root infested with *Orthezia annae* from Malta, Idaho #5159 and old galls on blue spruce in front of museum. 5163

5164 USA: UTAH: Utah Co., Provo, 14th West 5th North 30-Apr-1988 C. R. Nelson # 5164 5 bumblebee, large, in Gause's house. 5164

5165 USA UTAH: Utah Co., Five Mile Pass, Hwy 73, T75R3Wsec10NW 02-May-1988 C. R. Nelson # 5165 6 in sagebrush near junipers; start mileage 35693 *Efferia* 1m 2f; grasshoppers 5165

5166 USA UTAH: Tooele Co. Rush Valley, 0.5 mi W of Faust Railroad Station, T75 R5W sec 27 SE/NW 02-May-1988 C. R. Nelson # 5166 6 Snowed here yesterday, mostly melted. Ran transect downslope from west steel post sighting on shiny roof of metal building in Faust Junction

1 2 3 juv
1 0 0 0 0
2 0 0 0 0
3 0 0 0 0
4 0 0 0 0 3 had bup tunnels
5 0 0 0 0
6 0 0 0 0
7 0 0 0 0
8 0 0 0 0
9 0 0 0 0
10 0 0 0 0

had to go about 5-10 m to find juv, scarce. No sign of mealybugs 50 minutes to sample.
5166

5167 USA UTAH: Tooele Co. Faust, Hwy 36, Pony Express Marker, T75 R 5 W sec 29SE 02-May-1988 C. R. Nelson # 5167 6 started transect 50 m W of monument, head up slope toward second utility pole N of jct to lines. Collected cactus in bloom, *Pediocactus simpsoni*, det Welsh.
shadscale mixed under *Sarcobatus*.

1 2 3 juv
1 0 0 0 0
2 0 0 0 0
3 0 0 0 0
4 0 0 14 0 *Orthezia*
5 0 0 0 0
6 0 0 0 0
7 0 0 0 0
8 0 0 0 0
9 0 0 1 0 *Orthezia*
10 0 0 0 0
5167

5168 USA UTAH: Tooele Co. Davis Mountain, 15 air mi W of Vernon, T85 R7W sec 19 NW, elevation 5237 feet 02-May-1988 C. R. Nelson # 5168 6 end mileage 35878, 185 total miles in triangle of road near small peak, 5280 feet. No juv = within 10 m of point transect walked from top metal stake sighted to first tall peak S of Lookout Pass

1 2 3 juv
1 0 0 0 no juv
2 0 0 0 no juv
3 0 0 70+ no juv 2 with termites & staphylinidae, 3 with pseudococcidae tended by *Solenopsis* ants
4 0 0 10 no juv
5 0 0# 19 no juv, #small myrmicine ant
6 0 0 0 no juv
7 0 0 0 no juv
8 0 0 0 no juv
9 0 0 0 no juv
10 0 0 0 no juv
5168

5169 USA UTAH: Utah Co., Provo, 14th W 5th N; T75 R2E sec 2 NE/SW ; trailer park 07-May-1988 C. R. Nelson # 5169 6 sweeping lawn Lonchopteridae, Chloropidae, Sphaeroceridae, Psyllidae. Filled Toyota 5 May 1988, 10.9 gals for 240 miles = 22 mpg. 5169

5170 USA OHIO: Scioto Co. Pond Lick Run, jct Turkey Creek, Hwy 125 10-May-1988 C. R. Nelson # 5170 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 Amphinemura, Leuctra, Diploperla, Sialis, Tephritidae, Empididae, acalypterates, Tingidae, bees, Simulium. Saw Nerodia and snapping turtle. 5170

5171 USA OHIO: Scioto Co. Mackle Tree Road, below 1st bridge 10-May-1988 C. R. Nelson # 5171 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 Empididae; Carabidae long neck; beetles; Basiaesha janata; Leuctra; Sweltsa; Cicindelidae; Sialis (Boris); Pentatomidae (2 kinds). 5171

5172 USA OHIO: Scioto Co. small stream above Turkey Creek Lake 10-May-1988 C. R. Nelson # 5172 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 Cicindelidae; Mycetophilidae; Empididae; Leuctra (Boris) 5172

5173 USA OHIO: Scioto Co. small branch Turkey Creek above Turkey Creek State Park 10-May-1988 C. R. Nelson # 5173 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 Nomada; Asilidae: Holopogon; Tetrigidae; Lampyridae; Syrphidae; photo of aphids & ants on Prunus serotina 5173

5174 USA OHIO: Adams Co. Blue Creek, Hwy 125 10-May-1988 C. R. Nelson # 5174 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 swept "rushes" in swampy area. Sciomyzidae; Stratiomyidae; Otitidae; Chrysomelidae: Donacia. 5174

5175 USA OHIO: Adams Co. Cassel Run, Cassel Run Road, South Fork Scioto Brush Creek North of Blue Creek 10-May-1988 C. R. Nelson # 5175 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 Diploperla nymphs; Amphinemura adults & nymphs; Acalypterate fly; Nigronia larva; photo of Silphidae larva; zebra swallowtails; Otitidae 5175

5176 USA OHIO: Adams Co. Turkey Run above jct Scioto Brush Creek 10-May-1988 C. R. Nelson # 5176 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 Empididae; Corydalidae, Nigronia larva 5176

5177 USA OHIO: Adams Co. Shawnee Run jct Scioto Brush Creek near Wamsley 10-May-1988 C. R. Nelson # 5177 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 Isoperla burksi adults & nymphs; Amphinemura; Sialis; Cerambycidae; Chrysomelidae; Alloperla nymph; Empididae; Tephritidae 5177

5178 USA OHIO: Scioto Co. unnamed tributary 1 mi NE of Beech Fork to Scioto Brush Creek 10-May-1988 C. R. Nelson # 5178 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 Amphinemura; Sialis; Aphropsyche - Homoplectron. 5178

5179 USA KENTUCKY: Rowan Co. Logan Hollow of North Fork Triplett Creek, 3 mi W of Morehead 11-May-1988 C. R. Nelson # 5179 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 Logan Hollow Road Diploperla robusta; Leuctra sibleyi; Amphinemura; Sweltsa; wooly alder aphids on speckled alder with large ant tending it; photo alder leaf beetle larva; photo "fossil"; photo ringneck snakes; saw mole; box turtle shell; Dolichopodidae 5179

5180 USA KENTUCKY: Rowan Co. Morehead, I-64 11-May-1988 C. R. Nelson # 5180 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 at lunch Xylomyidae 5180

5181 USA KENTUCKY: Whitley Co. South Fork Dog Slaughter Creek, Road 195 11-May-1988 C. R. Nelson # 5181 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 Amphinemura; Leuctra; Asilidae; Syrphidae; red spotted purple; Panorpa (Boris); Acmaeodera; Dolichopus 5181

5182 USA KENTUCKY: Whitley Co. Dog Slaughter Creek jct Little Dog Creek?, N & S Fork 11-May-1988 C. R. Nelson # 5182 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 Leuctra; Panorpa; Tipulidae; Asilidae: Lasiopogon; Hemerobiidae; Haploperla; Isoperla; Amphinemura 5182

5182.5 USA KENTUCKY: McCreary Co. Cumberland River, Hwy 90, Cumberland Falls State Park 11-May-1988 C. R. Nelson # 5182.5 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 Parked near west side of bridge, major seeps just downstream of bridge & 0.25 - 0.50 miles upstream Sisyridae; Therevidae; Isoperla; Amphinemura and Leuctra in small seeps; Syrphidae; Gyrinidae, Dineutes; Helopicus skins; Gomphidae (Boris) Hylogomphus brevis; Lampyridae; Brentidae, under bark near parking lot for gift shop area. 5182.5

5183 USA KENTUCKY: McCreary Co. stream W of Cumberland Falls, paralleling road, Hwy 90 12-May-1988 C. R. Nelson # 5183 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 sent postcards from Tombstone Junction area Amphinemura; Leuctra; Pentatomidae 5183

5184 USA KENTUCKY: McCreary Co. junction Kilbourne & Laurel Forks of Indian Creek 12-May-1988 C. R. Nelson # 5184 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 beetles; Isoperla; Leuctra; Amphinemura; Chimarra adults 5184

5185 USA KENTUCKY: McCreary Co. Cogur Branch of Indian Creek, Hwy 1045 12-May-1988 C. R. Nelson # 5185 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 photo of Fred Kirchner & R. W. Baumann *Acroneuria abnormis* nymphs; *Amphinemura* adult; *Ptilodactylidae* larva; *Dryopidae* adult: and black rat snake. 5185

5186 USA TENNESSEE: Scott Co. Big South Fork Cumberland River, Hwy 297, Leatherwood Crossing 12-May-1988 C. R. Nelson # 5186 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 small stream entering downstream from bridge *Corydalidae*: *Nigronia*; *Isoperla*; *Lasiopogon*; *Gomphidae*, *Dydymops*; beetles; *Tetrigidae*; *Syrphidae*; *Scoliidae*; *Symphyta*; *Leuctra*; *Amphinemura*; *Stratiomyidae*? *Xylomyidae*?; *Peltoperla*; *Eccopectura* nymphs. 5186

5187 USA TENNESSEE: Scott Co. Bandy Creek near White Pine Church 12-May-1988 C. R. Nelson # 5187 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 dry label says near Bandy Church *Haploperla brevis*; *Leuctra sibleyi* 1f; *Nemouridae* *Soyedina*?; *Empis*; *Lasiopogon*; *Stratiomyidae* 5187

5188 USA TENNESSEE: Morgan Co. Rock Creek, Hwy 27, 7 mi N Wartburg 12-May-1988 C. R. Nelson # 5188 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 *Haploperla brevis* 3; *Amphinemura*; *Leuctra*; *Tipulidae*; *Cucujidae*; *Languriidae*; *Isoperla* skins; *Taeniopteryx* skins; "Cultus" in spider web 5188

5189 USA TENNESSEE: Morgan Co. Clear Creek, Hwy 298, Jeff Bridge 13-May-1988 C. R. Nelson # 5189 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 beautiful stream *Helopicus subvarians* 1f; *Alloperla*; *Amphinemura*; *Leuctra*; *Isoperla*; *Stenonema* x; *Stenacron*; *Empididae*: *Clinocera*; caddis adults 5189

5190 USA TENNESSEE: Morgan Co. small tributary to Clear Creek, Hwy 298, at Jeff Bridge 13-May-1988 C. R. Nelson # 5190 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 *Peltoperla* nymphs; *Sweltsa*; *Isoperla* nymph; *Amphinemura*; *Leuctra*; *Acroneuria* nymph; *Cimbicidae*; *Cantharidae*; *Chrysomelidae* 5190

5191 USA TENNESSEE: Cumberland Co. small stream 3 mi N of Adams, bridge of Obed River 13-May-1988 C. R. Nelson # 5191 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 label says 2 miles, watch, confusing *Leuctra* spp. 2-3 spp.; *Ostrocerca truncata/albidipennis*; *Amphinemura nigrutta* to Boris also 1 f of another; *Diploperla robusta*; *Panorpa*; *Empididae*; *Tipulidae* mating pair papered; *Chrysopidae*; *Chrysomelidae*; *Sialidae*; *Laphria* skin coming out of *Pinus virginianus*; ticks; large *Carabidae* larva. 5191

5192 USA TENNESSEE: Cumberland Co. small stream 2 mi N of Adams bridge, Hwy 298 13-May-1988 C. R. Nelson # 5192 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6

Simuliidae Simulium sp.; Empididae; photo of black & white moths; Leuctra sp.;
Haploperla brevis; Sweltsa onkos. All wet 5192

5193 USA TENNESSEE: Cumberland Co. Obed River at Adams bridge, Hwy 298 13-May-1988 C. R. Nelson # 5193 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 SWEET (written by Boris): Laphria, Holcocephala, "Myelaphus", large Asilidae; Cerambycidae; Panorpa; Cicindelidae, Cicindela sexguttata 5193

5194 USA TENNESSEE: Van Buren Co. Falls Creek Falls State Park, Rock House Creek 13-May-1988 C. R. Nelson # 5194 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 Gryllacrididae female; Cicadella; Syrphidae (Boris); Leuctra; Amphinemura; Empididae; caddis adults 5194

5195 USA TENNESSEE: Van Buren Co. Cane Creek, 6 mi E of Spencer, Hwy 30 13-May-1988 C. R. Nelson # 5195 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 Leuctra sp.; Amphinemura; Isoperla 1m; Opilionida; Corydalidae, Nigronia (Boris). 5195

5196 USA TENNESSEE: Marion Co. Jasper, Hwy 41 13-May-1988 C. R. Nelson # 5196 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 Chrysopidae, 1 pinned 5196

5197 USA ALABAMA: DeKalb Co. Straight Creek, near Powells Crossroads, Hwy 35 14-May-1988 C. R. Nelson # 5197 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 Isoperla (only the Lord really knows, comment by Boris); Amphinemura nigritta; Clioperla clio; "Diploperla"; Buprestidae SWEET; Hemerobiidae; Empididae; Cantharidae; Tenthredinidae 5197

5198 USA ALABAMA: DeKalb Co. Rainesville 14-May-1988 C. R. Nelson # 5198 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 Stratiomyidae, found dead in market 5198

5199 USA ALABAMA: Cleburne Co. Jackson Creek, Hwy 431, 2 mi NW of Five Points 14-May-1988 C. R. Nelson # 5199 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 Gomphidae (Boris); beetles 5199

5200 USA ALABAMA: Cleburne Co. Cheaha State Park, Dry Creek above Cheaha Lake 14-May-1988 C. R. Nelson # 5200 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff. 6 excellent spot. I checked the quad, the lake was Cheaha Lake the stream unnamed, but the only tributary to Cheaha Lake. The only stream shown leaving the lake was Dry Creek. I suppose Dry Creek is above the lake too! Leuctra 2 spp.; Nemouridae 2 spp., NO 1 Amphinemura wui; Hansonoperla 2 sp; Perlesta, NO, Beloneuria jamesae; Sweltsa 2 spp? NO 1 all females; Alloperla usa; Haploperla brevis; Lycidae NO, it's a moth; Asilidae, Dasypogoninae; Tallaperla 2 spp.; dragonfly Tetragoneuria. 5200

5201 USA MISSISSIPPI: Lauderdale Co. Chunky Creek at Dunns Falls, SW of Meridian 16-May-1988 C. R. Nelson # 5201 & R. W. Baumann, R. F. Kirchner, and B. C. Kondratieff & C. H. Nelson, & D. Funk & G. Jacobi 6 Neoperla, Perlesta, Tipulogaster, Cicindelidae, Empididae, Pentatomidae, Anthophoridae, Nectopsyche, other caddis adults, Cicadellidae, Elateridae, Chrysomelidae, Tetrigidae, Reduviidae 5201

5202 USA ALABAMA: Tuscaloosa Co. Big Sandy Creek, T 22S R8W sec25 18-May-1988 C. R. Nelson # 5202 & Richard Vineyard, Brian Armitage, Wayne Gall, Guenter Schuster, David Ruiters 6 Paragnetina fumosa 1 m, Agnetina nymph, Nigronia adults and larvae, Calopteryx, caddis adults including Goera, Tipulogaster, Lampyridae, Cantharidae, Coreidae, Pteronarcys nymph 5202

5203 USA UTAH: Utah Co., Provo, 2nd West 12th North, Barbizon Pond, stream near Reams, T6S R2E sec36 24-May-1988 C. R. Nelson # 5203 & Michael Whiting 6 Cantharidae 1 red & "blue", Chloropidae 5203

5204 USA UTAH: Carbon Co. 9 mi E of Wellington, jct Hwy 28 & 123, T15S R12E sec 16 NE, 25-May-1988 C. R. Nelson # 5204 6 Whitcomb #3077, 100 sweeps in Hilaria jamesii, mixed shadscale/greasewood. Start trip to Green River, 36000.2 Wellington post office 36086.9, , East Carbon turnoff 36095.9 bee fly, Stichopogon common, grasshoppers, Hilaria in bloom 80% pure, Leiodidae in sweep; Sitanion in bloom, Astragalus virgatus, pressed, to S L. Welsh, 5204

5205 USA UTAH: Grand Co. 1.5 mi N of Crescent Junction, Thompson Pass Road, T21S R19E s28 NE/NW 25-May-1988 C. R. Nelson # 5205 & Ted Tibbetts 6 1 2 3 juv

1 0 0 0 0

2 0 2 0 0

3 0 0 1 0

4 0 0 0 0

5 0 0 0 0

6 0 53* 1 0

7 18* 0 0 0

8 0 0 0 0

9 0 0 0 0

10 19 3 0 12

all pseudococcidae, Phenacoccus solenopsis & Choricoccus polyporus det R. J. Gill 1988.

* Solenopsis present. Walked transect 45 deg E of permanent transect, 10 m intervals.

Meloidae on Lupinus pusillus, Erigeron pumilis, Buprestidae on composite: Platyschuhria

integrefolia; *Lygodesmia grandiflora*: sticky composite; *Efferia*; *Cymopteris acaulis*;
Astragalus amphioxes; *Cryptantha flava*. 5205

5206 USA UTAH: Grand Co. 2 mi N of I-70 road to Cottonwood Ranch, T20S R24E sec
20NW, 52 mi E of Green River 25-May-1988 C. R. Nelson # 5206 6 1 2 3 juv

1 0 0 0 0

2 0 2 0 0

3 0 0 1 0

4 0 0 0 0

5 0 2 0 0

6 0 0 0 0

7 0 25* 0 0

8 0 0 2 0

9 0 0 12 0

10 1 0 0 0

all pseudococcidae, *Chorizococcus polyporus* det R. J. Gill 1988.

* *Solenopsis* present.

Whitcomb #3078 100 sweeps *Hilaria jamesii*; exit is jct to travel south to reach Cisco, but
head for hills, approx. T20S R24E sect 23?; gas in Green River 36268, 8.85 gallons 268 miles
30.3 mpg. Transect from near road on angle to SW sighting on last table of cliff. Exit 211
much *Sphaeralcea parvifolia*, *Judolia* Cerambycidae, pictures taken, *Efferia* 1 male small
benedicti?; *Atriplex confertifolia*; *Astragalus flexuosus diehlii*, compare to *wingatanus*;
Xylorhiza venusta, daisy composite; 5206

5207 USA UTAH: Emery Co. rest area, I-70 near San Rafael Reef, 14 mi W of Green River
26-May-1988 C. R. Nelson # 5207 6 Miridae, Chloropidae, Calypterates all on *Fraxinus*
anomalus, single leaf ash. *Astragalus episcopus*; other legume, *Caesalpinia repens*. 5207

5208 USA UTAH: Emery Co. Sagebrush bench, I-70, 33 mi W of Green River; T 22S R12E
sec8 25-May-1988 C. R. Nelson # 5208 6 300 sweeps *Bouteloua gracilis*, saw no
Flexamia; vegetative 95% pure, also rice grass, *Sporobolus cryptanthus*; no shadscale
nearby 5208

5209 USA UTAH: Emery Co. 53 mi w of Green River, I-70, pull off on S side of road 3 poles
above mile Marker #111 26-May-1988 C. R. Nelson # 5209 6 1 2 3 juv

1 0 0 0 0

2 0 0 0 0

3 0 0 15*0

4 0 0 0 0

5 0 2 0 0

6 1* 0 0 0

7 0 0 0 0

8 1* 0 0 0

9 0 0 0 0

10 0 0 0 0

*Orthezia; walked transect 45 deg from Hwy to SW, sighting on highest peak picture taken of white Cryptantha & small orange flower Lucelene erioides, also pepperweed, Lepidium montanum; abundant juveniles; shadscale mixed in transition near junipers, ephedra, pepperweed, Chrysothamnus viscidifolia? 5209

5210 USA UTAH: Emery Co. 64 mi w of Green River, I-70, milemarker 90 26-May-1988 C.

R. Nelson # 5210 6 1 2 3 juv

1 0 2 20 0

2 0 0 0 0

3 0 0 0 0

4 0 0 0 0

5 0 0 0 0

6 0 0 0 0

7 0 0 0 0

8 0 0 0 0

9 0 0 0 0

10 0 0 0 0

Orthezia; Site quality:

1 3, 2 3, 3 3, 4 3, 5 3, 6 1, 7 2, 8 3, 9 3, 10 3 Whitcomb#3080, 200 sweeps Bouteloua gracilis, at beginning of divided Hwy heading N; nice stand of shadscale, mixed with Elymus, lots of budsage; ran transect parallel to Hwy, 30 m North; large Astragalus; took At. confert for Stutz & another Atriplex. 1 mi E of Fremont Junction 5210

5211 USA UTAH: Emery Co. 3 mi E of Castle Dale, T18S R9E sec 32NW, at Benchmark says 1937 Buckhorn; road to wedge overlook, San Rafael Bridge; saw no 1 - 2 plants, many small plants, shadscale mixed with another Atriplex, A. cuneatus given to Stewart 26-May-1988

C. R. Nelson # 5211 6 1 2 3 juv

All zeros, no 1 or 2 quality, dug 3 3's at each point

Site quality:

All 3's

many rocks in the soil; Whitcomb #3081, 100 sweeps Hilaria jamesii, contaminants rice grass and Sitanion. Collected umbel, Cymopteris and 2 Atriplex A. confertifolia and A. cuneata. took picture of claret cup? 5211

5212 USA UTAH: Emery Co. 6 mi E of Castledale, San Rafael Bridge Road, T18S R9E sec34,
5500 feet 26-May-1988 C. R. Nelson # 5212 6 1 2 3 juv

1 0 3* 0 0

2 0 0 0 0

3 0 0 0 0

4 0 0 0 0

5 0 0 0 0

6 0 0 0 0

7 0 0 0 0

8 0 0 0 0

9 0 0 0 0

10 0 0 5 0

#1 is *Chorizococcus polyporus* det R. J. Gill 1988; #10 is *Orthezia*; Site quality:

1 3, 2 2, 3 1, 4 2, 5 2, 6 2, 7 1, 8 3, 9 2, 10 -

**Solenopsis* Whitcomb #3082, 100 sweeps galleta flowering, contaminants Blue gramma and Sitanion. W#3083 100 sweeps blue gramma; kept small purple plant, *Polygala subspinos*, loose in bucket, photo also yellow composite and wide scenery 5212

5213 USA UTAH: Emery Co. Right Fork Huntington Creek, Stuart Ranger Station 26-May-1988 C. R. Nelson # 5213 6 *Capnia confusa*, discarded, 1 female

Utacapnia 1 female

beetle 5213

5214 USA UTAH: Millard Co. 11.7 mi W of Leamington, Hwy 6, 3.2 mi E of Sevier River bridge T15SR5Ws7 02-Jun-1988 C. R. Nelson # 5214 6 soil light, not compacted; I sighted on the stack of IPP; no grass in crowns.

site condition # 1 2 3 juv

2 1 0 0 0 0

2 2 0 0 0 0

3 3 42+*8 lg 34 sm 7 cases 0 2 0

1 4 40+ 4mb 11 cases 2 3

2 5 0 3 44*lc case 1

3 6 12+ 19 6 bup damage 0

1 7 6,3 cases 34+ 9+ 2+

2 8 2+ 0 12 2+

0 many dead 9 3 0 0 1+

2 10 2 20+ 0 0

large mealybugs near soil surface, surrounded with hard cases; smaller mealybugs deeper, 5-7 miles below surface. 2 2p? small *circulus*, no *circulus Pseudococcidae*?

* large ant with large mealybugs (*Camponotus vicinus*)

Solenopsis molesta with smaller seen carrying mealybugs.

+with med dark ant *Formica*?

Phenacoccus solenopsis

Chorizococcus polyporus, det R. J. Gill, 1988. shadscale in greasewood; interesting site, At. co. on hillocks above; Atco on "ridges" on soft soil; At co dead in lower areas of soft soil.

5214

5215 USA UTAH: Millard Co. 20 mi W of Delta, Hwy 6/50, 4558 feet elev.

T18SR9Ws17NE/NW 02-Jun-1988 C. R. Nelson # 5215 6 started transect at 1st power tower south of Hwy, sighting on Notch Peak, after disturbance of soil for line site condition # 1 2 3 juv

2 1 0 0 0 0

1 2 0 0 1 0

3 3 0 0 0 0

1 4 0 0 11*2mb 0

2 5 0 0 0 0

2 6 17 0 2o 0

1 7 0 0 0 0

2 8 0 0 0 0

3 9 0 0 0,2fulgoroids 0

3 10 0 2 0 0

*fulgoroid? nymphs; mb are different here, greenish adult females.

Puto atriplicis det R. J. Gill, 1988. CRN 5 Dec 1988, 2 slides. collected *Penstemon dolius* in bloom.

Tenebrionidae, small, in roots

wax plates seemed longer on these pseudococcids? broad circulus. 5215

5216 USA UTAH: Millard Co. Snake Valley, Hwy 6, 10 mi E of Nevada border, between

Conger Range and Burbank Hills T20SR18Ws? 02-Jun-1988 C. R. Nelson # 5216 6 sloping playa, rocky soil, soft; small leaved, small plants.

site condition # 1 2 3 juv

3 1 0 0 0 0

1 2 0 0 0 0

3 3 0 0 0 0

2 4 0 0 0 0

3 5 0 0 0 0

2 6 0 0 0 0

2 7 0 0 0 0

1 8 0 0 0 0

- 9 0 0 0 0

- 10 0 0 0 0 photo: *Opuntia pulchella* and other. 2 spp. W#3084 100 sweeps Galleta, good size stand, some rice grass. 5216

5217 USA UTAH: Millard Co. Snake Valley, Hwy 6, 4.5 mi E of Nevada border, between Conger Range and Burbank Hills, Eskdale Junction T20SR19Ws22 02-Jun-1988 C. R. Nelson # 5217 6 flat valley floor, gravelly soil, some greasewood mixed with shadscale, shadscale has large leaves. Site of Stutz?. Started at jct, ran transect South sighting on Garrison

site condition # 1 2 3 juv

3 1 0 0 1 0

3 2 0 0 0 0

1 3 0 0 3 0

2 4 0 1 0 0

3 5 0 0 0 0

3 6 0 0 0 0

1 7 0 0 0 0

3 8 0 0 0 0

2 9 0 0 3 0

2 10 0 0 0 0

Pseudococcidae with broad circulus, *Puto atriplicis*, det R. J. Gill, 1988. Bombyliidae 5217

5218 USA NEVADA: White Pine Co. UT-NV border, Hwy 6/50 T20SR19Ws19? 02-Jun-1988 C. R. Nelson # 5218 6 cafe/motel/gas station was in shadscale - greasewood community. end of day mileage, 15575 *Stenopogon*, caught on sides of motel, I tried out in brush but saw no robber flies.

3 June 1988, morning, caught insects from cafe lights, moth similar to one raised from *Atriplex canescens*, also pyralid, Chrysopidae, Noctuidae, Myrmeleontidae 5218

5219 USA UTAH: Millard Co. Snake Valley, 18 miles N of Hwy 6/50 T17SR19Ws21SW/NW 03-Jun-1988 C. R. Nelson # 5219 6 (0.15 mile) 200 yards N of Smith Creek Road turnoff on E side of road, prominent den.

Gandy Warm Springs Ranch 29.4. photo of fox 5219

5220 USA UTAH: Millard Co. 4 mi N of Gandy, Trout Creek - Calico Road T15SR19Ws19 03-Jun-1988 C. R. Nelson # 5220 6 pseudococcids? with long plates?

site condition # 1 2 3 juv

2 1 0 0 0 0

3 2 0 0 0 0

3 3 0 0 0 0

3 4 0 0 0 0

2 5 0 0 0 0

3 6 0 1 0 0

3 7 4 0 5 0

1 8 0 6* 1 4 small May be different

3 9 0 0 0 0

2 10 2 0 1 0

*Solenopsis

g.s 2 mi N Gandy; Puto atriplicis det R J. Gill, 1988. Townsendia florifera

W#3085, 100 sweeps Hilaria jamesi

Efferia benedicti

Bombyliidae

grasshoppers 5220

5221 USA UTAH: Juab Co. Deep Creek Mountains, Granite Wash, 2 mi W Trout Creek Road

T15SR19Ws19 03-Jun-1988 C. R. Nelson # 5221 6 granite hills on playa. Efferia

Stenopogon

Ammophila 5221

5222 USA UTAH: Juab Co. Deep Creek Mountains, CCC Camp Callao on Thomas or Toms

Creek, 4800 feet elev. T11SR17Ws21NWS 03-Jun-1988 C. R. Nelson # 5222 6 talked with

Jim & ___ Ririe from Deweyville. sort mealybugs & ants carefully, several kinds.

Well drained granitic, sandy soil. ran transect N of campground on bend in road toward east
sighting on tip of Fish Springs Range. 2:00pm

site condition # 1 2 3 juv.

2 1 0 0 0 0

2 2 19large with large antsA 26 *large&26 cases 15smallllB 4B with Solenopsis

2 3 0 0 1lgA 1lgA

3 4 0 0 0 0

2 5 0 0 0 0

1 6 0 0 0 0

2 7 29A lg ants 0 0 0

1 8 0 0 8A 3B Solenopsis longer plates

1 9 0 0 0 0

2 10 0 0 0 0

*with large ant Camponotus vicinus det CRN & "cases" mummies with chalcidoid parasites
spindly cactus, Opuntia pulchella; two species of Pseudococcidae A -1 with small circulus

(short antennae) *Phenacoccus solenopsis* det R. J. Gill 1988;

B-1 with broad circulus (long antennae) *Puto atriplicis* det R. J. Gill 1988. *Efferia* 2 spp.
Stenopogon

Cicadas 5222

5222.5 USA UTAH: Juab Co. Fish Springs 03-Jun-1988 C. R. Nelson # 5222.5 6

dragonflies

Efferia 1 male 5222.5

5223 USA UTAH: Tooele Co. Davis Mountains, 15 air mi W of Vernon T8S R7W S19NW/NW
03-Jun-1988 C. R. Nelson # 5223 6 W#3086, 100 sweeps *Hilaria jamesi*, some flowering.
paralleled lower road toward caliche outcrop = bottom double posts. plants very scattered
and very healthy, much cover in this area, *Bromus tectorum*, *Sitanion hystrix*, *Stipa*
hymenoides and *comata*.

site condition # 1 2 3 juv

3 1 - - 16 tiny nymphs -

3 2 - - 0 -

2 3 - 0 - -

3 4 - - 0 -

3 5 - - 0 -

3 6 - - 0 -

3 7 - - 10 sm nymphs -

3 8 - - 0 -

3 9 - - 0 -

3 10 - - 0 -

huge huge huge plant; *Distichlicoccus* sp? det R. J. Gill 1988. saw pink "sport" of
Sphaeralcea.

end of trip 7 pm 15801. 5223

5224 USA UTAH: Emery Co. San Rafael Swell, S slope Mexican Mountains 04-Jun-1988 C.
R. Nelson # 5224 & M. A. "Ben" Franklin 6 end of roll pictures taken of 2 kinds of
caterpillars. Caterpillars on *Psoralea polydenia* var. *jonesii* "purple sage" 5224

5225 USA UTAH: Utah Co., Provo, BYU Atriplex garden T7S R3E s6NW/NE 07-Jun-1988 C.
R. Nelson # 5225 6 Chrysomelidae adult and larvae mining in *A. canescens*.
Pentatomidae, Meloidae, Psychidae larva (helical) 5225

5226 USA UTAH: Wasatch? Co. 1 mi SE SE Soldier Summit, Hwy 6, sm trib. White River
T10S R8E s30SW/SE 09-Jun-1988 C. R. Nelson # 5226 & R. W. Baumann 6 label says East.

start trip: 6:30am, 15801 Triznaka, beetles, Labops on Elymus and Poa, Empididae, Hemiptera, Diptera, leafhoppers 5226

5227 USA UTAH: Grand Co. 1.5 mi N of Crescent Junction, Thompson Pass Road T21S R19E s28SW/NE 09-Jun-1988 C. R. Nelson # 5227 & R. W. Baumann 6 # site condition 1 2 3

juv

1 2 0 1 0 1

2 1 0 1\$ 0* 0 *tenebs; \$rice grass in crown

3 1 1 0 0 0

4 1 0 0 0 0

5 2 0 0 4* 2 *Solenopsis, yellow Pseudococcidae

6 3 0 1 0 0 yellow pseudo

7 3 1 0 0 0 red pseudo

8 2 0 0 0 0

9 2 0 0 0 0

10 3 0 0 0 0

supplementary condition transect 1 2; 2 2; 3 2; 4 1; 5 2; 6 3; 7 2; 8 3; 9 1; 10 3.

red pseudococcids

2 kinds evident (mealybugs) C. R. Nelson, 13 June 1988.

W#3087 100 sweeps of Hilaria jamesi

Distichlicoccus salinus det R. J. Gill 1988. Efferia male, female with therevid; Scleropogon, Promachus, no see ems Ceratopogonidae, cicadas 5227

5228 USA UTAH: Grand Co. 53 mi E of Green River, 2 mi N of I-70 on Cottonwood Ranch Road, exit 212 T20S R24E s20NW 09-Jun-1988 C. R. Nelson # 5228 & R. W. Baumann 6 # site condition 1 2 3 juv

1 2 0 0 0 0

2 2 1*parasitized 3* 1*p 0 red pseudo * 2 parasitized

3 1 3red 17\$ 1red 0 \$yellow

4 1 0 0 0 0

5 2 0 0 0 0

6 3 0 0 0 0

7 2 0 0 0 0

8 2 0 0 0 0

9 2 0 5red 0 0

10 3 0 0 0 0

Phenacoccus solenopsis det R. J. Gill 1988.

almost all the Sphaeralcea has gone to seed, the Opuntia is blooming magenta. Monilema

on *Opuntia polyacanthus*, large weevils Curculionidae, buprestid, cicada, saw
Dactylopius, *Efferia*. 100 sweeps *Hilaria jamesi* 5228

5229 USA UTAH: Grand Co. Colorado River bridge, Hwy 128, near jct Dolores River T23S
R24E s8NE/NE 09-Jun-1988 C. R. Nelson # 5229 & R. W. Baumann 6 *Isoperla longiseta*,
Smicridea, *Hydropsyche*, *Stichopogon*, *Myrmeleontidae*, *Chrysopidae* 5229

5230 USA UTAH: Grand Co. Professor Valley, Hwy 128, milemarker 17 T24S R24E s11NE/NE
09-Jun-1988 C. R. Nelson # 5230 & R. W. Baumann 6 started transect at mm 17 and
walked south sighting on narrow pinnacle near line of top of La Sal Mountains.

cond 1 2 3 juv

1 2 0 0 0 0

2 1 0 0 0 0

3 1 0 0 0 0

4 3 0 0 0 0

5 1 0 0 0 0

6 3 0 0 0 0

7 1 0 0 0 0

8 1 0 0 0 0

9 2 0 0 0 0

10 1 0 0 0 0 *Astragalus amphioxys*. W#3089 100 sweeps *Hilaria jamesi*, lost.
Efferia, *Cicada*, *Sphecidae*. 5230

5231 USA UTAH: Grand Co. Castle Creek, Hwy 128, above jct Colorado River T24S R22E
s35NE/NE 09-Jun-1988 C. R. Nelson # 5231 & R. W. Baumann 6 100 sweeps *Distichlis*
stricta.

end of day mileage - 16078 *Isoperla* short winged; *Isoperla longiseta* 1 m; *Lampyridae* 5231

5232 USA UTAH: Grand Co. Spring branch Castle Creek near jct Castle Valley & La Sal Loop
Road, Forest Road 207 T25S R24E s30NE of NW 10-Jun-1988 C. R. Nelson # 5232 & R. W.
Baumann & Tibbetts. 6 start day mileage 16978 cicadas, *Efferia* 2 spp.; *Heteropogon*;
Stenopogon; *Machimus*; *Rhaphidiidae*; *Hesperoperla* nymph; *Ephedra viridis* with green
mealybugs; *Philephedra ephedrae* det R. J. Gill 1988. 5232

5233 USA UTAH: Grand Co. Castle Creek above Castle Valley, road 207, 7000 feet elev.
T25S R24E s33NE/NE 10-Jun-1988 C. R. Nelson # 5233 & R. W. Baumann & Tibbetts. 6
Pteronarcella females; *Sweltsa borealis*?; *Isoperla* female; *Podmosta*?; *Empididae*;
Cyrtopogon; *Cimbicidae*; *Ichneumonidae*; *Staphylinidae*, large yellow hair Markings;
Chrysopidae; *Stratiomyidae*, *Sargus* type. 5233

5234 USA UTAH: Grand Co. head of Fisher Creek, check map T25S R25E s29? 10-Jun-1988
C. R. Nelson # 5234 & R. W. Baumann & Tibbetts. 6 Cantharidae; sawfly 5234

5235 USA UTAH: Grand Co. tributary Fisher Creek, 7900 feet elev. T25S R25E s29SE/NW
10-Jun-1988 C. R. Nelson # 5235 & R. W. Baumann & Tibbetts. 6 collected tributary just
before road follows main fork of Fisher Creek.

Wet label says 5234, fix it!!!! Sweltsa coloradensis; Isoperla; Bibionidae; Black
Megachilidae, dry. 5235

5236 USA UTAH: Grand Co. Fisher Creek, 8000 feet elev. T25S R25E s29SE/NW 10-Jun-
1988 C. R. Nelson # 5236 & R. W. Baumann & Tibbetts. 6 Sweltsa coloradensis; Isoperla;
Bibionidae; Triznaka pintada; Eucapnopsis brevicauda; malenka coloradensis;
Isogenoides; Satyridae Erebia; Chrysomelidae on Juncus; Micropezidae; Heleomyzidae?;
Cyrtopogon male. 5236

5237 USA UTAH: Grand Co. upper tributary Fisher Creek, 8000 feet elev. T25S R25E
s29NE/SW 10-Jun-1988 C. R. Nelson # 5237 & R. W. Baumann & Tibbetts. 6 Isoperla;
Sveltsa, Bibionidae. 5237

5238 USA UTAH: Grand Co. Bear Creek above Hidden Lake T26S R25E s5?NE/SW 10-Jun-
1988 C. R. Nelson # 5238 & R. W. Baumann & Tibbetts. 6 collected on main creek and
small streams. Lasiopogon; Cimbicidae; Triznaka; Isoperla; Bibionidae; Elateridae;
Micropezidae?; Tipulidae; Baetidae: Callibaetis. Nemouridae: Amphinemura banksi. 5238

5239 USA UTAH: Grand Co. Beaver Creek at Dons Lake T25S R25E s8SE/NW 10-Jun-1988
C. R. Nelson # 5239 & R. W. Baumann & Tibbetts. 6 Lasiopogon; Cimbicidae; Empididae.
5239

5240 USA UTAH: Grand Co. Bear Creek?, road to Beaver Basin above Dons Lake T25S R25E
s5?? 10-Jun-1988 C. R. Nelson # 5240 & R. W. Baumann & Tibbetts. 6 end of trip: 9:00 pm,
10 June 1988, Provo, end of day mileage 16276. Capnia, Zapada 2 spp?; Dolichopodidae;
Cerambycidae?; conifer specimens: 1 blue spruce, Picea pungens; 3 fir? Abies concolor
5240

5240.5 USA UTAH: Millard Co. Pavant Butte, 6 mi E of Clear Lake, Escalante Campsite T20S
R6W sec 5 NE/NW 14-Jun-1988 C. R. Nelson # 5240.5 7 Mentzelia montana
Camissonia boothii
other small plant: Tiquilia, with small purple flowers
no shadscale
in greasewood/Tetradymia on volcanic tuff 5240.5

5241 USA UTAH: Millard Co. 3 mi E of Clear Lake, 3 mi W of Pavant Butte T20S R6W sec 6 SW/NE 14-Jun-1988 C. R. Nelson # 5241 7 ran transect from double road NE to Pavant Butte. one basalt site sounded hollow, had shadscale growing on it.

=	con	1	2	3	juv
1	3	0	0	yellow	0
2	2	>100small*	1yellow	0	0 *sacked
3	3	0	3yellow	1	0
4	3	6	0	1	0
5	3	0	0	0	0
6	3	1	3	0	0
7	2	0	1	1	0
8	3	0	10*	0	0 *Solenopsis
9	1	0	0	0	0
10	3	0	0	0	0

(Humococcus atriplicis & Phenacoccus solenopsis & Chorisococcus polyporus, det R. J. Gill, 1988

20 June 1988, mealybugs had small circulus. robust shadscale in sagebrush, Tetradymia, & Chrysothamnus

soil: silt with algal crust, some basalt cobble.

Efferia

Ospriocerus

Agapostemon 5241

5242 USA UTAH: Millard Co. 5 mi W of Clear Lake, 3 mi E of Hwy 257 T20S R8W sec2 NE/NE 14-Jun-1988 C. R. Nelson # 5242 7 transect toward Pavant Butte. Soil compacted alkali silt some pebbles, mix shadscale, Kochia, greasewood.

Some males were attached to females

=	con	1	2	3	juv
1	2	0	0	0	0
2	1	0	0	0	0
3	2	0	0	0	0
4	1	0	0	0	0
5	1	0	0	0	0

6	2	0	0	0	0
7	3	0	0	0	0
8	2	0	0	0	0
9	1	13	0	8m4f*	0
10	3	0	0	0	0

*Camponotus vicinus, yes! several sizes of mealybugs

index: 1.8

Puto atriplicis

Chorizococcus polyporus det RJ Gill, 1988

20 June 1988, mealybugs had large wide circulus.

shadscale on lake bed.

5242

5243 USA UTAH: Millard Co. 20 mi S of Deseret, Hwy 257, milemarker 48 T20S R9W sec32 NW/NE 14-Jun-1988 C. R. Nelson # 5243 7 transect perpendicular to Hwy sighting on drill rig

=	con	1	2	3	juv
1	0	0	0	0	0
2	2	0	1yellow	0	0
3	3	0	14yellow*	5	0
4	1	2*17\$	5*	1*#	0
5	0	3pseudo	2pseudo	7*10o	0
6	1	0	0	1orth9pseudo	0
7	0	0	0	0	0
8	0	1	0	0	0
9	3	0	0	0	0
10	2	0	0	0	0

*Solenopsis.
 *Orthezia \$Pseudo, 15 of which were parasitized. #brown ant.
 oOrthezia >100 nymphs *Orthezia adults

index: 1.2

Phenacoccus solenopsis det RJ Gill, 1988.

pictures of *Orthezia* frames 1 & 2 8x site #790023 of Stutz

adult *Orthezia* had extra long plates, photo taken
considerable number of dead shadscale

large monocultures of shadscale dying & dead in this area. 5243

5244 USA UTAH: Beaver Co. 8 mi N of Milford, Hwy 257, milemarker 8 14-Jun-1988 C. R. Nelson # 5244 7 transect perpendicular to Hwy sighting on drill rig

= con 1 2 3 juv

1 3 0 1\$ 28* 0 \$*Orthezia* *19 *Pseudo*, 9 parasitized, tended by *Solenopsis*.

2 2 0 2orth2pseud 5pseud3orth* 0 **Camp. vicinus*, 2 pseudo parasitized.

3 1 15orth adult 50 nymph 7orth 150orth 0

4 2 >100orth >100orth >100orth 0

5 1 3orth 2orth 30orth 0

6 3 30orth 11orth 15orth 2pseud 0

7 2 0 2orth* 7orth 5pseud 0 **Camp. vicinus*

8 2 5orth 60orth 0 4orth

9 1 0 3pseud 0 0

10 0 0 0 0 0

index: 1.7

transect perpendicular to Hwy on W side
shadscale and greasewood mixed.

HEAVILY infested with *Orthezia*

Phenacoccus solenopsis & *Chorizococcus polyporus* dets RJ Gill, 1988 5244

5245 USA UTAH: Beaver Co. 2 mi E of Minersville, Beaver River T30S R10W sec8 NW/NW
14-Jun-1988 C. R. Nelson # 5245 7 mileage end of day, 16502, 5:30 pm *Leptoceridae*
adults

Efferia

Stenopogon

Rhaphidiidae

cicadas

5245

5246 USA UTAH: Beaver Co. Wahwah Valley, Hwy 21, 21 mi W of Milford T27S R14W sec 13
SE/SE 15-Jun-1988 C. R. Nelson # 5246 7 start day 7:30 am, 16502 100 sweeps *Hilaria*

jamesi, large stands, rice grass and cheat grass contaminants

Whitcomb (W) #3091 5246

5247 USA UTAH: Beaver Co. Wahwah Valley, Hwy 21, 22 mi W of Milford T27S R14W sec 14 SW/NE 15-Jun-1988 C. R. Nelson # 5247 7 transect milemarker 55 perpendicular to Hwy on S side. Soil light silt, shadscale, winterfat, all plants in good (3) condition.

= con 1 2 3 juv

1 3 0 17pseud 19pseud*\$ 0 *Solenopsis \$large Buprestid larva, picture taken.

2 3 1pseud 0 0 0

3 3 0 0 0 0

4 3 0 0 0 0

5 3 0 0 0 0

6 3 0 0 0 0

7 3 0 0 0 0

8 3 0 0 0 0

9 3 1pseud 0 0 0

10 3 7pseud 0 0 0

index:

Chorizococcus polyporus det RJ Gill, 1988

Efferia

Trimerotropis 5247

5248 USA UTAH: Beaver Co. Pine Valley, 7 mi s Hwy 21, 39 mi W of Milford T27SR16WS30nw/nw 15-Jun-1988 C. R. Nelson # 5248 7 60.8 mileage at Hwy 21 Sphecidae with Gryllacrididae; Efferia 5248

5249 USA UTAH: Millard Co. Desert Experimental Range, SE corner, just inside first fence, outside DER T26SR17WS1ne/ne 15-Jun-1988 C. R. Nelson # 5249 7

= con 1 2 3 juv

1 3 2* 0 0 -

2 3 0 3 0 -

3 3 0 0 0 0

4 2 0 0 0 -

5 3 0 0 0 -

6 1 0 2 0 0

7 3 4 0 0 0

8 3 0 0 0 0

9 2 0 4 0 0

10 2 0 0 1 0 Efferia, 1 f with colorful, purple noctuid; Paracosmus beefly.

all Pseudococcids: Chorzococcus polyporus det R. J. Gill 1988; *Solenopsis 5249

5250 USA UTAH: Millard Co. just outside Desert Experimental Range, 8 mi N Hwy 21, 0.25-0.50 mi N Dry Lake Bead T25SR17WS7 nw/sw 15-Jun-1988 C. R. Nelson # 5250 7 Bob Whitcomb #3092, 100 sweeps on Hilaria jamesi with rice grass contaminant buprestid on sphaeralcea; Sphecidae; Efferia; Bombyliidae 5250

5251 USA UTAH: Millard Co. outside E border Desert Experimental Range, 15 mi N of Hwy 21 T24SR17W S6 nw/nw 15-Jun-1988 C. R. Nelson # 5251 7

= con 1 2 3 juv

1 3 0 8 1 twomales 0 0

2 0 0 0 0 0

3 2 0 0 0 0

4 2 0 0 0 0

5 0 0 0 0 0

6 2 0 0 0 0

7 2 0 0 0 0

8 1 0 0 0 0

9 1 0 0 0 0

10 0 0 0 0 0 shadscale in scattered junipers, cheat grass, some winterfat, walked transect down the playa, gravelly soil.

saw Efferia benedicti, common

caught and mounted one tiny metallic moth

males of pseudococcid with wide circulus

Puto atriplicis det R. J. Gill 1988 & males! 5251

5251.5 USA UTAH: Millard Co. Crystal Peak T23SR16WS24ne/se 15-Jun-1988 C. R. Nelson # 5251.5 7 pinyon pine, ponderosa pine, rock loving composite: Machaeranthera grindeliodes var depressa, rock loving flower?: Calylophus lavandulifolia; Tetradymia? canescens, yes; welded tuff sample 5251.5

5252 USA UTAH: Millard Co. 4 mi E of Crystal Peak T23SR15WS32 ne/ne 15-Jun-1988 C. R. Nelson # 5252 7

= con 1 2 3 juv

1 3 0 0 2 pseudo -

2 2 0 0 0 0

3 3 0 0 0 0

4 0 0 0 0 0

5 2 0 0 0 1 orthezia

6 1 0 0 0 0

7 0 0 0 0 0

8 3 0 0 0 1 orthezia

9 2 0 0 0 0

10 2 0 0 0 0 shadscale, ephedra, Tetradymia canescens, Chrysothamnus, Artemesia; soil sandy gravel; tiny beetle in roots; Buprestidae: Acmaeodera 5252

5253 USA UTAH: Millard Co. 0.5 mi e Brown Knoll near s end Sevier Lake T24SR13WS17 se/se 15-Jun-1988 C. R. Nelson # 5253 7

= con 1 2 3 juv

1 1 0 0 0 0

2 0 0 0 0 0

3 3 0 0 0 0

4 3 0 0 0 0

5 2 0 0 0 0

6 1 0 0 0 0

7 3 0 0 0 0

8 3 0 0 0 0

9 3 0 0 0 0

10 3 0 0 0 0 healthy shadscale monoculture on valley floor, soil - hard pan silt; buprestidae, Myrmeleontidae 5253

5254 USA UTAH: Millard Co. 2 mi E Brown Knoll, 25 mi s Hwy 6/50 T24SR13WS21ne/ne 15-Jun-1988 C. R. Nelson # 5254 7 3 pm asilids sitting in shade of shrubs; four wing brought to look at Efferia, Machimus male on top, Promachus, end to end Dasypogoninae mating pair, large Curculionidae on four wing, Acmaeodera mottled trying to mount solid colored, large Tettigoniidae on four wing, mixed four wing, shadscale, Tetradymia, ephedra on lake floor 5254

5255 USA UTAH: Millard Co. west side of Sevier Lake, 8 mi S of Hwy 6/50 15-Jun-1988 C. R. Nelson # 5255 7 Whitcomb #3093, 100 sweeps Hilaria jamesi gravelly hillside before long plain; Lycium andersoni to look at. end trip 8:00 pm, end of day mileage: 16770. See next page, 5255A for mealybugs. Tettigoniidae on shadscale; Cicadidae on shadscale 5255

5255.5 USA UTAH: Tooele Co. Rush Valley, off-road site, 3.7 mi E of Faust Railroad Station 23-Jun-1988 C. R. Nelson # 5255.5 & R. Rasmussen. 7 silty soil, thick crust, light soil ropes

& bends. Pseudococcidae all had small circuli

spot con 1 2 3 juv

1 1 0 0 0 0

2 2 0 0 0 0

3 3 0 0 0 0

4 1 0 5yellow* 0 0

5 2 0 0 0 0

6 0 0 0 0 0

7 0 0 0 0 0

8 2 0 0 0 0

9 2 0 0 0 0

10 3 0 0 0 0

Pseudo

*red ant Myrmicinae? Myrmica americana

Phenococcus solenopsis det R. J. Gill 1988

start of day 23 June 1988, mileage 16770

walked transect toward major motorcycle scar on hill to NE dug shadscale for mealybugs,

Pseudococcidae Formicidae 5255.5

5256 USA UTAH: Tooele Co. Rush Valley, 0.5 mi W of Faust Railroad Station 23-Jun-1988

C. R. Nelson # 5256 & R. Rasmussen. 7 paralleled lowest transect at 1st telephone pole W,

siting on high peak of Stgansburys; soil ropes and bends. py = Pseudococcidae yellow; pr =

Pseudococcidae red. All Pseudococcidae had small circuli.

spot con 1 2 3 juv

1 2 0 0 0 0

2 2 0 7o15p 0 -

3 2 0 0 0 0

4 2 0 0 1o1rp -

die back area spots 5 thru 10

5 0 25p(24 parasitized) 0 7o10p* -

*1 parasitized

6 0 0 0 0 0

7 0 4o 0 29o+* -

+>25 nymphs * med ant Myrmicinae

8 2 1o* 1o*1p* 4o -

*med ant

9 0 30py# 18py# 2 -

#12 parasitized

10 3 2o* 15py* 11py* -

*med ant: *Myrmica americana*. photos

supplemental condition (use for transect of May)

1 2

2 2

3 0

4 2

5 2

6 1

7 0

8 0

9 2

10 3

Promachus aldrichii, common; Cicadidae dug shadscale for mealybugs, Pseudococcidae
Formicidae 5256

5257 USA UTAH: Tooele Co. Rush Valley, Faust, Pony Express Monument, Hwy 36 23-Jun-
1988 C. R. Nelson # 5257 & R. Rasmussen. 7 in thick greasewood; walked uphill toward
Lookout Pass

spot con 1 2 3 juv

1 2 0 0 0 0

2 2 0 1py*# 4py\$

#greater than 25 nymphs, **Solenopsis*, \$small black ants, *Lasius sitens*.

3 2 0 0 0 0

4 2 0 0 0 0

5 3 0 0 0 0

6 1 0 2 20o* 0

*greater than 25 nymphs

7 1 0 0 66py*+## -

**Camponotus vicinus*, +greater than 25 nymphs, # 11 parasitized.

8 3 0 0 0 0

9 1 0 0 0 0

10 1 0 0 53o*+ 0

**Camponotus vicinus*, yes!; +greater than 25 nymphs.

Phenacoccus solenopsis, det R. J. Gill 1988.

end of day 23 June 1988 mileage 16915

start if day 28 June 1988 mileage 16915 Efferia "carinatus"; Scleropogon; Negasilus;

Chrysops; Brochymena 5257

5258 USA UTAH: Daggett Co. Browns Park at Colorado Border, 200 yards from border 28-Jun-1988 C. R. Nelson # 5258 & R. Rasmussen. 7 It rained; soil ropes and bends.

spot con 1 2 3 juv

1 1 0 0 2 0

2 1 1 0 0 0

3 2 0 4 2dead 0

all sessile coccids

4 2 0 0 0 0

5 1 0 0 0 0

6 2 0 0 1 0

coccid

7 3 0 20o* 2* 0

*Orthezia, greater than 50 nymphs

8 3 0 4* 3* 0

*Orthezia

9 2 0 0 3*+ 0

*Orthezia +greater than 50 nymphs

10 3 0 0 2* 0

*Orthezia

also caught a single female Efferia at Jarvie Ranch

Promachus 5258

5259 USA UTAH: Daggett Co. Green River at Little Hole Campground 28-Jun-1988 C. R. Nelson # 5259 & R. Rasmussen. 7 Dr. James Millward, 562-0141, fly fisherman on Green River. End of day 10:30 pm in Vernal. Mileage 17263. Nymphalidae, Danainae monarch caterpillars on showy milkweed, also Chrysomelidae; Micropezidae 5259

5260 USA UTAH: Uintah Co. 13 mi s Hwy 40, Old Highway to Bonanza 29-Jun-1988 C. R. Nelson # 5260 & R. Rasmussen. 7 soil ropes and bends.

spot con 1 2 3 juv

1 3 0 0 0 0

2 2 1* 0 0 0

*pseudococcidae with Solenopsis

3 3 0 0 0 0

4 2 0 0 0 0

5 1 0 1 1 0

pseudococcid

6 3 0 0 0 0

7 3 0 1 0 0

pseudococcid

8 2 0 0 3 0

pseudococcid

9 2 0 0 0 0

10 3 0 0 0 0

Chorizococcus polyporus det R. J. Gill 1988 &
Distichlicoccus salinus

also 100 sweeps Hilaria jamesi

start of day mileage 17263 Cicadidae; Efferia; Megaphorus; orange Pompilidae
5260

5261 USA UTAH: Uintah Co. 5 mi S of Bonanza, jct road to Bookcliff major access 29-Jun-
1988 C. R. Nelson # 5261 & R. Rasmussen. 7 hillside on East side of road. soil is broken up
shale; shadscale has very large leaves. End of day in Provo 6 PM mileage 17543.

spot con 1 2 3 juv

1 2 about 10 ny 0 5* sign of -Orthezia 0

* Solenopsis, pseudococcidae

2 3 0 1sign of Orthezia 0 0

3 3 1o 3o 10o 0

4 3 0 0 0 0

5 3 0 0 0 0

6 1 0 2p 2p 0

7 2 0 0 0 0

8 2 0 0 0 0

9 1 11o 29o(1 adult28, 2nd nymphs) 10+ 0

+greater than 25 ny

10 3 0 11o 25o 0

Chorizococcus polyporus, det R. J. Gill 1988. 5261

5262 USA UTAH: Utah Co., Mt. Timpanogos trail, Aspen Grove Campground, North Fork Creek 01-Jul-1988 C. R. Nelson # 5262 & C. A. Polo 7 *Plumiperla diversa*, *Buprestidae*, *Sphecidae*, bees, *Empididae*, *Parnassius*, *Tabanidae*, *Syrphidae*. 5262

5263 USA UTAH: Utah Co., Stewarts Creek, Timpanogos Lodge 01-Jul-1988 C. R. Nelson # 5263 & C. A. Polo 7 *Tenthredinidae*, *Bombyliidae*, *Ichneumonidae*, *Acmaeodera*, *Sweltsa coloradensis*, *Sweltsa borealis*, *Plumiperla diversa*, *Prostoia besametsa*, *Paraperla frontalis* 5263

5264 USA UTAH: Grand Co. 1.5 mi N of Crescent Junction, Thompson Pass Road 12-Jul-1988 C. R. Nelson # 5264 & B. A. Haws 7 sandy soil, but ropes and bends.

rated last year's sprayed plants: condition 0-3; seeds 0-3; leaders 0-3. total of 5 condition indices 1.4, 1.7, 1.8, sprayed 2.1. clipped by leaders from controls & treated plants.

spot con 1 2 3 j

1 2 0 0 0 0

2 2 0 0 0 0

3 3 0 0 5pr 0

4 3 0 0but sign 0but white sign 0

5 1 0* 0 0 0

**Solenopsis* present

6 2 0 0 0 0

7 1 0 0 0 0

8 1 0 1pr ricegrass in crown 0 0

9 2 0 0 0 0

10 1 0 0 0 0

con index = 1.8

Pseudococcidae small *circulus*, det CRN 15 July 1988

Phenacoccus solenopsis det R. J. Gill, 1988

also *Distichlicoccus salinus*

start of trip 8:00 am, mileage 17543 *Tettigoniidae*, large green on shadscale; *Curculionidae*, large on rice grass, another on snakeweed; *Promachus*; mantis; *Scleropogon*, *Cicindela* 5264

5265 USA UTAH: Grand Co. 52 mi E of Green River, 2 mi N of I-70 12-Jul-1988 C. R. Nelson # 5265 & B. A. Haws 7 pebbles in soil, soil ropes and bends; leaves & seeds of shadscale

heavily infested with beetle leafminers, Monoxia?

spot con 1 2 3 j

1 1 >l00py* 0 0 0

*small ant

2 1 0 0 0 0

3 2 0 0 10py\$ 0

\$buprestid damage

4 2 0 0 0 0

5 0 2py 6+>25 nymphs 17py 0

6 1 0 0 1py 0

7 3 0 0\$ 0 0

\$buprestid damage

8 2 0 1py 0 0

9 0 0 0 0 2py

10 0 11! 14py18py nymphs 0 0

!parasitized pseudococcids

all Pseudococcidae small circulus, det CRN 15 July 1988

Phenacoccus solenopsis det R. J. Gill, 1988 Efferia with grasshopper, Efferia with small asilid; Cicadidae 5265

5266 USA UTAH: Grand Co. Professor Valley, milepost 17, Highway 128 12-Jul-1988 C. R. Nelson # 5266 & B. A. Haws 7 soil ropes and bend

spot con 1 2 3 j

1 2 0 0 0 0

2 3 0 0 0 0

3 1 0 0 0 0

4 1 0 0 0 0

5 2 0 0 0 0

6 2 0 0 0 0

7 2 0 0 0 0

8 1 0 0 0 0

9 1 0 0 0 0

10 1 0 0 0 0 5266

5267 USA UTAH: Grand Co. Castle Creek jct Hwy 128 12-Jul-1988 C. R. Nelson # 5267 & B. A. Haws 7 end of day, Moab, 7:30 pm; mileage 17819 Hydroptilidae; Hydrophilidae.
5267

5268 USA UTAH: San Juan Co. Dry Valley, BLM exclosure, 34 mi S of Moab 13-Jul-1988 C. R. Nelson # 5268 & B. A. Haws 7 start of day in Moab, 7:30 am; mileage 17819; cleaned up plot, looked at treated plants. *Efferia benedicti* very common, oviposited in book, four minutes; *Scleropogon* 1f; *Histeridae*; *Buprestidae* on four wing saltbush 5268

5269 USA UTAH: Grand Co. park, Hwy 279, 4 mi W of Hwy 191, Potash Road 13-Jul-1988 C. R. Nelson # 5269 & B. A. Haws 7 *Sphecidae* large feeding on honeydew; *Kermesidae* on oak; *Proctacanthus* f; *Holopogon* 5269

5270 USA UTAH: Emery Co. 53 mi W of Green River, I-70, milepost 111.5; 13-Jul-1988 C. R. Nelson # 5270 & B. A. Haws 7 o is *Orthezia*

spot con 1 2 3 juv

1 1 0 1o* 4o 0

*>25 nymphs

2 2 0 0 0\$ 0

\$buprestidae damage

3 2 0 0 0# 0

#hard scales

4 3 0 0 0 0

5 1 0 0# 0 0

#hard scales

6 1 0 0# 0 0

#hard scales

7 1 0# 0# 0 0

#hard scales

8 2 0 1c 0 0

c = *Coccidae*

9 2 0 0 0# 0

#hard scales

10 1 0 0 1o2ny 0

Efferia benedicti

walking stick, *Phasmida*, Maybe on *Gutierrezia*; weevil *Curculionidae* on shadscale root 5270

5271 USA UTAH: Sevier Co. 1 mi E of Fremont Jct & I-70, mp #90 13-Jul-1988 C. R. Nelson # 5271 & B. A. Haws 7 spot con 1 2 3 juv

1 3 0 0 0 0

2 1 0 0 0 0

3 2 0 0 0 0

4 2 0 0 0 0
5 1 0 0 0 0
6 2 0 0 0 0
7 2 0 0 0 0
8 1 0 0 0 0
9 2 0 0 0 0
10 3 0 0 0 0

end of day Castle Dale, 8:00 pm, mileage 18058 5271

5272 USA UTAH: Emery Co. San Rafael Swell, 6 mi E of Castle Dale, road to Sand Rafael River Bridge 14-Jul-1988 C. R. Nelson # 5272 & B. A. Haws 7 soil ropes and bends. spot con 1 2 3 juv

1 0 0 0 0 0
2 1 0 10o&ny 2o&ny 0
3 3 0 9o 50 1?? (0, 7 Oct 1088, CRN)
4 3 2o 0 9o 0
5 3 15o% 65o* 12o 1pr
%beetle larva, *Camponotus vicinus
6 2 2pr* 44o 1o 0
*Solenopsis many dried & dead o
7 2 0 0 1o 0
8 2 1o 0 0 0
9 1 0 0 0 0
10 1 0 0 0 0

pr, pseudococcidae no circulus, 2 of one kind 1 of another det C R Nelson 15 July 1988

start of day 7:00 am at Castle Dale, mileage 18058 Scleropogon; Cerotainiops; Asilus in burrows 5272

5273 USA UTAH: Emery Co. 3 mi E of Castledale, road to San Rafael River Bridge 14-Jul-1988 C. R. Nelson # 5273 & B. A. Haws 7 spot con 1 2 3 juv

1 3 0 0 0 0
2 3 0 0 0 0
3 2 0 0 0 0
4 2 0 0 0 0
5 2 0 0 0 0
6 3 0 0 0 0
7 3 0 0 0 0
8 2 0 0 0 0

9 3 0 0 0 0

10 3 0 0 0 0

site has *A. confertifolia*, *A. corrugata*, and *A. cuneata*.

end of day 18182, 2 pm. small plants generally good plant replacement, orange and black beetles on shadscale, rocky shaley soil 5273

5274 USA UTAH: Wasatch Co. Bryants Fork Creek, W side of Strawberry Lake, about 0.5 mi above lake 21-Jul-1988 C. R. Nelson # 5274 & M. F. Whiting 7 Sialidae larvae, large and very small; caddis larvae - *Psychoglypha* & *Dicosmoecus*; *Amphizoidae* adult; *Tephritidae*; *Elateridae*; *Trichoptera* adult; *Empididae*; *Stratiomyidae*, *Stratiomys* & another; one caddis adult emerged in lab 26 July 1988, case not associated. Dominant plants along this stream were *Salix boothi* and *Carex rostrata*. 5274

5274.5 USA UTAH: Utah Co., Provo, BYU, photo session 22-Jul-1988 C. R. Nelson # 5274.5 7 frame 3 1, buprestidae, *Hippomelas* from Crescent Jct.; 4 2, *Acmaeodera sphaeralceae* from Rush Valley; 5 3, *Acmaeodera immaculata* from Browns Park; 6 4, *Agrilus malvastri* from Dry Valley; 7 5, *Miridae* *Brooksetta chelifer* from Rush Valley; 8 6, *Coquillettia uhleri* from Dry Valley; 9 7, *Melanotrichus albocostatus* from Dry Valley; 10 8, *Melanotrichus elongatus* from Dry Valley; 11 9, *Phytocoris omani* from Dry Valley; 12 10 *Phytocoris tenuis* from Crescent Jct; 13 11, *Ceroplastes irregularis* from Dry Valley; 14 12, *Aonidomytilis incisus* from Dry Valley; 15 13, *Ablautus rufotibialis* from Dry Valley; 16 14, *Dicropaltum mesae* lateral from Dry Valley; 17 15, *Dicropaltum mesae* dorsal from Dry Valley; 18, 19, 20 /16/17/18, *Efferia benedicti* lat odors head from Dry Valley; 21, 22 19/20, *Promachus aldrichii* dors lat from Moab; 23, 24 21/22, *Ospricerus abdominalis* d/l from Davis Mountain; 25, 26 23/24, *Proctacanthus nearno* d/l from Moab; 27,28 25/26, *Scleropogon indistinctus* d/l from Crescent Jct.; 29, 30 27/28, *Scleropogon neglectus* d/l from Dry Valley; 31, 32 29/30, *Megaphorus willistoni* d/l from Davis Mountain; 33, 31, *Leptogaster* lat from Dry Valley; 32-35, malaise trap material; 36, *Coreidae* on *Opuntia*. 5274.5

5275 USA UTAH: Cache Co. Canal leaving square sewage lagoons, Hwy 30, 2 mi W of Logan 26-Jul-1988 C. R. Nelson # 5275 & M. F. Whiting 7 start day 11:30 am, 18182; trip to Logan from Provo looking for *Tubifex* worms; *Heteroceridae*; *Cerambycidae*, *Tetraopes*?; large *Sphecidae* 5275

5276 USA UTAH: Box Elder Co. Bear River, Old Fielding Bridge, upstream from bridge on Hwy 30 26-Jul-1988 C. R. Nelson # 5276 & M. F. Whiting 7 water level very low. I could cross on several of the riffles. end of day mileage 18354. Ephoron hatch past; *Hydropsychidae* flying; kept two plants a composite and a mint: *Helenium autumnale* and *Mentha arvensis* 5276

5276.5 USA UTAH: Box Elder Co. Bear River, Old Fielding Bridge, upstream from bridge on Hwy 30 27-Jul-1988 C. R. Nelson # 5276.5 & M. F. Whiting? 7 drove from Brigham to Logan then to Provo, start mileage 18354, end mileage 18512. 5276.5

5276.9 USA UTAH: Utah Co., shrub travel to Logan... 2 and 3 August 1988 C. R. Nelson # 5276.9 7 start 7:30 am, mileage 18512, Provo - Brigham - Logan - Brigham. End 6 pm 18669.

3 August - start 7:30 am 18669, end 9:00 pm, 18831 in Provo 5276.9

5277 USA UTAH: Box Elder Co. Brigham City, 211 N 300 W N 41.5155 W 112.0198 03-Aug-1988 C. R. Nelson # 5277 7 cut down dead green ash, *Fraxinus pennsylvanica* var. *lanceolata* tree, killed by boring insect, probably Buprestidae, Sesiidae, and Scolytidae. !Odiniidae, *Tragionops irroratus*, probably a new state record, checked with W. J. Hanson. Also Nitidulidae *Cryptarcha* sp. both on sappy wounds on living green ash tree in front yard, males & females of odiniids. 5277

5278 USA UTAH: Tooele Co. Rush Valley, 0.5 mi W of Faust Railroad Station 05-Aug-1988 C. R. Nelson # 5278 7 noticeable die-back area, roughly 5 acres.

Transect 1

spot con 1 2 3 juv

1 0 6py 0 0 -

2 2 16py11* 0 2odead - parasite

3 0 0 0Sol. Myrm 0 -

4 1 20odead 11olive 6odead -

5 1 0 0orange ants 0 -

6 0 1pyparasitized 6py 0 -

7 0 9odead 0 7py -

8 0 11odeadnymphsSol. 0 >200odead nymphs -

9 1 4pySol small 15odead nym 3o dead nym -

10 0 0 >400ny dead adults 100+nymph

coccinelidae in roots. Soil fluffy.

Transect 2, ridge top, sighting on sm juniper middle post transect, no juv

1 2 0 0 0

2 2 0 0 5py

3 3 0 0 0

4 2 0 0 3py

5 2 0 0 0

6 2 0 0 0

7 0 0 0 0

8 1 0 0 0

9 1 0 0 0

10 1 0 0 0

soil compacted. py small is darker, diff. sp. from py in lab 5 august 1988. keyed out orange
ant: *Leptothorax rugatulus*. end mileage 18936 5278

5279 USA CALIFORNIA: Solano Co. San Pablo Bay, Hwy 35, 3 mi W of Vallejo 11-Aug-1988
C. R. Nelson # 5279 & J. K. Nelson 7 four plants collected: *Salicornia?*, Composite; Dill?;
purple flowered shrub. Roadside/saltflat association. 5279

5280 USA CALIFORNIA: Eldorado Co. Twin Bridges, Pyramid Creek, Hwy 50 11-Aug-1988
C. R. Nelson # 5280 & J. K. Nelson 7 malenka 1m 1f; Empididae; Lauxaniidae; caddisfly
adults Trichoptera. 5280

5281 USA NEVADA: Humboldt Co. Golconda, I-80, S side of Hwy near Exit 194; between
exit & McHardy Road 12-Aug-1988 C. R. Nelson # 5281 & J. K. Nelson 7 Die back evident
spot con 1 2 3 juv

1 2 0 0 0 0

2 0 3p* 4py\$ 0 0 *parasitized \$tended by *Crematogaster*

3 2 0 65+py 100+\$py 0

4 0 0 0 0 0

5 3 20py\$ 125+py\$ 3py\$ 0

6 2 0 25py%(3*) 50py\$ 2py\$

7 2 1py* 35py\$ 100+py\$ 0

8 0 100+py\$ 0 400+\$ 200+

9 0 0 0 0 0

10 1 0 6 0 0

longer scales than others, different than py??

soil has pebbles. *Tettigoniidae* 5281

5282 USA UTAH: Utah Co., Provo, 14th West 5th North 14-Aug-1988 C. R. Nelson # 5282
7 Nitidulidae on ears of corn, larvae & adults. *Carpophilus lugubris* Murray, det S. A. Wells,
1988 5282

5283 USA UTAH: Tooele Co. Rush Valley, 0.5 mi W of Faust Railroad Station 16-Aug-1988
C. R. Nelson # 5283 & David L. Nelson 7 start 18936, end 19048 *Promachus aldrichii*, 1 m 1
f. Two transects:

ridge area:

cond 1 2 3 juv

1 1 0 0 0 -

2 2 1 0 0 -

3 3 0 0 0 -

4 4 0 0 0 -

5 3 0 0 0 -

6 3 0 0 0 -

7 2 0 0 0 -

8 2 0 0 0 -

9 2 0 0 0 -

10 2 0 0 0 -

average condition, 2.3

Die-back area:

cond 1 2 3 juv

1 0 15 small py 0 0 -

2 0 3py* 0 >50py* -

3 3 0 0 0 -

4 2 35o* >100o+ 0 -

5 2 7o 1py+ >100o+ -

6 2 0 3py\$ 0 -

7 2 0 1py* 1py\$ -

8 2 0 0 1o -

9 3 0 >50o+ 0 -

10 2 10py* 0 3o -

average condition, 1.8

py is pseudococcidae yellow

o is Orthezia annae

+ is Myrmica

* is Solenopsis

\$ is parasitized

5283

5283.5 USA UTAH: Wasatch Co. Strawberry Reservoir 20-Aug-1988 C. R. Nelson # 5283.5
& Jason R. Nelson 7 Father and Son Outing with Jason 5283.5

5284 USA UTAH: Box Elder Co. 1 mi N of Brigham city, Hwy 69, old lime kiln 27-Aug-1988 C. R. Nelson # 5284 7 on *Chrysothamnus nauseosus*, flowers not quite out fully. hairy mottled scarab; Vespidae: Eumenidae; Buprestidae: *Agrilus walsinghami*; mantispidae, 2 specimens of *Climaciella brunnea*. 5284

5285 USA UTAH: Box Elder Co. Brigham City, 211 North Third West N 41.5155 W 112.0198 27-Aug-1988 C. R. Nelson # 5285 7 Nelson home: on *Fraxinus pennsylvanica* var. *lanceolata*. Green Ash. Fulgoridae on trunk, saw 2 caught 1. Odiniidae, saw 1, same as in #5277. 5285

5286 USA UTAH: Utah Co., Provo River, Provo, 8th North Bridge 29-Aug-1988 C. R. Nelson # 5286 7 Ephemerellidae? males or *Tricorythodes*?; Trichoptera adults; collected sunflower for stage in photographing mantispidae. 5286

5286.5 USA UTAH: Cache Co. trip to Logan 05-Sep-1988 C. R. Nelson # 5286.5 7 start day: 5 Sep 1988 19048, end 5 Sep 1988 19180. Trip to Logan to return BLM truck. Need to charge project for 150 miles. 5286.5

5287 USA UTAH: Salt Lake Co. Great Salt Lake, I-80 rest stop, beaches 07-Sep-1988 C. R. Nelson # 5287 & family 7 Ephydriidae, abundant 5287

5288 USA CALIFORNIA: Nevada Co. Donner Summit, rest area, I-80, 7200 feet 08-Sep-1988 C. R. Nelson # 5288 & family 7 Muscidae; Sepsidae; Acalypterata; black caddis adults; sweeping sedges around pond; *Aeshna* common 5288

5289 USA CALIFORNIA: San Mateo Co. Purisima Creek above Purisima, Higgins-Purisima Road 14-Sep-1988 C. R. Nelson # 5289 & family 7 Isopods: preserved & labeled; nymphs of *Hesperoperla pacifica*; Dryopidae; Dixidae. 5289

5290 USA CALIFORNIA: San Mateo Co. Pescadero State Beach 24-Sep-1988 C. R. Nelson # 5290 & family 7 Dryomyzidae; Anthomyiidae; Dolichopodidae: *Chrysotus*. Climbing on cliff faces, not on seaweed. 5290

5291 USA CALIFORNIA: San Mateo Co. Daly City, near Hickey Blvd. jct Hwy 35 25-Sep-1988 C. R. Nelson # 5291 & family 7 *Ctenocephalides felis*, flea found in house on me! 5291

5292 USA CALIFORNIA: San Mateo Co. La Honda Creek, Hwy 84, 1 mi N of La Honda, milepost 10 28-Sep-1988 C. R. Nelson # 5292 & family 7 Gerris; Leptophlebiidae; Tropisternus; Buprestidae; Rhyacophila, Psephenidae. 5292

5293 USA CALIFORNIA: San Mateo Co. Purisima Creek above Purisima 28-Sep-1988 C. R. Nelson # 5293 & family 7 *Hesperoperla pacifica* nymphs; *Calineuria californica* nymphs;

Skwala? small? med nymphs; elmidae; Gyrinidae; Cordulegastridae, *C. dorsalis*; Heptageniidae; Dixidae; Drosophilidae in congregations of from 3 - 20 under bridge 5293

5294 USA CALIFORNIA: San Mateo Co. Tunitas Creek, 2 mi NE of Tunitas 28-Sep-1988 C. R. Nelson # 5294 & family 7 Libellulidae adult, red Sympetrum. 5294

5295 USA CALIFORNIA: Marin Co. Fern Creek above Muir Woods 10-Oct-1988 C. R. Nelson # 5295 & family 7 on "bracket"? fungi, photo taken; Asteidae males and females, *Leiomyza curvinervis* (Zett.), photos. also photos of family. 5295

5296 USA CALIFORNIA: Marin Co. Woodacre, jct Laurel Ave & Castlerock Ave, small stream near water tanks, 600 feet. 19-Oct-1988 C. R. Nelson # 5296 & D. Giuliani 7 nice wooded area, bay and oak trees. Leuctridae, 1 m, *Despaxia augusta* 1 m; *malenka depressa* & two other females put in same vial; tipulidae; Chrysopidae; Trichoptera. Identified 20 October 1988 5296

5297 USA CALIFORNIA: Marin Co. San Geronimo Creek, Forest Knolls, 240 feet 19-Oct-1988 C. R. Nelson # 5297 & D. Giuliani 7 *malenka californica*; Trichoptera; Dixidae: *Dixa* sp. 5297

5298 USA CALIFORNIA: Marin Co. Lagunitas Creek, below Lagunitas (near spring) 19-Oct-1988 C. R. Nelson # 5298 & D. Giuliani 7 *malenka* 1 m, *californica*; water penny larvae, *Eubrianax*. 5298

5299 USA CALIFORNIA: Marin Co. Devils Gulch, jct Lagunitas Creek, 1 mi e of Jewell, 120 feet 19-Oct-1988 C. R. Nelson # 5299 & D. Giuliani 7 *malenka californica* 1 male; Perlodid skins, Skwala; Trichoptera 5299

5300 USA CALIFORNIA: Marin Co. spring seep, tributary of Lagunitas Creek, 100 yards upstream from jct Platform Br. Rd. & Point Reyes-Petaluma Road, 120 feet 19-Oct-1988 C. R. Nelson # 5300 & D. Giuliani 7 *malenka*, good series, 2 spp.: *malenka depressa* 5m and 2 f, *malenka californica* 1 m. 5300

5301 USA CALIFORNIA: Marin Co. Keys Creek estuary, Hwy 1, about 2 mi S of Tomales, T5N R10 W sec36SW 19-Oct-1988 C. R. Nelson # 5301 & D. Giuliani 7 Dolichopodidae and Ephydriidae on mud flat; Asilidae: *Nicocles* 1m 1f, photos taken, data & specs on 26 Oct 1988 page. Tachinidae, orange. 5301

5302 USA CALIFORNIA: Marin Co. Olema Creek, Olema, Hwy 1, Bear Valley Road 19-Oct-1988 C. R. Nelson # 5302 & D. Giuliani 7 Chloroperlidae, *Suwallia* 2 spp?, 2 colors; *malenka*; Caddis adults; Mayfly males; Chrysopidae 5302

5303 USA CALIFORNIA: San Francisco Co. Golden Gate Park, Chain of Lakes 21-Oct-1988 C. R. Nelson # 5303 7 *Dixella* sp. larvae, pupae, and adults. Lonchopteridae: Lonchoptera 5303

5303.5 USA CALIFORNIA: San Francisco Co. Golden Gate Park, California Academy of Sciences, photo session 26-Oct-1988 C. R. Nelson # 5303.5 7 photos session (this session follows a couple natural light *Nicocles* shots, then *Nicocles* with flash, ASA 400 60 f22 flash at about 12 inches, tube #2, second shortest, macro fully extended. 2 shots, #15 & 16 (frame numbers on slide); 1 shot too dark, discarded #17 ; 1 shot tube #3 flash 8 in then 12; #18 & 19, 2 shots, tube 1 & 4 at 12 inches; #20 & 21, no tubes 60 f22 at 12 inches. Conclusions: The 5294 ASA 400 film has enough latitude for acceptable exposures under all these conditions using different tube combinations. No center field halation is apparent using flash close-up (with more than 1 tube & natural light a halation forms using this Pentax spotmatic with a 50 mm macro lens). Best exposure with flash would be with unit held about 8 inches from subject. On 28 October 1988 I took pictures of Vincent Lee in spider costume in the CAS library. 5303.5

5304 USA CALIFORNIA: San Francisco Co. Golden Gate Park, Arboretum 31-Oct-1988 C. R. Nelson # 5304 & Paul Arnaud 7 European sod fly, Stratiomyidae; small beetle. 5304

5305 USA CALIFORNIA: San Mateo Co. Daly City LDS ward building 31-Oct-1988 C. R. Nelson # 5305 7 Halloween Party at church, pictures taken 5305

5306 USA CALIFORNIA: San Mateo Co. Daly City, Skyline & Hickey Blvds. 13-Nov-1988 C. R. Nelson # 5306 8 on outside wall of apartment camel cricket 5306

5307 USA CALIFORNIA: San Francisco Co. San Francisco 16-Nov-1988 C. R. Nelson # 5307 8 photo session at CAS: copy stand photos in Ent. Darkroom. Indian historical photo: data says "Straight Shooter" A. C. Vroman photo, #V 1661

1/15 at f11

1/15 at f8, slightly better of two

four bulb copystand

disclaimer stamped on photo: photograph courtesy History Division Los Angeles County Museum of Natural History, when accepting this picture for publication please credit the institution.

Vince Lee look-alike. 5307

5307.5 USA CALIFORNIA: San Francisco Co. San Francisco C. R. Nelson # 5307.5 8
Bruce Hyer, Josephine Randall Jr. Museum
Museum Way 17th & Haight off Roosevelt. Met at Lobos Creek near Lake Street

lube & filter, oil changed 23 Nov 1988, 85814 DC 23 Nov 1988, 12.6 gal \$11.36 384 mi
85198, LA, 23 Nov 1988, 11.75 gal, \$11.15, 354 mi 85553, Atascadero, CA, 27 Nov 1988.
5307.5

5308 USA CALIFORNIA: San Francisco Co. San Francisco, Lobos Creek, near junction Lake
& 25th Ave 22-Nov-1988 C. R. Nelson # 5308 8 watercress spring stream with shifting
sand bottom; high productivity of gammarids *Helicopsyche*? 4m 3f, *Lepidostoma strophis*
det C. R. Nelson, Nov 1988

Acalypterate flies

Argia nymphs

Sticklebacks, heavily parasitized with gray spots.

Tropisternus 5308

5309 USA CALIFORNIA: Orange Co. Trabuco Creek, Trabuco Canyon above Trabuco Oaks
26-Nov-1988 C. R. Nelson # 5309 & Nick Nelson & Chris Nelson 8 in alders, 1st wet stream
crossing; termites emerged from beating stick later at Randy's house in Anaheim Hills.

Mesocapnia 2m 1f

Staphylinidae

Carabidae

Elateridae 5309

5310 USA CALIFORNIA: Santa Barbara Co. Gaviota, rest area Hwy 101 27-Nov-1988 C. R.
Nelson # 5310 & family 8 rest area is in oak chaparral just after leaving coast and before
climbing pass. termite alates, photos taken (last two with flash) 5310

5311 USA CALIFORNIA: San Mateo Co. Purisima Creek, 3.5 mi E of Hwy 1, SE of Half Moon
Bay 03-Dec-1988 C. R. Nelson # 5311 & family 8 *malenka californica* 10m 8f

Mesocapnia projecta adults 1m 1f

in mud at margin of stream:

Sialis larvae

Leptophlebiidae nymphs

Ptychopteridae: *Ptychoptera* larvae

Cordulegaster nymphs

Dytiscidae

caddis adults, larvae of Hydatophylax hesperus? 5311

5311.5 USA CALIFORNIA: San Mateo Co. Redondo Beach, Half Moon Bay 03-Dec-1988 C.

R. Nelson # 5311.5 & family 8 Coelopidae

Anthomyiidae

Sphaeroceridae

Empididae

on kelp wrack 5311.5

5311.9 USA CALIFORNIA: San Mateo Co. Daly City, apartment 06-Dec-1988 C. R. Nelson
5311.9 & family 8 Table top photo session in Daly City apartment:

Ptychopteridae larva 3 shots 60 f22; flash directly overhead white sand background, tubes
= 1 & 4, macro not extended.

same 3 shots dark background. shot 3 with only #4 tube. Leptophlebiidae: 3 shots light
background; Sialis 60 12 flash above at 8 inches. same. same 6 inches. bad shot. same 6
inches many overexposed.

Hydatophylax, same settings, with other caddis.

second roll: silverfish; Isopod with hot spot. 5311.9

5312 USA CALIFORNIA: San Mateo Co. Daly City, 986 St. Francis Blvd. #2045 06-Dec-1988
C. R. Nelson # 5312 8 silverfish, in house, photos taken 5312

5313 USA CALIFORNIA: San Mateo Co. Purisima Creek, 3.5 mi E of Hwy 1, S of Half Moon
Bay 10-Dec-1988 C. R. Nelson # 5313 & Jason R. Nelson 8 Amphizoidae

Sialis

Cordulegaster

Sialis to send to Mike Whiting, died. 5313

5314 USA CALIFORNIA: San Mateo Co. Redondo Beach, Half Moon Bay 10-Dec-1988 C.
R. Nelson # 5314 8 took wrack back to lab, numerous Sphaeroceridae and Anthomyiidae
emerged by 5 January. Mass emergence of Fucellia assimilis, det D. Gross, 1989, by 10 Jan
1989 Coelopidae

Anthomyiidae

Sphaeroceridae

beetle: Ceryconis? Hydrophilidae, Staphylinidae

on seaweed wrack 5314

5314.5 USA CALIFORNIA: 22-Dec-1988 C. R. Nelson # 5314.5 8 Christmas trip to Utah. left Daly City 7:00 pm traveled across GGB & Richmond Bridge then on to Sacramento (9:00pm) to stay with the Pilkington's bought gas in Sacramento. Mileage 86387; 12.2 gal. \$1.029, 86724, 336 mi 12.60; 0.879, 87031, 307 mi, \$11.00. 5314.5

5314.9 USA CALIFORNIA: 23-Dec-1988 C. R. Nelson # 5314.9 8 rest stop at Donner Creek in Truckee at jct Hwy 89, no *Capnia* seen 11:00am, 23 Dec 1988 5314.9

5315 USA CALIFORNIA: San Mateo Co. Daly City, 986 St. Francis Blvd., #2045 09-Jan-1989 C. R. Nelson # 5315 8 in apartment: Silverfish, photos. taken at CAS 5315

5316 USA CALIFORNIA: Marin Co. small stream, Inverness, mile 27.50 14-Jan-1989 C. R. Nelson # 5316 & family 8 *Capnia* female, *Capnia excavata* to CAS
Dixidae to CAS
Capnia nymph, *Capnia excavata*, reared out female, specimen #5316-1.
Nemouridae nymph, died, thrown out.
Leuctridae, nymph to CAS.
Berytidae to CAS
Lonchoptera 5316

5317 USA CALIFORNIA: Marin Co. Olema, Olema Creek, Bear Valley Road 14-Jan-1989 C. R. Nelson # 5317 & family 8 *Mesocapnia projecta*, 1m 1f
Dixidae
Lonchopteridae
Mycetophilidae
beetles

all to CAS 5317

5318 USA CALIFORNIA: San Mateo Co. Purisima Creek, 3.5 mi E of Hwy 1, SE of Half Moon Bay 16-Jan-1989 C. R. Nelson # 5318 & family 8 *Mesocapnia projecta* adults, 1 m aberrant; many on stinging nettle. 21m 13f to CRN, 5m 5f to CRN; 16m 8f to CAS.
Dixidae to CAS
Elateridae to CAS
Pentatomidae, thrown out
Mesocapnia to photograph died

malenka californica 1m to CAS
spider: Amaurobiidae to CAS
dried caddis male to CAS 5318

5319 USA CALIFORNIA: San Mateo Co. Redondo Beach, S of Half Moon Bay 16-Jan-1989
C. R. Nelson # 5319 & family 8 send # change note to Mike Whiting Coelopidae, wet to CAS,
dry to BYU
Chironomidae wet, swarming in intertidal zone to CAS.
Anthomyiidae
Sphaeroceridae to CAS

on seaweed wrack 5319

5320 USA CALIFORNIA: Colusa Co. Mill Creek, Mill Creek Campground, about 7 mi W of
Stonyford, road 18N01, 1700 feet R7W T17N sec. 4 20-Jan-1989 C. R. Nelson # 5320 & W.
D. Shepard 8 near Fonts Springs Ranch
digger pines & chaparral
Capniid photos taken, discarded frames 1-5, kept frames 6-12, discarded 7;

2 bottles

star Colusa Lake Co., collecting trip with W. D. "Bill" Shepard. Capnia
Mesocapnia
spiders
Dixidae
1 bottle contains capniids from spider webs 5320

5321 USA CALIFORNIA: Colusa Co. South Fork Stoney Creek, Davis Flat Campground,
1700 feet. 20-Jan-1989 C. R. Nelson # 5321 & W. D. Shepard 8 discarded slide mount #5,
13, 15-20; kept 14, 21-24 Bill & Cracker the beagle. Capnia pileata 108m 35f, 68m 20f to
CAS, 40m 15f to CRN. abundant.
Pteronarcys nymph (not kept)
kept some alive, photos taken starting with horizontal dividing light & dark portrait taken of
Bill & Cracker.
Tenthredinidae adult, to CAS 5321

5322 USA CALIFORNIA: Colusa Co. Little Stoney Creek, about 5 mi S of Stonyford 20-Jan-
1989 C. R. Nelson # 5322 & W. D. Shepard 8 discarded slide mount #5, 13, 15-20; kept 14,
21-24 Bill & Cracker the beagle. fresh Mesocapnia? adults, also dried on bridge, in same
bottle, clean stream but lowland.

specimens were: lapwae 7m 3f 4ny, some dried; 6m 12f 1ny

Mycetophilidae

Dixidae

Capnia californica 3m 1f

Capnia pileata 1m 4f

beetles 5322

5323 USA CALIFORNIA: Lake Co. unnamed stream from Barrel Springs, jct Kilpepper Creek; 4.2 mi W of Bear Valley on Bartlett Springs Road; 1600 feet T15N R6W sec 10NE 20-Jan-1989 C. R. Nelson # 5323 & W. D. Shepard 8 map: on Clear Lake Oaks quad, 15 minute, 1960

"designated route" Road #303 Capnia adults & nymphs

Mesocapnia adult

Thaumaleidae? larvae, NO Chironomidae

Aradidae

Hemerobiidae

Capnia quadrituberosa, 8m 1f to CAS

Mesocapnia lapwae, 13m 23f, to CAS

Taeniopterygidae nymph, discarded 5323

5324 USA CALIFORNIA: Lake Co. Cache Creek jct Bartlett Creek below Bartlett Springs; 1750 feet 20-Jan-1989 C. R. Nelson # 5324 & W. D. Shepard 8 Capnia californica 1m, to CAS

Capnia umpqua 1m, to CAS

Mesocapnia lapwae 2m 17f, to CAS

Pteronarcys nymphs, not kept 5324

5325 USA CALIFORNIA: Lake Co. Bartlett Creek, Bartlett Flats, about 10 mi NE of Lucerne 20-Jan-1989 C. R. Nelson # 5325 & W. D. Shepard 8 after collecting this spot we continued on toward Lucerne but got stuck perched on thick slick ice about 6? mi from end of Bartlett Springs Road. We worked for about 3 hours to move truck downward. Saw mysterious burning stump at roadside. Picked up hitchhiker that said he had been abandoned in the mountains for 2 days (he gave no details). Spent night at Motel 6 in Williams. Capniidae: Mesocapnia lapwae 1m, to CAS

Capnia pileata 2f, to CAS

Dixidae 1m, to CAS

caught with flashlight on bridge 5325

5325.5 USA CALIFORNIA: Lake Co. Nana's Quick Stop in Williams 21-Jan-1989 C. R. Nelson # 5325.5 & W. D. Shepard 8 photo taken of Nana's Quick Stop in Williams 5325.5

5326 USA CALIFORNIA: Lake Co. North Fork Cache Creek, Hwy 20, 0.5 mi below jct New Long Valley Road, 1180 feet 21-Jan-1989 C. R. Nelson # 5326 & W. D. Shepard 8 3 mi E of jct Hwys 20 & 33. field labels read Long Valley Mesocapnia lapwae adults & nymphs, slightly bulbous epiproct, to CAS
Pteronarcys nymph to CAS
Carabidae larvae, Nebria eschscholzi to CAS
Isoperla nymphs (checkered) to CAS
Spider to CAS
Sialis larva to CAS
Bolshecapnia maculata 2m, one with aberrant spiral cercus, to CAS.
Ephydriidae to CAS
beetles to CAS 5326

5327 USA CALIFORNIA: Napa Co. Hunting Creek near Lake Co. line, Morgan Valley Road, 2230 feet, 21-Jan-1989 C. R. Nelson # 5327 & W. D. Shepard 8 Capniidae nymphs, preserved & alive, to CAS
large, dark bumblebee 5327

5328 USA CALIFORNIA: Napa Co. Eticuera Creek, jct Zim Zim Creek below Knoxville 21-Jan-1989 C. R. Nelson # 5328 & W. D. Shepard 8 Jim Davis owns this land. His ranch house is near where canyon opens up wide. Ask permission. George Gamble (of Proctor & Gamble) owns ranch land on either side of the Davis Ranch. mealybugs on Cercocarpus montanus var. glaber (S. Watson) F. L. Martin, to CAS
under cap of Sulphur Springs (drainage 300 yards below Zim Zim with Osage Orange at mouth 5328

5328.5 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California Academy of Sciences 27-Jan-1989 C. R. Nelson # 5328.5 8 took pictures of Ed Ross in his office 5328.5

5329 USA CALIFORNIA: Santa Clara Co. Penitencia Creek below Alum Rock Park 28-Jan-1989 C. R. Nelson # 5329 & family 8 The saratoga specimen has the typical long lower process wavy, and the narrow medial ridge dorsally but the upper process is longer, making the specimen resemble C. ventura to some degree. Capnia near saratoga 1m, to CAS
Mesocapnia projecta 1m, porrecta form, to CAS
Sialis larva
Gerris 5329

5330 USA CALIFORNIA: Santa Clara Co. Stevens Creek, ca 5 mi above Stevens Creek Reservoir, SW of Cupertino, 960 feet T7S R2W sec 32 SW 11-Feb-1989 C. R. Nelson # 5330 & family 8 on Cupertino Quad

Alphonso Tatano property *Capnia gracilaria* 100m 24f, to CAS, 2m 10f to CRN, det 11 Feb 1989 at home.

Mesocapnia projecta, 2m 5f

Carabidae

Taenionema nymphs

Staphylinidae

Hydrophilidae

Dixidae, 1 reared. 5330

5331 USA CALIFORNIA: Santa Clara Co. trib. of Bonjetti then Saratoga Creeks, below Sanborn Skyline County Park, off Hwy 9, 880 feet T8S R2W sec. 10 11-Feb-1989 C. R. Nelson # 5331 & family 8 This trib. follows the San Andreas Rift Zone shown on Castle Rock Ridge Quad. These tribs are well-worth recollecting, also need to collect Saratoga Creek.

Mesocapnia projecta 11f

malenka depressa 1m 2f

malenka californica 1m

Soyedina 2 nymphs

Paraleuctra occidentalis 3m 3f, & skins

Soliperla nymph, thyr?, 1 nymph

Blephariceridae, Agathon

Heptageniidae 1 nymph 5331

5332 USA CALIFORNIA: Santa Clara Co. Bonjetti Creek, jct trib in San Andreas Rift Zone, near jct Hwy 9 above Saratoga, 880 feet. 11-Feb-1989 C. R. Nelson # 5332 & family 8 caught adults beating ferns, redwoods, firs, bay, oak dormant twigs.

Bonjetti Creek is a trib of Saratoga Creek. We collected at the first pull off above Hwy 9, on the Sanborn Park Road, this pull off is on the trib (#5331). I crossed under road through galvanized pipe bridge to reach Bonjetti Creek.

On Castle Rock Ridge Quad *Capnia gracilaria* 3m 3f in CAS

Mesocapnia projecta 22m 35f to CAS

malenka n. sp. "denningi"? 8m 8f to CAS, two kinds of females.

Paraleuctra occidentalis 3m 2f to CAS

Ichneumonidae

Lampyridae
Elateridae
Dixidae
Mycetophilidae
Coccinellidae
all to CAS. 5332

5333 USA CALIFORNIA: Marin Co. ? Creek, Laurel Avenue, Woodacre, above fire station at water tanks 20-Feb-1989 C. R. Nelson # 5333 & family 8 Creek is heavily shaded by bay trees, best beating was on ferns & bay. This is the same spot where I stopped with Derham Giuliani in October. Laurel Avenue is a dirt road at this point. Taenionema malenka

Zapada
Despaxia
Paraleuctra
Sweltsa, on ferns, 2
NO capniidae
Symphyta
Ichneumonidae
Coleoptera: Cantharidae, Melyridae
Trichoptera adults 5333

5334 USA CALIFORNIA: Marin Co. Olema Creek, Olema, jct Hwy 1 and Bear Valley Road 20-Feb-1989 C. R. Nelson # 5334 & family 8 Capnia
male spider
click beetle 5334

5334.5 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California Academy of Sciences 21-Feb-1989 C. R. Nelson # 5334.5 8 SEM Session: labeled I, II, III, and IIII

I. Proctacanthus brevipennis labeled dimidiatus from Medora, Kansas.

II. P. brevipennis, from Ft. Ogden, Florida.

III. brevipennis, Medora, Kansas.

IIII. brevipennis, Medora, Kansas, uncoated, did not use for SEM

& Ft. Ogden, Florida

comment line date 2102

I. 00- dististyle interior

01 aedeagus apex.

III. 02 dististylus

03 tarsus

II. 04, 05, 06, 07

1:30 pm

08, 09, 10, 11, 12

whole mount philadelphicus 13-22, 430pm 5334.5

5335 USA CALIFORNIA: San Mateo Co. Corte madera Creek, ca 3 mi above Portola, 1160 feet T7S R3W sec 9 04-Mar-1989 C. R. Nelson # 5335 8 coordinates are approximate: not given directly on Mindego Hill Quadrangle, 7.5 minute 1955.

I collected on Corte Madera Creek above jct with Coal Creek, stream had serpentine bottom. Box Elder bugs, different species from Utah, CRN
Machilidae to CAS

Capnia gracilaria 32m 8f 1 nymph to CAS & CRN

Mesocapnia projecta 2f, CAS

Bolshecapnia maculata 2m 1f to CRN

Ichneumonidae, dry 5335

5336 USA CALIFORNIA: San Mateo Co. Corte Madera Creek, jct Portola Valley Road, 500 feet. T6S R3W sect 32 04-Mar-1989 C. R. Nelson # 5336 8 coordinates are approximate: not given directly on Mindego Hill Quadrangle, 7.5 minute 1955.

Mesocapnia projecta 1m 2f

Dolichopodidae 5336

5336.5 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California Academy of Sciences 09-Mar-1989 C. R. Nelson # 5336.5 8 SEM Session:
date says 0228, actual date is 9 March:

photo# 0-1: Capnia teresa stub 1

3-4 Capnia lineata stub 3

5-6 Capnia umpqua stub 2

7-9 Capnia lineata stub 4

10-12 Capnia excavata stub 5

13-15 Capnia inyo stub 6

16-18 *Capnia tumida* stub 7; 16 was spoiled

19-21 *Capnia pileata* stub 8

22-24 *Capnia pileata* stub 9

end of day, now 13 March 1989

0 *Capnia pileata* stub 10

1-4 *Capnia barberi* stub 11

5-8 *Capnia pileata* stub 10 again

9-12 *Capnia barberi* stub 12

13 *Capnia pileata* stub 9

5336.5

5336.6 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California Academy of Sciences 17-Mar-1989 C. R. Nelson # 5336.6 8 Preparation for SEM Session: 0. wetted terminalia in 70 % EtOH; 1. removed genitalia; 2. soaked in Sodium triphosphate. 3.

SEM #10 is *P. brevipennis* m, NY: Long Island, Halfway Hollow Hills, 7 June 1936, Blanton & Borders, det Bromley, Cornell collection.

SEM #11 is *P. brevipennis* m, ALABAMA: Co.? , Anniston, 29 May 1939, M. E. Smith, INHS collection.

SEM#12 *P. coquillettii*, m, CA: San Bernardino Co., Kelso Dunes, Cottonwood Wash, 21 May 1976, Rolf L. Aalbu, EMF collection, greased specimen.

SEM#13 *P. coquillettii*, m, CA: San Diego Co., San Diego, 13 Aug 1916, E. P. Van Duzee, CAS

SEM#14: *P. coquillettii*, f, Kelso Dunes, 18 Jul 1966, Fred G. Andrews, UCR.

SEM#15: *P. duryi*, m, OK: Beaver Co., Beaver, 20 Jun 1959, K. Schaefer, OkSU

SEM#16: *P. duryi*, m, OK: Beaver Co., Beaver, 20 Jun 1959, K. Schaefer, OkSU

placed terminalia in saturated Sodium phosphate and left overnight.

18 March 1989: Saturday: moved SEM specimens from Sodium phosphate to deionized water for 2 hours then into 40% EtOH for 4 hours, then 70% EtOH for overnight. Specimens are clean and swollen, exposing desired parts, Now I need to fix them in this swollen spread state; I will critically point dry them later (hopefully Monday). 5336.6

5336.7 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California Academy of Sciences 23-Mar-1989 C. R. Nelson # 5336.7 8 same procedure as 17 March; Thursday

SEM#17 *Proctacanthus gracilis*, m, GA: Okefenokee Swamp, 8-3-34, R. H. Beamer.

SEM#18: *P. gracilis* f, GA: Okefenokee Swamp, 7-25-39, R. H. Beamer, det Wilcox

24 March 1989:

SEM#19: *Proctacanthus heros* m, MISSISSIPPI: State College, 13 Aug 1960, T. Eastburn

SEM#20: *P. heros*, FLORIDA: LaBelle, 16 July 1939, A. T. Hardy. 5336.7

5368 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California
Academy of Sciences 23-Mar-1989 C. R. Nelson # 5368 8 Notes from Bill Stark???

look for *Leuctra cottaquilla*

check Choctahatchee?

look for winged walkingstick on tamarisk

in Helfer, short winged, *Aplopus Mayeri*, southern FL & Keys, on *Suriana maritima*. 5368

5337 USA CALIFORNIA: Monterey Co. Grimes Canyon, 5.6 mi S of Big Sur, Hwy 1 T20S R2E
sec 10 27-Mar-1989 C. R. Nelson # 5337 & W. D. Shepard 8 stream was at odometer
reading 9978.6, Torre Canyon was 9980.6, continued south to a sign saying Lucia 15 miles,
reading 9982.8, thus 19.2 mi N of Lucia. On return trip north, sign, 6 mi to Big Sur heading
north.

In sight of ocean, but at higher elevation. *malenka*, common

Sweltsa, local

Agulla

caddis adults 5337

5338 USA CALIFORNIA: Monterey Co. Partington Creek, Tanbark Trail, 9.3 mi S of Big Sur,
Hwy 1 T20S R2E sec 24 27-Mar-1989 C. R. Nelson # 5338 & W. D. Shepard 8 heading north
from sign 15 + 0.5 mi N of Lucia, so 15.5 mi N of Lucia. The 5.6 miles to Big Sur listed on
quad for Partington Ridge, photorevised 1984 map, must be from a different spot in Big Sur
on highway sign is at least different. We did not sample Castro Canyon in #5337. *malenka*
Agulla

Caddis adults, Trichoptera 5338

5339 USA CALIFORNIA: Monterey Co. Juan Higuera Creek, Big Sur, Hwy 1 T19S R1E sec 24
27-Mar-1989 C. R. Nelson # 5339 & W. D. Shepard 8 in redwoods *malenka*
orange Perlodid
Isoperla? 5339

5340 USA CALIFORNIA: Monterey Co. Big Sur River, Hwy 1, N boundary Pfeiffer State Park
T19S R2E sec 19 27-Mar-1989 C. R. Nelson # 5340 & W. D. Shepard 8 in redwoods

malenka 1 with elmids
elmids samples 5340

5341 USA CALIFORNIA: Monterey Co. Bixby Creek, ca 1 mi E of Hwy 1, ca 17 mi S of Monterey, 120 feet elev. T18S R1E sect 17 27-Mar-1989 C. R. Nelson # 5341 & W. D. Shepard 8 1st bridge upstream from Bixby bridge malenka
Hemerobius
Mesocapnia 5341

5342 USA CALIFORNIA: Monterey Co. rocky beach ca 1 mi S of Soberanes Point, Hwy 1, 9 mi S of Carmel 27-Mar-1989 C. R. Nelson # 5342 & W. D. Shepard 8 Dolichopodidae, 1f on granite boulders
Canaceidae, mm ff
Canaeciodes nudatus (Cresson), det C. R. Nelson 29 March 1989 5342

5343 USA CALIFORNIA: Monterey Co. Carmel River State Beach, near mouth of San Jose Creek 27-Mar-1989 C. R. Nelson # 5343 & W. D. Shepard 8 flies on kelp wrack
Coelopidae
Anthomyiidae
Sphaeroceridae
Coilopidae specimen prepared for SEM 5343

5344 USA CALIFORNIA: Monterey Co. Carmel River, Robinson Canyon Road, off Hwy 616 T16S R1E sec 24 27-Mar-1989 C. R. Nelson # 5344 & W. D. Shepard 8 A passerby said this stream was dry a couple weeks earlier. It now has a healthy flow up to three feet deep in places and about 25 feet wide. Capnia
Mesocapnia
Elateridae 5344

5345 USA CALIFORNIA: Monterey Co. San Clemente Creek, S Carmel Valley Road on Robinson Canyon Road, 1640 feet elev. T17S R2E sec 30 27-Mar-1989 C. R. Nelson # 5345 & W. D. Shepard 8 Took Robinson Canyon Road S for about 9 miles, end of road was a gate for a homeowners association. 0.8 mi N of that gate we sampled a good stream. Bill said he saw nothing in his kick samples that hinted to permanent surface flow.

Mt. Carmel Quad, photorevised 1983 shows name of "club" White Rock Gun Club.

(now in 1999 I write that this is an undescribed species of Capnia that I need to get done).
Capnia
Mesocapnia

Elateridae

Taenionema

Tettigoniidae 5345

5345.5 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California
Academy of Sciences 30-Mar-1989 C. R. Nelson # 5345.5 8 Identification for Derham
Giuliani from east front of the Sierra Nevada:

- 1: Little Pine Creek, 7 Dec 1988, malenka sp. 1f
- 2: Rock Creek, 9 Dec 1988, Capnia utahensis 2m
- 3: Rock Creek, 16 Dec 1988, Capnia utahensis 1m
- 4: Coyote Creek, 17 Dec 1988, Capnia inyo 1m, Capnia utahensis 5m.
- 5: Rock Creek, 23 Dec 1988, Capnia utahensis 6m 3f.
- 6: Coyote Creek, 23 Dec 1989, Capnia utahensis 6m 7f.
- 7: McGee Creek, 30 Dec 1988, Capnia inyo 3m 23f, Capnia utahensis 2f.
- 8: Coyote Creek, 30 Dec 1988, Capnia utahensis 37m 31f, Capnia inyo 1f.
- 9: Coyote Creek, 4 Jan 1988, Capnia utahensis 209m 83f 1nymph, Capnia inyo 6m 2f.
- 10: Rock Creek, 4 Jan 1989, Capnia utahensis 73m 109f, 1 nymph.
- 11: McGee Creek, 4 Jan 1989, Capnia utahensis 5m 3f, Capnia inyo 21m 15f, Zapada
cinctipes 2m 2f.
- 12: Baker Creek, 10 Jan 1989, Capnia utahensis 17m 24f, Zapada cinctipes 1f.
- 13: Little Pine Creek, 10 Jan 1989, Capnia utahensis 1m.
- 14: Rock Creek, 13 Jan 1989, Capnia utahensis 9m 5f.
- 15: Coyote Creek, 13 Jan 1989, Capnia utahensis 35m 44f, Capnia inyo 3m, Zapada
cinctipes 2m. 5345.5

5346 USA NEVADA: Clark Co. Blue Diamond Road jct Arville Road, SW Las Vegas 06-Apr-
1989 C. R. Nelson # 5346 8 stop 1 Miridae

Tephritidae

on Yucca schidigera, mirid damage on inner surface of leaves apparent 5346

5347 USA NEVADA: Clark Co. Blue Diamond Road jct Buffalo Drive, Hwy 160, Sw Las Vegas
06-Apr-1989 C. R. Nelson # 5347 8 stop 2 mealybugs on Larrea

Mirids on Yucca schidigera, Halticotoma valida, det CRNelson;

Aphoebantus

tent caterpillars on Prunus fasciculatus

lizards Cnemidophorus, Uta, Phrynosoma

Opuntia ramosissima, a narrow cholla

Larrea-Ambrosiadumosa-Prunus 5347

5348 USA NEVADA: Clark Co. 3 mi W of jct 159 & 160 on Hwy 160, SW Las Vegas 06-Apr-1989 C. R. Nelson # 5348 8 stop 3 Papilio immature on Thamnosma
Efferia
bee

pack rat midden area
mixed shrubs in wash near dolomite cliffs 5348

5349 USA NEVADA: Clark Co. edge of mountains, 6 mi W jct 159 & 160 06-Apr-1989 C. R. Nelson # 5349 8 stop 4

213 blackbrush zone

Asilidae
Sphecidae 5349

5350 USA NEVADA: Clark Co. Mountain Springs Pass 06-Apr-1989 C. R. Nelson # 5350 8 stop 5 Asilidae: Efferia pogonias group
*mixed with those from next site

pinyon juniper 5350

5351 USA NEVADA: Clark Co. 1 mi N of Hwy 160, Lowell Canyon Road 06-Apr-1989 C. R. Nelson # 5351 8 stop 6

black brush zone

Good stand of fourwing saltbush near Mountain Springs Pass:

Efferia pogonias group, staminea group,
spider

Sphecidae & Anthophoridae on approximately 3 mi W of Mountain Springs Summit

Cuerna yuccae on Yucca brevifolia

5351

5351.1 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California Academy of Sciences 10-Apr-1989 C. R. Nelson # 5351.1 8 stub 10 = brevipennis

CANCELLED session, scope has problems. 5351.1

5351.2 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California Academy of Sciences 11-Apr-1989 C. R. Nelson # 5351.2 8 end of book, except very last page which says:

gas mileage for bug collecting 1989

Jan 1989 Daly City to Point Reyes area.

Jan 1989 Daly City to Redondo Beach/Purisima area.

Jan 1989 Daly City to San Jose area.

Feb 1989 Daly City to Cupertino & up Stevens Road. Identifications for D. Giuliani, Inyo Co, California, start box 2:

1: Rock Creek, 20 Jan 1989, *Capnia utahensis* 131m 100f; *Capnia inyo* 22m 20f, *Zapada cinctipes* 1m. 5351.2

5351.25 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California Academy of Sciences 02-May-1989 C. R. Nelson # 5351.25 9 copied 1 from other book (11 April 1989)

1. Rock Creek, 20 Jan 1989:

Capnia utahensis 131 m 100 f;

Capnia inyo 22 m 20 f;

Zapada cinctipes 1 m 1 f.

2 May 1989, 8 am, D. Giuliani material from east slope Sierra Nevada near Mono Lake.

2. McGee Creek, 20 Jan 1989:

Capnia utahensis 5 m 7 f;

Capnia inyo 29 m 23 f;

Zapada cinctipes 6 m 2 f.

3. Coyote Creek, 20 Jan 1989:

Capnia utahensis 282 m 334 f 7 nymph;

Capnia inyo 4 m 1 f;

Zapada cinctipes 3 m 1 f.

4. Baker Creek, 18 Jan 1989:

Capnia utahensis 54 m 51 f;

Zapada cinctipes 1 m;

Staphylinidae,

Sepsidae.

5. Little Pine Creek, 18 Jan 1989:

Capnia utahensis 2 m 1 f;

Zapada cinctipes 1 f.

6. Rock Creek, 27Jan 1989:

Capnia utahensis 36 m 58 f;

Capnia inyo 4 m 5 f;
Zapada cinctipes 2 f.

5351.25

5351.26 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California
Academy of Sciences 15-May-1989 C. R. Nelson # 5351.26 9 15 May 1989, D. Giuliani
material from east slope Sierra Nevada near Mono Lake.

7. McGee Creek, 27 Jan 1989:

Capnia utahensis 3 m 11 f;

Capnia inyo 11 m 4 f;

Zapada cinctipes 3 m.

8. Coyote Creek, 27 Jan 1989:

Capnia utahensis 178 m 177 f 13 nymph;

Capnia inyo 4 m 5 f;

Zapada cinctipes 8 m 5 f.

Chironomidae.

17 May 1989

9. Baker Creek, 1 Feb 1989:

Capnia utahensis 21 m 18 f;

Capnia inyo 2 m 1 f;

10. Little Pine Creek, 1 Feb 1989:

Capnia utahensis 5 m 0 f;

Zapada cinctipes 0m 1 f.

11. Rock Creek, 8 Feb 1989:

Capnia utahensis 4 m 1 f;

12. Coyote Creek, 8 Feb 1989:

Capnia utahensis 5 m 8 f;

Capnia inyo 1m 1f;

Zapada cinctipes 0m 1f.

13. Baker Creek, 7 Feb 1989:

Capnia utahensis 2 m.

5351.26

5351.27 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California Academy of Sciences 15-May-1989 C. R. Nelson # 5351.27 9 SEM work:

stub #18: gracilis f, 04 ventral, 05 lateral, 06 dorsal.

stub 19: heros m: 00 dorsal, 01 lateral, 02 ventral, 03 ventral aedeagus tips.

stub 20 heros f: 07 dorsal, 08 dorsal close up, 09 lateral, 10 lateral close up, 11 ventral.

stub 21: Coelopa vanduzeei, 12 head.

5351.27

5351.28 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California Academy of Sciences 16-May-1989 C. R. Nelson # 5351.28 9 16 May 1989, D. Giuliani material from east slope Sierra Nevada near Mono Lake.

14. Baker Creek, 24 Jan 1989:

Capnia utahensis 15 m 19f;

Capnia inyo 0m 1f;

Zapada cinctipes 3m 1f;

Chironomidae.

15. Baker Creek, 24 Jan 1989:

Capnia utahensis 2 m 1 f.

16. Rock Creek, 2 Feb 1989:

Capnia utahensis 30 m 24 f;

Capnia inyo 5 m 4 f;

Zapada cinctipes 1 m 1 f;

Hemerobiidae.

17. McGee Creek, 2 Feb 1989:

Capnia inyo 0 m 1 f.

18. Coyote Creek, 2 Feb 1989:

Capnia utahensis 26 m 22 f;

Capnia inyo 22 m 49 f;

Zapada cinctipes 2 m 2 f.

19 May 1989:

19. Rock Creek, 2 Feb 1989:

Capnia utahensis 41 m 95 f;

Capnia inyo 22 m 49 f;
Zapada cinctipes 2 m 0 f.
End of box 2.

5351.28

5351.29 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California
Academy of Sciences 18-May-1989 C. R. Nelson # 5351.29 9 SEM work, into TSP:

SEM #22: 4:15 pm:

Proctacanthus longus m, FL: Alachua Co.:

9 mi NW Gainesville, U. F. Hort. Unit SR 232, 24 May - 15 July 1977 Greenbaum & Weems,
insect flight trap, FSCA.

SEM #23: 4:20 pm:

P. longus f, same data as above, FSCA.

SEM #24: 4:25 pm:

P. longus m, FL: Highlands Co., Lake Placid, 6 July 1974, H. V. Weems, CAS.

SEM #25: 4:30 pm: P. longus f, same data as above, CAS.

SEM #26: P. n. sp. nr. longus, m, TEXAS: College Station, 11 June 1933, H. J. Reinhard. KU.

SEM #27: 4:35 pm: P. n. sp. nr longus f, same data, KU.

SEM #28: P. micans, AZ: Cochise Co., Pinery Canyon, Chiricahua Mtns. 5000', 5 Aug 1932,
D. K. Duncan. CAS.

SEM #29 P. micans, same data, CAS.

SEM #30: P. micans m, MEX: Chihuahua; summit W of Primavera, 3 July 1947, D.

Rockefeller Esp., Gertsch. AMNH.

SEM #31: P. micans, f, same data, AMNH.

5351.29

5351.3 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California
Academy of Sciences 19-May-1989 C. R. Nelson # 5351.3 9 SEM work:

SEM #32: eggs & 1st instar larvae of Myelaphus lobicornis, UTAH: Cache Co., Green
Canyon, 7 July 1983, C. R. Nelson.

SEM #33: Cyrtopogon princeps O. S. m, OREGON: Douglas Co., Clearwater Falls, Hwy 138,

24 June 1985, C. R. Nelson.

SEM #34: *Holcocephala abdominalis* m, FLORIDA: Marion Co., Ray Wayside Park, 4.5 me E of Silver Springs, Hwy 40, 14 Apr 1989, C. R. Nelson #5353 & D. F. Gross.

SEM #35: *Holcocephala abdominalis* f, same data.

5351.3

5351.4 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California Academy of Sciences 24-May-1989 C. R. Nelson # 5351.4 9 24 May 1989, D. Giuliani material from east slope Sierra Nevada near Mono Lake.

.. Little Pine Creek, 14 Feb 1989:

Capnia utahensis 15 m 14 f;

Zapada cinctipes 1 m 4 f.

.. Baker Creek, 14 Feb 1989:

Capnia utahensis 14 m 31 f;

Capnia inyo 1 m 1 f;

Zapada cinctipes 0 m 1 f.

.. Coyote Creek, 14 Feb 1989:

Capnia utahensis 99 m 62 f;

Capnia inyo 6 m 8 f;

Zapada cinctipes 8 m 3 f.

5351.4

5351.5 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California Academy of Sciences 22-Aug-1989 C. R. Nelson # 5351.5 9 SEM film left with Mary Ann Tenerio, 63 exposures. 5351.5

5351.6 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California Academy of Sciences 25-Apr-1989 C. R. Nelson # 5351.6 9 SEM Session: 25 April 1989 Recoated stubs 10-13, Don't recoat!

Stub 10: *brevipennis*, NY, frame 19 lateral, 20 ventral, 21 ventral aedeagus.

Stub 11: brevipennis, ALABAMA, 22 lateral, 23 ventral, 24 ventral aedeagus.

Stub 12: coquillettii, Kelso, 25 lateral, 26 ventral.

Stub 13: coquillettii, 27 lateral, 28 ventral.

26 April 1989:

Stub 14: coquillettii, 0 lateral, 1 lateral, 2 ventral, 3 dorsal, 4 dorsal lower mag. 5351.6

5351.7 USA CALIFORNIA: Placer? Co. Donner Summit, I-80 rest area eastbound 25-Aug-1989 C. R. Nelson # 5351.7 & family 9 Machimus male
Cyrtopogon female 5351.7

5351.8 USA CALIFORNIA: San Mateo Co. down peninsula 13-May-1989 C. R. Nelson # 5351.8 9 photo of a woman in phone booth near husband.

Gabriel & Maria Gonzales

314 Semicircle Road

Menlo Park, CA 94025. 5351.8

5351.9 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California Academy of Sciences 25-Apr-1989 C. R. Nelson # 5351.9 9 SEM Session: 25 April 1989
Recoated stubs 10-13, Don't recoat!

Stub 10: brevipennis, NY, frame 19 lateral, 20 ventral, 21 ventral aedeagus.

Stub 11: brevipennis, ALABAMA, 22 lateral, 23 ventral, 24 ventral aedeagus.

Stub 12: coquillettii, Kelso, 25 lateral, 26 ventral.

Stub 13: coquillettii, 27 lateral, 28 ventral.

26 April 1989:

Stub 14: coquillettii, 0 lateral, 1 lateral, 2 ventral, 3 dorsal, 4 dorsal lower mag. 5351.9

5351.95 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California Academy of Sciences 26-Apr-1989 C. R. Nelson # 5351.95 9 SEM Session: 26 April 1989

Stub 14: coquillettii, 0 lateral, 1 lateral, 2 ventral, 3 dorsal, 4 dorsal lower mag.

Stub 15: duryi male, frame 5 lateral, frame 6 ventral.

Stub 16: duryi female, 7 lateral, 8 ventral, 9 dorsal.

Stub 17: gracilis male, 10 lateral light, 11 lateral, 12 ventral light, 13, ventral good, 14, ventral close up, bad neg., 15 ventral bad neg, kept by Mary Ann Tenorio, 16 ventral, 17 caudad junk, 18 caudad okay. 5351.95

5352 USA FLORIDA Sumter Co. Wildwood, Hwy 301 jct Florida turnpike 14-Apr-1989 C. R. Nelson # 5352 & Dan Gross 9 stayed at Red Carpet Inn, about \$26 for two beds.

skipped some numbers from previous book to start this one. Mydidae

beetles

Gomphocerinae

dragonflies

Ammophila

green spider

Reduviidae at light, night before

photos:

Tettigoniidae

Lycaenidae, hairstreak 5352

5353 USA FLORIDA Marion Co. Ray Wayside Park, 4.5 mi E of Silver Springs, Hwy 40 14-Apr-1989 C. R. Nelson # 5353 & Dan Gross 9 Holcocephala dry & wet

Sphecidae

Tachinidae

Reduviidae 5353

5354 USA FLORIDA Highlands Co. Archbold Biological Station, S of Lake Placid 15-17 April 1989 C. R. Nelson # 5354 & Dan Gross 9 malaise trap, emptied trap daily, also light trap 5354

5355 USA FLORIDA Highlands Co. Archbold Biological Station, S of Lake Placid 15-Apr-1989 C. R. Nelson # 5355 & E. M Fisher & S. W. Bullington & C. L. Hogue 9 Collected across Old Hwy 8, from station headquarters. Holopogon

Leptogaster

Reduviidae, colorful

Bombyliidae

also 1 vial of beetles etc., collected at light trap at headquarters 5355

5356 USA FLORIDA Highlands Co. Lake Annie, about 6 mi W of Lake Placid 16-Apr-1989 C. R. Nelson # 5356 & E. M Fisher & S. W. Bullington & C. Maier 9 Holopogon

Syrphidae, a few

Bombyliidae 5356

5357 USA FLORIDA Highlands Co. canal about 6 mi W of Hwy 27 on Hwy 70 about 8 mi SW of Lake Placid 16-Apr-1989 C. R. Nelson # 5357 & E. M Fisher & S. W. Bullington & C. Maier

9 check map Therevidae, 1 on oak leaves, 4 live in spider web.

Proctacanthus brevipennis, in cow pasture, very low flying. 5357

5358 USA FLORIDA Highlands Co. Highlands Hammock State Park, Fern Trail area 17-Apr-

1989 C. R. Nelson # 5358 & E. M Fisher & S. W. Bullington & C. Maier 9 check map in

cabbage palm hammock in deep shade with small light gaps:

Ommatius, 2 spp. smaller in deeper shade.

Platystomatidae

Stratiomyidae, *Sargus*, hovering over small stream.

Micropezidae, 2 spp.

Tipulidae, black.

Tipulidae with very long legs (*Brachypremna*? det 1999).

Sun came out, in clearing near large tree:

Laphria macquarti near downed logs.

Promachus bastardii on grass about 4 inches above ground.

eyed elater.

small silver spiders in orb weavers web

Large *Pisauridae* with Bullington.

5358

5359 USA CALIFORNIA: San Mateo Co. Purisima Creek, 3.5 mi E of Hwy 1, SE Half Moon

Bay 26-Apr-1989 C. R. Nelson # 5359 9 collected aquatics for open house at Academy.

Curtis Takahashi. (I can't remember why I wrote this name, 3 Feb 1999).

Adults:

Paraleuctra

Sweltsa

Mesocapnia

malenka

Calineuria

Perlodidae

Holorusia

Sialis larva

Ptychopteridae larvae

Elmidae

black Chrysopidae
Rhagionidae 5359

5360 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California
Academy of Sciences 27-Apr-1989 C. R. Nelson # 5360 9 *Volucella bombylans*, photo
5360

5360.1 USA CALIFORNIA: San Francisco Co. San Francisco, Golden Gate Park, California
Academy of Sciences 28-Apr-1989 C. R. Nelson # 5360.1 & Paul Arnaud 9 walked in GGP
Arboretum with Paul Arnaud. photos: red Libellulidae 5360.1

5361 USA CALIFORNIA: San Mateo? Co. Daly City, hillside above our apartment. 30-Apr-
1989 C. R. Nelson # 5361 9 photos: eyed elater from Florida (#5358)

photos:
Tipulidae on wall.
Muscidae on ground.
Spittle bugs, Cercopidae, on legume.
crab spider.
baby spiders in web. 5361

5362 USA CALIFORNIA: San Mateo Co. Purisima Creek, 3.5 mi E of Hwy 1, SE Half Moon
Bay 25-May-1989 C. R. Nelson # 5362 & M. F. Whiting & Derrick & Sylvia Duckhouse. 9
Calineuria
malenka
Plumiperla
Paraleuctra
Sweltsa
photos: Clusiidae, mating.
Ptychopteridae
Tachinidae
Muscidae, Lasiops.
Empididae
Scatophagidae 5362

5363 USA CALIFORNIA: San Mateo Co. Redondo Beach, Half Moon Bay 25-May-1989 C.
R. Nelson # 5363 & M. F. Whiting 9 flies on seaweed, on *Egria menziesii*
Coelopa vanduzeei
Sphaeroceridae

Leptocera thoracochaeta

Fucellia 5363

5364 USA CALIFORNIA: Stanislaus Co. Patterson, LDS Ranch along San Joaquin River 29-May-1989 C. R. Nelson # 5364 & Don B. Shipp 9 near end of Pomelo Road, collected in riparian area which floods regularly. Sandy with open spots but much short annual cover.

Therevidae gathering on open sand *Efferia albibarbis*

Proctacanthus occidentalis, photos taken at home, 30 May 1989.

bristletails, on open sand.

ant lions, larvae & adults, adults are *Brachnemurus abdominalis*.

Chrysopidae

Mutillidae

Therevidae, *Acrosathes vialis*.

Cimicidae in wood duck nest 5364

5365 USA CALIFORNIA: Santa Clara Co. Arroyo Mocho, 15.8 mi S of Livermore, Mines Road 29-May-1989 C. R. Nelson # 5365 & Don B. Shipp 9 also stopped at Del Puerto Creek in Frank Raines Park, no surface flow in creek bed. Baumann and I had collected here years before. Perlidae

Isoperla

Cerambycidae, red wings.

Hemerobiidae

Raphidiidae

Chalcididae, *Spilochalcis*. 5365

5365.1 USA CALIFORNIA: San Francisco Co. California Academy 30-May-1989 C. R. Nelson # 5365.1 9 SEM session

stub 22: *Proctacanthus longus*, FL: Alachua Co., male

00 ventral

01 aedeagus tip 100x

02 lateral

03 caudal

04-05 caudal

stub 23 *longus*, female

06 ventral

07 lateral

08 lateral higher mag

09 dorsal

stub 24: *longus*, FL: Highlands, male

10 ventral
11 lateral
12 lateral
stub32-B Myelaphus egg
11 1 shot
went to 4000x no features
stub 32 - D - larva Myelaphus
lateral 12
frontal 13 5365.1

5365.2 USA CALIFORNIA: San Francisco Co. California Academy 12-Jun-1989 C. R.
Nelson # 5365.2 9 SEM session

Larval head:

00 ventral
01 junked
02 3/4 frontal
stub 28, P. micans m
03 ventral, dirty
stub 29, f
04 junk
05 dorsal
06 lateral
07 ventral
stub 30, P, micans m
08 ventral
09 ventral, bad line
10 ventral aedeagus
11 lateral
12 caudad, close-up
stub 31, P. micans f
13 dorsal
14 later junk
15 lateral
16 ventral 5365.2

5365.3 USA CALIFORNIA: San Francisco Co. California Academy 15-Jun-1989 C. R.
Nelson # 5365.3 9 SEM session

started cleaning & drying for SEM:
SEM #36: P. milbertii m

MICH: Menominee Co.
no locality, 15 Aug 1949
G. Guyer in MichSU
SEM #37: *P. milbertii* f
same data
SEM #38: *P. milbertii*, m
MISS: Oxford Co.
Sardis Lake
VI-1960
F. M. Hull in BRI
SEM #39: *P. milbertii*, f
same data.
SEM #40: *P. nearno*, m
NM: Dona Ana Co.
Jornada Rd., 1.6 mi N Rt 70/82
12 July 1981, 4500'
G. S. Forbes in NMSU
SEM #41: *nearno*, f
NM: Dona Ana Co.
Jornada Range, 0.8 mi E Coll. Rch HQ
22 July 1983
G. S. Forbes in NMSU
SEM #42: *P. nigriventris* m
NJ: Ocean Co.
Lakehurst
17 Aug 1948
J. C. Pallister in AMNH
SEM #43: *P. nigriventris* f
same data
SEM #44: *P. nigrofemoratus*, m
TEXAS: Culberson Co.
19 mi E Van Horn
21 June 1970
E. M. & J. L. Fisher in EMF
SEM #45: *P. nigrofemoratus*, f
same data
SEM #46: *P. occidentalis*, m
CA: Yolo Co.

Davis

6 Aug 1953

E. I. Schlenger in UCD

SEM #47: *P. occidentalis*, f
same data

SEM #48: *P. rodecki*, m

COLO: Weld Co.

Masters

9 July 1939

E. B. Andrews, in CUIC

SEM #49: *P. rodecki*, f
same data but in KU, UKSM

SEM #50: *P. philadelphicus*, m
NY: Suffolk Co.

Long Island, Babylon

20 Aug 1938

F. S. Blanton, in CUIC

SEM #51: *P. philadelphicus*, f
same data.

SEM #52 *P. brevipennis*, f
NY: Suffolk Co.

Long Island, Halfway Hollow Hills

7 June 1936

Blanton & Borders in CUIC

16 June 1989, these specimens are now in 75 % Ethanol, 7:00 pm

20 June 1989, SEM session, shots of whole *Holcocephala*

5365.3

5365.4 USA CALIFORNIA: San Francisco Co. California Academy 31-May-1989 C. R.

Nelson # 5365.4 9 Giuliani material from in and near Inyo Co:

McGee Creek, 16 Feb 1989:

Capnia inyo 12 m 6 f

Capnia utahensis 2 m 5 f

Zapada cinctipes 6 m 2 f

Rock Creek, 16 Feb 1989:

Capnia inyo 65 m 52 f

Capnia utahensis 143 m 188 f

Zapada cinctipes 2 m 4 f
Little Pine Creek, 21 Feb 1989
Capnia utahensis 1 m 2 f
Baker Creek, 22 Feb 1989
Capnia inyo 2 m 0 f
Capnia utahensis 3 m 3 f
Zapada cinctipes 2 m 0 f
Little Pine Creek, 27 Feb 1989
Capnia utahensis 8 m 11 f
Zapada cinctipes 5 m 0 f
Baker Creek, 27 Feb 1989
Capnia inyo 0 m 1 f
Capnia utahensis 2 m 33 f
Zapada cinctipes 2 m 2 f
5365.4

5365.5 USA CALIFORNIA: San Francisco Co. California Academy 01-Jun-1989 C. R.
Nelson # 5365.5 9 Giuliani material from in and near Inyo Co:
Coyote Creek, 28 Feb 1989:
Capnia inyo 13 m 9 f
Capnia utahensis 6 m 3 f
Zapada cinctipes 12 m 2 f
Rock Creek, 28 Feb 1989:
Capnia inyo 1 m 2 f
Capnia utahensis 5 m 10 f
Zapada cinctipes 1 m 1 f
McGee Creek, 28 Feb 1989
Capnia inyo 7 m 8 f
Zapada cinctipes 3 m 4 f
Coyote Creek, 6 Mar 1989:
Capnia inyo 15 m 2 f
Capnia utahensis 0 m 7 f
Zapada cinctipes 7 m 2 f
5365.5

5365.6 USA CALIFORNIA: San Francisco Co. California Academy 06-Jun-1989 C. R.
Nelson # 5365.6 9 SEM session
stub 25: Proctacanthus longus, f
shot 1 ventral

shot 2 lateral
shot 3 dorsal
stub 26: *P. longus*, m
shot 4 ventral
shot 5 ventral aedeagus
shot 6 lateral
shot 7 caudad
stub 27, n. sp. female
shot 8 ventral
shot 9
shot 10
5365.6

5365.7 USA CALIFORNIA: San Francisco Co. California Academy 10-Jun-1989 C. R.
Nelson # 5365.7 9 Giuliani material from in and near Inyo Co:
McGee Creek, 6 Mar 1989:
Capnia inyo 1 m 7 f
Zapada cinctipes 0 m 1 f
Rock Creek, 6 Mar 1989:
Capnia inyo 0 m 1 f
Capnia utahensis 0 m 2 f
Zapada cinctipes 0 m 1 f
Little Pine Creek, 8 Mar 1989
Capnia inyo ? m 2 f
Capnia utahensis 16 m 31 f
Zapada cinctipes 8 m 4 f
Baker Creek, 8 Mar 1989:
Capnia inyo 2 m 2 f
Capnia utahensis 0 m 14 f
Zapada cinctipes 1 m 1 f
Little Pine Creek, 12 Mar 1989
Capnia inyo 0 m 2 f
Capnia utahensis 4 m 12 f
Zapada cinctipes 6 m 5 f
END OF BOX 3

5365.7

5366 USA CALIFORNIA: Stanislaus Co. San Joaquin River, Patterson, LDS Farm 24-Jun-1989 C. R. Nelson # 5366 & scouts 9 Efferia albibarbis, with prey:

Coenagrionidae

Halictidae

Tephritidae

Proctacanthus occidentalis

Machimus? 1 m in malaise trap

bees

malaise trap near slough

23-24 June, light trap

Hydropsychidae

Arctiidae

Noctuidae - Catocala 5366

5366.1 USA CALIFORNIA: San Francisco Co. California Academy 26-Jun-1989 C. R. Nelson # 5366.1 9 SEM session

Stub #28: P. micans, m

00 lateral

Holcocephala

02 ventral

Stub #36, P. milbertii, m

03 ventral

04 ventral

05 lateral

Stub #37, f

06 dorsal

07 lateral

08 ventral

Stub #39, P. milbertii, f

09 dorsal

10 lateral

11 ventral

Stub #38, P. milbertii, m

12 ventral

13 lateral

14 aedeagal tips

Stub #40, P. nearno, m

15 ventral
16 close up aedeagus
17 lateral
Stub #41, *P. nearno*, f
18 dorsal
19 lateral
20 ventral
Stub #42, *P. nigriventris*, m
21 ventral
22 ventral close up
23 lateral
Stub #43, *P. nigriventris*, f
24 dorsal
25 lateral
26 ventral
Stub #44, *P. nigrofemoratus*, m
27 ventral
28 lateral
Stub #45, *P. nigrofemoratus*, f
29 dorsal
30 lateral
31 ventral
Stub #46, *P. occidentalis*, m
32 ventral
33 lateral
Stub, *Holcocephala* head
34 frontal
36 frontal mps
5366.1

5366.2 USA CALIFORNIA: San Francisco Co. California Academy 10-Jul-1989 C. R.
Nelson # 5366.2 9 SEM session
coated stubs 47 - 52
[inc 47a]

Stub #47: *P. occidentalis*, f
18 dorsal
19 lateral

20 ventral

Stub #48: *P. rodecki* (*philadelphicus* crossed out in my notes, 8 Mar 1999), m

21 ventral

22 ventral close up

23 lateral

Stub #49: *P. rodecki*, f (*philadelphicus* crossed out in my notes, 8 Mar 1999)

24 ventral

25 lateral

26 dorsal

Stub #50: *P. philadelphicus*, m (*rodecki* crossed out in my notes, 8 Mar 1999)

30 ventral

31 ventral close up

32 lateral

Stub #51: *P. philadelphicus*, f (*rodecki* crossed out in my notes, 8 Mar 1999)

27 ventral

28 lateral

29 dorsal

Stub #52: *P. brevipennis*, f

33 ventral

34 lateral

35 dorsal

Shot 36: *P. milbertii* head in pupal skin

Stub 47A & other

both eggs had no sculpturing at 1500x 5366.2

5366.3 USA CALIFORNIA: San Francisco Co. California Academy 11-Jul-1989 C. R.

Nelson # 5366.3 9 SEM Prep session

#53: *Proctacanthus* n. sp. Yuma male

ARIZONA: Yuma Co. (now La Paz Co.!)

6 mi S of Parker

6 Sep 1967

S. C. Williams & M. A. Cazier in ASU

#54: *Proctacanthus* n. sp. Yuma female

ARIZONA: Yuma Co. (now La Paz Co.!)

6 mi S of Parker

6 Sep 1967

S. C. Williams & M. A. Cazier in ASU

#55: *Proctacanthus* n. sp. owyhee male

IDAHO: Owyhee Co.

Bruneau

7 Aug 19;69

Bigelow, Mortenson, Cazier, in ASU

#56: *Proctacanthus* n. sp. owyhee female

IDAHO: Owyhee Co.

Bruneau

7 Aug 19;69

Bigelow, Mortenson, Cazier, in ASU

#57: *Proctacanthus* n. sp. cache male

UTAH: Cache Co.

Cornish - sand

28 July 1983

C. R. Nelson & G. E. Bohart in CRN

#58: *Proctacanthus* n. sp. cache female

UTAH: Cache Co.

Cornish - sand

28 July 1983

C. R. Nelson & G. E. Bohart in CRN

#59 *Proctacanthus* rufus male

Mass: Head of the Meadows Beach

Truro, Cape Cod

16 Jul 1971

P. Ward

#60 *Proctacanthus* rufus female

Mass: Head of the Meadows Beach

Truro, Cape Cod

16 Jul 1971

P. Ward

#61 *Proctacanthus* "hinei" male

TEXAS: McLennan Co.

6 Jul 1934

F. E. Bibby in TXAM

#62 *Proctacanthus* "hinei" female

TEXAS: McLennan Co.

6 Jul 1934

F. E. Bibby in TXAM

#63 Eccritosia zamon female

ARIZONA: Pima Co.

Tucson

12 Jul 1924

A. A. Nichol

#64 Eccritosia zamon male

ARIZONA: Graham Co.?

San Carlos Lake

Jul 1930

Duncan

#65 Proctacanthella cacopiloga male

UTAH: San Juan Co.

Bluff

15 Jul 1967

Davidson, Davidson, & Cazier

#66 Proctacanthella cacopiloga female

UTAH: San Juan Co.

Bluff

14 Jul 1967

Davidson, Davidson, & Cazier

#67: Proctacanthella exquisita male

ARIZONA: Santa Cruz Co.

Madera Canyon

20 May 1971

J. Wilcox in CAS

#68: Proctacanthella exquisita male

ARIZONA: Santa Cruz Co.

Madera Canyon

20 May 1971

J. Wilcox in CAS

All put into TSP

12 July 1989: cleaned specimens and moved to water, 35% EtOH - 70% to 95% at end of day, to leave overnight.

5366.3

5367 USA CALIFORNIA: Sonoma Co. Dutch Bill Creek, 2 mi S of Monte Rio, jct Crawford Gulch 15-Jul-1989 C. R. Nelson # 5367 & family 9 Rhagionidae
Cerambycidae
Scarabaeidae
Membracidae - photo taken 5367

5367.1 USA CALIFORNIA: San Francisco Co. California Academy 17-Jul-1989 C. R. Nelson # 5367.1 9 SEM Prep session

#53: Proctacanthus n. sp. Yuma male

00 ventral

01 ventral close up

02 lateral

#54: Proctacanthus n. sp. Yuma female

03 lat, 04 dors, 05 ventral

#55: Proctacanthus n. sp. owyhee male

06 ventral, 07 lateral

#56: Proctacanthus n. sp. owyhee female

08 dorsal, 09 lateral, 10 ventral

Uncoated pinned P. caudatus male

11 lateral, 12 proboscis

Veracruz, V. Cruz, Mex July 10, 1935, A. E. Pritchard, EMF collection

#57: Proctacanthus n. sp. cache male

13 ventral, 14 lateral

#58: Proctacanthus n. sp. cache female

15 ventral, 16 lateral, 17 dorsal

#59 Proctacanthus rufus male

18 ventral, 19 lateral

#60 Proctacanthus rufus female

20 dorsal, 21 lateral, 22 ventral

#61 Proctacanthus "hinei" male

23 ventral, 24 v closeup, 25 lateral

#62 Proctacanthus "hinei" female

26 ventral, 27 lateral, 28 dorsal

#64 Eccritosisia zamon male

29 ventral, 20 v closeup, 31 lateral

5367.1

5368 USA CALIFORNIA: Placer Co. California Academy 19-Jul-1989 C. R. Nelson # 5368 & family 9 Cyrtopogon all females

small Asilus several males

Machimus 1 m

Cyrtopogon? small

Holopogon 1f?

Symphoromyia

Sesiidae 5368

5369 USA NEVADA: Pershing Co. Lovelock 19-Jul-1989 C. R. Nelson # 5369 & family 9

Acalypterate flies on flux of wound on siberian elm

Otitidae

Ephydriidae? 5369

5370 USA UTAH: Tooele Co. Knolls, I-80 20-Jul-1989 C. R. Nelson # 5370 & family 9 9-10am

Proctacanthus perching vertically on shrubs

Efferia perching on ground

Stichopogon on loose sand Proctacanthus nearno 2m 3 f, perching on tall Atriplex related to canescens.

Efferia benedicti

Stichopogon fragilis? 1f

sand dunes, very fine sand

Sphecidae: Ammophila

Pompilidae

grasshoppers

Monoxia extremely thick on Atriplex

Proctacanthus perching vertically on shrubs

Efferia perching on ground

Stichopogon on loose sand 5370

5371 USA UTAH: Utah Co., Orem - sand hills I-15 jct 1200 S 21-Jul-1989 C. R. Nelson # 5371 9 by 1998 this collecting site has been obliterated, I believe by a Wal-Mart. Growth on the valley floor of Utah Valley has been extremely intense. This spot was below the Soil Conservation Service (or similar name) offices. There might still be some remnants of these sand hills between 1200 S and the Provo River, along the base of Grandview hill.

Proctacanthus nearno
Proctacanthella cacopiloga
Bombyliidae
Cicindelidae
Mutillidae
Rhipiphoridae
Sphecidae
Halictidae? 5371

5372 USA UTAH: Utah Co., 12 mi E of Thistle, Hwy 6/50, Wheeler Sawmill 21-22 July 1989

C. R. Nelson # 5372 & family 9 *Negasilus belli*? 1f
Megaphorus (*guildiana*/*willistoni*)
Machimus
Efferia benedicti
Efferia zonata (on top of ridge above house in pinyon juniper)
Sphecidae
Cicindelidae
Tachinidae
Buprestidae
Bombyliidae 5372

5373 USA UTAH: Millard Co. 11.7 mi W of Leamington, Hwy 6, milemarker 97, about 3.2 mi
E of Sevier River Bridge 24-Jul-1989 C. R. Nelson # 5373 & B. A. Haws 9 Sighted on IPP
Stutz lists as 8x

SCI 1 2 3
3 0 0 2
1 0 0 0
1 1pr 0 0 leaf samples
1 0 0 0
2 0 65py 6py* *Solenopsis*
2 0 0 0
3 3py* 0 0 dark brown ant
1 0 0 0 soil loose around roots
2 0 0 0
2 0 19 0 the 19 were parasitized last year

saw *Monoxia* landing regularly on greasewood
bumpy Pentatomidae
shiny brown Chrysomelidae

shadscale in low density, Sarcobatus dominant, shadscae patchy, not in sandiest areas.

No Monoxia damage at first, much later

Laphystia

saw Megaphorus (small)

5373

5374 USA UTAH: Millard Co. Snake Valley, Hwy 6/50, 6 mi E of Nevada line, milemarker 6

24-Jul-1989 C. R. Nelson # 5374 & B. A. Haws 9 Pseudococcids have round circulus

Stutz lists as 10x

SCI 1 2 3

3 0 >200p 4

3 0 0 0 small plant

2 0 0 0

3 0 0 0

3 0 0 0 leaf samples

3 0 0 0

2 0 0 0

3 0 0 0

3 0 0 0 soil compacted around roots

3 0 0 0

mixed 75% Sarcobatus

20% shadscale

5% Tetradymia

healthy plants, #1's very hard to find, <5% #1, had to walk >30 paces to find #1s

shadscale plants have large leaves 5374

5375 USA NEVADA: White Pine Co. 15 mi SE of Eureka, 1 mi N of Hwy 50 on Hwy 892, mp 1

25-Jul-1989 C. R. Nelson # 5375 & B. A. Haws 9 Stutz lists as 4x site

SCI 1 2 3

0 0 3onym 50orth(5 nymph)

1 100o, many nymph 2o 25o, 1adult 24 nymph

2 20o ny dead 18o (3a 15n) 25 (10a 15n)

1 50o many dead 10o 20o

3 0 3o 0 ploidy sample

2 0 09 8o

2 0 15o ny 0

2 0 5o 4o
2 0 5o and 20 new diaspidid 7o
3 1o 2o 0

374.8 crossroads Ely
415.3 sign
37 miles to Eureka, Hwy 892
Scleropogon
Efferia
Ospriocerus
orange ants
Tenebrionidae

walked perp. to Hwy starting 25 paces in on E side, sighted on white patch of veg.
Haws comments: soil compacted alkali, dark loamy, granular most Orthezia were nymphs,
plants healthier near road 5375

5376 USA NEVADA: Eureka Co. 10 mi S of Eureka, Hwy 50, Duckwater turnoff, (Fish Creek Road), Hwy 379 25-Jul-1989 C. R. Nelson # 5376 & B. A. Haws 9 gravelly soil, mixed with smaller leaved Artemesia and junipers in foothills sloping.

Stutz 2x site
t = termites
tall shadscale with medium leaves

SCI 1 2 3
2 0 0 0
2 0 0 0
2 0 0 0
1 5p reddish, t 0 0
1 0 0 0 ploidy sample
3 0 0 0
1 0 0 0
2 0 5p reddish nymphs 0
2 0 0 0
1 0 0 0 Efferia 2 spp., 1m 1f in juniper hand caught.
Megaphorus
Polacantha?

Sphecidae

Chrysopidae 5376

5377 USA IDAHO: Owyhee Co. 15 mi S of Bruneau, Hwy 51, mp 57 26-Jul-1989 C. R. Nelson # 5377 & B. A. Haws 9 even clay soil with cobble of basalt

SCI 1 2 3

2 0 1py (Sitianion in crown) 0

3 0 1pr 0

3 0 0 2py

3 0 0 0

3 0 17 p empty paratized 2 py

3 0 >200py* 0 tended by Crematogaster

2 0 0 0

3 2p parasitized 0 0

3 0 0 0

2 0 0 0

13 miles S jct 78/51

mile past 57 Hwy 51 Efferia f

Polacantha f

grasshoppers

wasps

Haws saw a large robber fly, Proctacanthus? 5377

5378 USA IDAHO: Owyhee Co. Bruneau Dunes State Park, sage- 4 wing hillside, W of visitors center, about 0.5 mi 26-Jul-1989 C. R. Nelson # 5378 & B. A. Haws 9 turned left on road just outside fence line that had pay entrance for park. Talked to Wes Whitworth (park manager), only restriction was don't take Cicindela. Proctacanthus (photos)

Diogmites (photos)

Efferia

Apiocera

wasps 5378

5379 USA IDAHO: Owyhee Co. Murphy, Hwy 78, NW hillside above bridge 26-Jul-1989 C. R. Nelson # 5379 & B. A. Haws 9 hillside near jct with road to Reynolds Creek

*100% branches with Ceroplastes

+ tended by Crematogaster

SCI 1 2 3

2 0* 0 0

2 2py*+ 0 >5a0py+

2 20 (approx) diasp. 0 0

3 0 0 0

3 0 0 >50 diasp (5% Ceroplastes) ploidy sample

2 0 0 0

3 0 (10 diasp) 0 0

2 0 0 0

2 0 0 0

3 >50 diasp >20 diasp 10 diasp

Promachus (including mating pair)

Efferia (1 with Apiocera prey)

also swept Monoxia, etc. from 4 wing

Ceroplastes very abundant on 4 wing & shadscale

narrow scale, Diaspididae 5379

5380 USA OREGON: Malheur Co. 2 mi S Hwy 201/19 on Succor Creek Road 27-Jul-1989

C. R. Nelson # 5380 & B. A. Haws 9 Succor Creek road is not paved.

Stutz 4x site

*note=transect perp to road base at Oregon State Highway Dept. monument DUCT 1970

triangulation Marker labeled with steel post and bronze "corner" Marker.

SCI 1 2 3

3 0 0 0

3 0 >20 diasp 0 scales spread over 8 inches of root

2 0 >20 diasp 0

2 0 0 0

3 0 0 0 ploidy sample

3 0 0 0

3 0 0 0

3 0 8p parasitized shells 0

1 0 >20 diasp 0

3 0 0 0 ploidy sample

clay soil, hard packed, Cicadidae 1

Efferia

Promachus

Megaphorus

saw black *Ospricerus* 5380

5381 USA OREGON: Malheur Co. Owyhee River, 10 mi W of Adrian, road to Owyhee Dam, 2 mi upriver from rd jct to Adrian 27-Jul-1989 C. R. Nelson # 5381 & B. A. Haws 9 Possible Stutz 2x site.

few shadscale, high in rocks of cliffs where canyon narrows down. Not enough plants for mealybug survey. 0.5 mi S of large pipeline which crosses under? river. Later saw continuation of pipeline between Vale and Harper on Hwy 20.

A steep semi-abandoned road leaves Hwy toward river to a gravelly parking area. I took shadscale from cliff on other side of road. See 5382 notes. *Proctacanthus occidentalis*
Megaphorus (small light)
Bombyliidae 5381

5382 USA OREGON: Malheur Co. 10 mi W of Adrian, downriver about 1 mi from Adrian jct on Owyhee Dam Road 27-Jul-1989 C. R. Nelson # 5382 & B. A. Haws 9 Possible Stutz 2x site.

Took road N then W of Adrian.

Site 5381 - reached jct with Owyhee Dam Road and headed up river 2 - 3 miles to reach narrowing of canyon, shadscale perched at head of talus slopes below cliffs; next we headed down stream past jct of road to Adrian past by (heading to Owyhee) about a mile after jct took shadscale (5382) from hillside (steep) same apparent morph as at 5382. Test using pyrolysis. shadscale
ploidy sample 5382

5383 USA OREGON: Malheur Co. E of Vale, hillside E of river bridge 27-Jul-1989 C. R. Nelson # 5383 & B. A. Haws 9 Stutz 4x site. Steep hillside shadscale not common. sc plants on steep slope not overly common. two soil types, a badlands type where sc is found and a darker type covered with *Eriogonum*? & some *Chrysothamnus*

This site is barely out of city limits. We parked at a spot which had an abandoned building with a soil roof. Found a coal bucket and "antique" debris up one of the nearby draws.

Between 5382-5383 we tried to find sc N of *Nyssa* as per Stutz list (8x) none found, all

farmland. There were some low "wild" hills a couple miles off the highway. *Ospriocerus*

Efferia 2 spp. f

1 *benedicti*?

1 *zonata* type

4 wing covered with *Ceroplastes*

shadscale ploidy sample 5383

5384 USA OREGON: Malheur Co. 15 mi SW of Vale, Hwy 20 27-Jul-1989 C. R. Nelson #

5384 & B. A. Haws 9 Stutz 10x site?

road cut hillside, white clay

dug 10 plant

SCI 1 2 3

3 - - 0

3 - - 0

3 - - 0

3 - - 0

3 - - 0

3 - - 0

3 - - 0

2 - 0 -

2 - 0 -

3 - - 0

Two ploidy samples taken, 1m 1f

A slough at base of hill coming from Vale might be Sponge Springs, locals knew of no such springs. Stopped at sotre at Harper Jct. and asked folks also asked man at ranch house, on road cut opposite, old, small ranch house with two iron silos. 5384

5385 USA IDAHO: Elmore Co. Hwy 84 eastbound, 1 mi E jct Hwys 84 & 78 (Hammett exit),

milepost 115 28-Jul-1989 C. R. Nelson # 5385 & B. A. Haws 9 *Monoxia* on 4 wing

more *Monoxia* on female plants

Chrysothamnus nauseosus with caterpillars in silk tubes which tie several branches into a tuft up to 30 caterpillars per tuft 5385

5386 USA IDAHO: Gooding Co. Bliss, I-84, middle overpass (0.1 mi W), right-of-way

westbound 28-Jul-1989 C. R. Nelson # 5386 & B. A. Haws 9 shadscale in right-of-way rehab area.

Taken for ploidy sample.

Shadscale probably planted. 5386

5387 USA UTAH: Box Elder Co. Brigham City, 211 N 300 W N 41.5155 W 112.0198 28-Jul-1989 C. R. Nelson # 5387 & B. A. Haws 9 on green ash infested with clearwing moths, long horn beetles and bark beetles.

Pogonosoma!! actually *Andrenosoma ruficaudatum*, photos taken

Eric Fisher researched borers on ash, speaking with Eichlin, Sesiidae is *Podosesia syringae*, lilac or ash borer, see 1975. Ann ESA 68:325-328. 5387

5388 USA UTAH: Box Elder Co. The Crossroads, Tremonton 30-Jul-1989 C. R. Nelson # 5388 & family 9 *Ephoron album*

Mass emergence, dead adults emerged from irrigation canal behind gas station. Talked with boy cleaning up with a broom, he had been sweeping up the dead Mayflies every morning for the past two weeks. Dead bodies smelled like seafood. 5388

5389 USA NEVADA: Pershing Co. 10 mi E of Lovelock, I-80 westbound 30-Jul-1989 C. R. Nelson # 5389 & family 9 Plant samples. shadscale, winterfat, and 4 wing. 5389

5390 USA NEVADA: Pershing Co. 20 mi W of Lovelock, I-80 westbound 30-Jul-1989 C. R. Nelson # 5390 & family 9 Shadscale red morph
Krameria? 5390

5391 USA NEVADA: Washoe Co. I-80 Rest Area, westbound near Painted Rock, mp 41 or 42 30-Jul-1989 C. R. Nelson # 5391 & family 9 *Myrmeleontidae*

Chrysopidae

Chrysopa

Eremochrysa 5391

5393 USA NEVADA: Elko Co. Pequop Summit, I-80 26-Aug-1989 C. R. Nelson # 5393 & family 9 *Callanthidium*, *Megachilidae* 5393

5393.1 USA UTAH: Tooele Co. I-80 rest area, about 60 mi E of Wendover, limestone ridge 26-Aug-1989 C. R. Nelson # 5393.1 & family 9 *Efferia benedicti* m

Efferia zonata f

Promachus 5393.1

5394 USA UTAH: Emery Co. Hwy 6, Horse Canyon Road, S of Price 28-Aug-1989 C. R. Nelson # 5394 & family 9 *Efferia utahensis*? 5394

5394.1 USA NEW MEXICO: Bernalillo Co. Zia Pueblo, Hwy 44 29-Aug-1989 C. R. Nelson # 5394.1 & family 9 walking sticks galore! Photos with kids. 5394.1

5395 USA NEW MEXICO: Socorro Co. 2 mi S of La Joya, I-25 rest area southbound 29-Aug-1989 C. R. Nelson # 5395 & family 9 *Promachus* & *Apis* prey, photos & video.

walkingstick video.

Cerambycidae 5395

5396 USA TEXAS: Hudspeth Co. W of Sierra Blanca (mountains), rest area I-10 eastbound
30-Aug-1989 C. R. Nelson # 5396 & family 9 *Efferia argyrosoma*? 5396

5397 USA TEXAS: Culberson Co. 2 mi E of Van Horn, I-10 rest area 30-Aug-1989 C. R.
Nelson # 5397 & family 9 Acacia, Opuntia, thick grasses *Promachus*
Efferia

Megaphorus

Carabidae, large broad 5397

5398 USA TEXAS: Culberson Co. Plateau exit I-10 eastbound, 20 mi E of Van Horn 30-Aug-
1989 C. R. Nelson # 5398 & family 9 sandy area, locality where Eric Fisher collected long
series of *Proctacanthus nigrofemoratus* *Efferia* females
Megaphorus 5398

5399 USA TEXAS Travis Co. Austin, Travis Heights 08-Aug-1989 C. R. Nelson # 5399 10 at
our apartment complex 1221 Algarita #172, near junction of I-35 & Oltorf Blvd. *Evaniidae*:
caught at 7:15 am flying back and forth in front of a hole in a rock wall roughly 18 inches
across 5399

5400 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 08-Sep-1989
C. R. Nelson # 5400 W. A. Lybarger 10 *Promachus* perched on twig about 9 mm in diameter
4-7 ft above the ground;

Diogmites in open on grass

Proctacanthella on open ground

moth in spider web

I also saw what I thought was a very large *Efferia* female.

Also saw numerous *Ploariidae* (*Reduviidae*) near cobwebs & light, not collected *Promachus*
male, photos taken

Diogmites

Proctacanthella

Psychidae - moth 5400

5401 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 13-Sep-1989

C. R. Nelson # 5401 10 Diogmites, often with Apis

Triorla interrupta

Proctacanthella cacopiloga

Bombyliidae, hump backed 5401

5402 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 15-Sep-1989

C. R. Nelson # 5402 10 Diogmites,

Asilini? Polacantha

Ploariidae

Buprestidae

Promachus 5402

5403 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 20-Sep-1989

C. R. Nelson # 5403 10 blacklight later with Entomology class, class collected a good variety of things lunch time: Cerambycidae

Diogmites with Xylocopa micans

Leptoceridae, three kinds

Scolytidae

Lepidostomaticae

Hydroptilidae

5403

5404 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 21-Sep-1989

C. R. Nelson # 5404 10 blacklight later with Entomology class, class collected a good variety of things Diogmites

Promachus

Polacantha

Proctacanthella

Cicadella (Oncometopia?)

Myrmeleontidae

Bombyliidae

Syrphidae 5404

5405 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 26-Sep-1989

C. R. Nelson # 5405 10 malaise trap near boathouse Diogmites

Tachinidae, coreid parasites?

Therevidae

Promachus 1 m 1 f hand collected, photos taken at home

photos: Ephemeridae 5405

5406 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 27-Sep-1989

C. R. Nelson # 5406 10 malaise trap near boathouse Therevidae

Tachinidae, sm red

Sphecidae

Ceratopogonidae

Chrysididae

Mycetophilidae, Euceroptatus?

Triepeolus bee 5406

5407 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 28-Sep-1989

C. R. Nelson # 5407 10 malaise trap Mutillidae

Torymidae, large

Pompilidae, yellow legs

Therevidae

Conopidae

Sphecidae

Bombyliidae, Villa

Bethylidae

Phoridae, 1 f? 5407

5408 USA TEXAS Harris Co. NASA, Johnson Space Center 30-Sep-1989 C. R. Nelson #

5408 and family 10 malaise trap Aeshnidae

Chrysopidae

Cicadidae, skins, photos taken 5408

5409 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 03-Oct-1989

C. R. Nelson # 5409 10 malaise trap, moved trap to small path in dense woods near pool
(note added in 1997, this trap stayed near the cricket enclosures for the full year afterward;
this was the site of the paper on mordellidae) Villa

Pthiria

Syrphidae, Baccha

Tephritidae 5409

5410 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 04-Oct-1989 C.

R. Nelson # 5410 10 malaise trap Phoridae

Acalypterates

Coniopterygidae

Stylopidae, s. s.

Leptogaster

all of the above are in alcohol

Tenthredinidae

Acalypterates

beetle 5410

5411 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 05-Oct-1989

C. R. Nelson # 5411 10 malaise trap morning, Heteropogon hand netted, photograph

Nikon 55 macro M2 tube, 60th at f32, National flash at about 4 inches

malaise trap:

Phoridae

Syrphidae

Mordellidae? 1 large

Mycetophilidae 1 m Euceroptatus

Psychodidae 5411

5412 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 06-Oct-1989

C. R. Nelson # 5412 10 malaise trap

photographs taken with both Pentax and Nikon

finished Pentax 500 asa roll, roll one with blind snake & cockroach

finished Kodachrome 64 in Kinon roll 2 with crab spider & earwig

roll 3: Nikon 500 asa start with crab spider & earwig end with goldenrod shots hand:

Pentatomidae

Stratiomys

Eumenidae

malaise trap:

Polyphagidae

Syrphidae

Carolina anole with split tail near above ground fish tanks 5412

5413 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 8-9 October

1989 C. R. Nelson # 5413 10 malaise trap:

Phoridae

Dolichopodidae, Enlinia

Therevidae, Cyclotelus

Coniopterygidae

excess dumped in 4-11 Oct

saw Diogmites still flying

hand caught:

Tachinidae, Trichopoda

Stratiomyidae

Eumenidae

Bombyliidae, Lepidophora

Polacantha

Heteropogon 5413

5414 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 4-11 October

1989 C. R. Nelson # 5414 10 Stylopidae

Psychodidae, to Duckhouse

Phoridae to Brian Brown

Aculeates, send to CAS

Diptera send to CAS

Therevidae, Cyclotelus to CAS

Neuroptera Norm Penny

Mutillidae, to CAS

unsorted saved, all in alcohol 5414

5415 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 12-19 October

1989 C. R. Nelson # 5415 10 also 20 Oct 1989, BFL photos, Calliphoridae Phoridae

Psychodidae

Stratiomyidae

Mutillidae

Sphecidae

Acalypterates

Strepsiptera
spiders 5415

5415.1 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 25-Oct-1989

C. R. Nelson # 5415.1 10 scales for mealybug paper photos:

thumb photo: 1cm = 8mm scale length

photo 5 Orthezia with nymphs: 1cm=21.4 mm scale length

photo Orthezia blowup of crown: 1 cm=12.8 mm scale length

photo whole shrub: 10 cm = 2 cm scale length

Diaspididae: scaled during photo

Pseudococcids: 1 cm=12.5mm scale length

Coccidae: 1 cm=23.3mm scale length

5415.1

5416 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 26-Oct-1989

C. R. Nelson # 5416 10 collected with Entomology class

1st photos Heteropogon, last millipede curled? photographed Panorpidae

Heteropogon 5416

5417 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 20-31 October

1989 C. R. Nelson # 5417 10 malaise trap Polyphagidae

Tiphiidae? red with banded wings

Phoridae

Psychodidae

Strepsiptera

Coniopterygidae

Elateridae

many beetles

many acalypterates

many calypterates

Millipede

Opiliones

spiders

Sesiidae, pinned 5417

5418 USA TEXAS Blanco Co. Pedernales Falls State Park 28-Oct-1989 C. R. Nelson # 5418

10 camping with family, collected with Entomology class, arrived at Park about 10:30pm

after pack meeting at church Joe Dang rode with us. It started to rain so our whole family

slept crammed in our Toyota station wagon;
there is a nice spring below the Falls lookout, I didn't sample it but it looked promising!
Heteropogon on twip tips up to 40 feet in the air, observed courting
Proctacanthella cacopiloga
Stichopogon on rocks at beach
Ranatra
saw no stoneflies in river 5418

5419 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 01-Nov-1989 C.
R. Nelson # 5419 10 Heteropogon, 1 m, 1f with hydrophilid 5419

5420 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 1-6 Nov 1989 C.
R. Nelson # 5420 10 malaise trap malaise trap:

calypterates

acalypterates

phoridae

many Syrphidae, Eristalis? (added in 1997, probably Palpada)

Aculeates

Psychodidae

Strepsiptera

Coleoptera

Coniopterygidae

6 Nov 1989, hand collecting:

Photos:

Panorpa

Chrysopa

Nicoletiidae in nest of Solenopsis invicta, photos did not work

beetle larva

camel crickets, Rhadiophoridae

last of roll was Formica from Sanford's colonies. 5420

5421 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 08-Nov-1989 C.
R. Nelson # 5421 10 malaise trap Heteropogon 1 f with Typhlocybinae
1 f with Solenopsis invicta

Rhipiceridae

photos taken:

Heteropogon

Coreidae

Reduviidae

Rhipiceridae 5421

5422 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 7-14 Nov 1989 C.
R. Nelson # 5422 10 malaise trap

Mailed film to Dallas on 15th, arrived back in Austin on 18th hand collected:

Heteropogon more photos

Bombyliidae

Efferia photos

photo: Gomphocerinae grasshopper 5422

5423 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 14-20 Nov 1989
C. R. Nelson # 5423 10 malaise trap
5423

5424 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 22-Nov-1989 C.
R. Nelson # 5424 10 photos: armadillo
Carabidae, large outlined blue(1997: Passimachus?) 5424

5425 USA TEXAS Travis Co. Gill Ranch near Bee Cave 22-Nov-1989 C. R. Nelson # 5425
10 photo: Heptageniidae nymph with regenerated leg (1997: Stenonema femoratum) 5425

5426 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 27-Nov-1989 C.
R. Nelson # 5426 10 photos:

fox

Hesperiidae

Megachile

Xylocopa micans

Pogonomyrmex barbatus

Anthomyidae

Acrididae

Ammophila

Tettigoniidae

Diabrotica 5426

5427 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 17-Nov-1989 C. R. Nelson # 5427 10 aphids on roots of grass, *Erioneuron pilosum*, growing in experimental garden. Grown from seed collected from Pedernales Falls State Park; grass grown in 20 oz styrofoam cups

32x2=64, x3=192

first occurrence after planting 192 *E. pilosum* from cups, 0.5%

(1997, Huh? what does this mean?) 5427

5427.1 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 30-Nov-1989

C. R. Nelson # 5427.1 10 Photo session:

dark background with Nicoletiidae

1 front of flash at 3 inches

2 at 3

3 black, not flash

4 at 4

5 at 4

6 at 5

7 at 5

8 at 6

9 at 6

10 at 7

11 at 7

12 at 8

end of roll

all with sanford's 3 vivitar tubes: 36, 20, and 12mm

best results at 4-6 inches, 5 Dec 1989, CRN

(1997: I've been using this calibration successfully for 8 years now, with both KR 64 and Velvia 50) test photos! 5427.1

5428 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 21-28 Nov 1989

C. R. Nelson # 5428 10 malaise trap 5428

5429 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 29-Nov-1989 05-

Dec-1989 C. R. Nelson # 5429 10 malaise trap 5429

5430 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 06-Dec-1989 C.
R. Nelson # 5430 10 Heteropogon male perching on hackberry tree about 11 feet off
ground, High temp for day, 81 d F 5430

5431 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 6-11 Dec 1989 C.
R. Nelson # 5431 10 malaise trap 5431

5431.1 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m, sorting from the
Sierra Nevada of California 15-Dec-1989 C. R. Nelson # 5431.1 10 Giuliani sorting last
box, 15 Dec 1989

1 Baker Creek, 12 March 1989

Capnia utahensis 0m 4f

C. inyo 0m 1f

Zapada cinctipes 1m 0f

2 Coyote Creek, 13 March 1989

Capnia utahensis 0m 2f

3 McGee Creek, 13 March 1989

Capnia utahensis 0m 1f

C. inyo 0m 2f

Zapada cinctipes 0m 1f

4 Rock Creek, 13 March 1989

Capnia utahensis 1m 4f

5 Coyote Creek, 23 March 1989

Eucapnopsis brevicauda 0m 1f

6 McGee Creek 23 March 1989

Capnia utahensis 1m 1f

C. inyo 0m 3f

Zapada cinctipes 1m 0f

7 Rock Creek 23 March 1989

Capnia utahensis 0m 6f

Zapada cinctipes 0m 2f

8 Little Pine Creek 24 March 1989

Capnia utahensis 0m 2f
Zapada cinctipes 1m 0f

Parker Creek, 17 Feb 1989
Capnia shepardii-barberi hybrid?
vial 1 35m 23f
mating pairs, 17m 16f, one extra male?

5431.1

5432 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 12-20 Dec 1989
C. R. Nelson # 5432 10 malaise trap, during very cold snap, small amount of material
beetles: Cantharidae?
Ichneumonidae
Calypterates 5432

5433 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 21-26 Dec 1989
C. R. Nelson # 5433 10 malaise trap, during very cold weather quite a few Scatophagidae
and a few other things 5433

5434 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 26-Dec-1989 02-
Jan-1990 C. R. Nelson # 5434 10 malaise trap large amount of material 5434

5435 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 3-8 Jan 1990 C.
R. Nelson # 5435 10 malaise trap 5435

5436 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 8-15 Jan 1990 C.
R. Nelson # 5436 10 malaise trap 5436

5437 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 16-23 Jan 1990
C. R. Nelson # 5437 10 malaise trap 5437

5438 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 25-Jan-1990 C.
R. Nelson # 5438 10 malaise trap photographs taken:

Rick Miller in plots
Smilax
mistletoe
calliphoridae
Tettigoniidae eggs
Tillandsia

Lichens

cactus 5438

5439 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 24-29 Jan 1990 C. R. Nelson # 5439 10 malaise trap 5439

5439.1 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 30-Jan-1990 C. R. Nelson # 5439.1 10 took walk around BFL around noon, kept no specimens, saw no robber flies;

perimeter fence west to stream trail, stream trail to Panther trail, to Firefly Meadow to Economic Botany to NW corner to Lake, then small enclosure & building 5439.1

5440 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 30-Jan-1990 05-Feb-1990 C. R. Nelson # 5440 10 malaise trap

also on 5 Feb walked with Jim Jackson, saw Atta mound within 10 ft of Pogonomyrmex mound near W end of Boathouse, collected large Carabidae, photos taken large Carabidae, photos taken 5440

5441 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 09-Feb-1990 C. R. Nelson # 5441 10 Acrididae, uniform tan, cyrt. 5441

5442 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 5-12 Feb 1990 C. R. Nelson # 5442 10 malaise trap

12 Feb: photos taken of Sialis caught this day near economic botany green house flying around mesquite

Sialidae 5442

5443 USA TEXAS Travis Co. Austin, University of Texas Campus 13-Feb-1990 C. R. Nelson # 5443 10 helped by Rick Miller & Mike Olivares photos taken of opossum trapped in garbage can then on an oak tree 5443

5444 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 13-20 Feb 1990 C. R. Nelson # 5444 10 malaise trap

walked transect, saw no robber flies, air temp. about 55 d F

5444

5445 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 22-Feb-1990 C. R. Nelson # 5445 10 2 pm, caught in area of low grass with much open space near edge of juniper grove, caught near west border of economic botany gardens, perching directly on ground, air temp. about 60 d F, rain 1.1 inch yesterday, l f was perched on a grass stem 3 inches off ground, no prey items noted. Wind blowing hard. First robber flies of the new year. *Efferia snowi* 1m 5f, det 24 Feb 1990 5445

5446 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 23-Feb-1990 C. R. Nelson # 5446 10 *Efferia snowi*
Sialis velata 5446

5447 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 24-Feb-1990 C. R. Nelson # 5447 10 *Efferia snowi* mating pair
Sialis velata on lab building 5447

5448 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 26-Feb-1990 C. R. Nelson # 5448 10 *Efferia snowi* photos taken
Scarabaeidae, photo taken 5448

5449 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 20-25 Feb 1990 C. R. Nelson # 5449 10 malaise trap;

who changed jar? Not Jim Jackson or Sharon Ivker, Maybe Hook, yes he changed it Sunday 5449

5450 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 26-Feb-1990 05-Mar-1990 C. R. Nelson # 5450 10 malaise trap;

on 2 March 1990 I took pictures of laboratory colony of *Atta texana* (Buckley) *Sialis* along Town Lake

Camponotus pennsylvanicus ants at tree leaf bases 5450

5451 USA TEXAS Travis Co. Austin, Travis Heights 05-Mar-1990 C. R. Nelson # 5451 10 photos taken of hackberry logs with flat headed borer damage, corner of Kenwood & Live Oak 5451

5452 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 06-Mar-1990 C. R. Nelson # 5452 10 had difficulty with flash firing, a short in the cord, fixed.

photos taken:

diving spider

liverworts

Pogonomyrmex
sow bug
dandelion 5452

5453 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 09-Mar-1990 C. R. Nelson # 5453 10 also collected with Hook across river on Univ. Texas land on Red Bud Trail

photos taken of scenery, flowers, Berberis & water, death camas, buckeye, yellow composites

photos taken of Rick Miller, Jeanette Spinelli, & Dan O'Donnell, setting up bluebonnet plot; photos in green house for Rick Efferia snowi 2m, l with pupae skin
Raphidiidae, snakefly
5453

5454 USA TEXAS Travis Co. Austin, McKinney Falls State Park, small potholes 10-Mar-1990 C. R. Nelson # 5454 10 photos:
flowers
spiders
pothole mosquitoes & Ceratopogonidae

table top photos also taken at home, 60th at f32 5454

5455 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 6-12 May 1990 C. R. Nelson # 5455 & J. K. Gelhaus, & D. P. Koenig 10 malaise trap Leptogaster det CRN 1994
5455

5455.1 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 6-12 March 1990 C. R. Nelson # 5455.1 10 malaise trap jar changed, much material 5455.1

5456 USA TEXAS Travis Co. Lago Vista, NE of Austin 15-Mar-1990 C. R. Nelson # 5456 and family 10 specimens collected on Lohmann's Crossing Road near Hwy 1431 Raphidiidae, photo taken with Nikon

dung scarabaeidae at the Inn on Lake Travis 5456

5457 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 13-19 March 1990 C. R. Nelson # 5457 10 malaise trap jar changed

hand caught:

Sialidae

Tenthredinidae, photos

Stratiomyidae

also 16 March BFL, Carabidae photo

5457

5458 USA TEXAS Travis Co. Austin, Shoal Creek jct Greenlawn Parkway 12-Mar-1990 C. R.

Nelson # 5458 10 met

Dr. John Buckley of ACC,

Bob Rainey,

need name of man with spider tattoo,

and Austin Community College class excavating, photos taken, saw some bone

shark's teeth common in strata above dark shale

slab still in situ, 11 April 1990, skull uncovered 10 April 1990 site of Plesiosaur find 5458

5459 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 23-Mar-1990 C.

R. Nelson # 5459 10 Rick Miller brought me a fly puparium he collected in a clump of Bouteloua rididiseta on 22 March 1990 when I returned to Austin in the fall, approx 1 Oct 1990, it had emerged. Therevide

Laphria!! first siting, photo

many Efferia snowi seen

Otitidae photo 5459

5460 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 20-26 March

1990 C. R. Nelson # 5460 10 malaise trap jar changed, very full sample,

sawflies

Tenthredinidae? 5460

5461 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 27-Mar-1990 C.

R. Nelson # 5461 10 walked with Winnie Tong Stratiomyidae

ant lions 5461

5462 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 30-Mar-1990 C.

R. Nelson # 5462 10 walk at BFL with Jennifer Shiner from 301L and Sharon Ivker, who works in my lab green dung beetles on fungus, photos

Kelly Scott called it a phallic fungus

Stratiomyidae hovering
Efferia snowi

photo taken of fungal Mass

photo taken of small cocoon, caterpillar taken on *Berberis trifoliata*, fed on apical leaves during weekend then pupated, about 1 cm in length

photos taken of a meloid collected yesterday 5462

5463 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 27-Mar-1990 02-Apr-1990 C. R. Nelson # 5463 10 malaise trap jar changed

also 2 April 1990 photos:
caterpillars on *Berberis trifoliata*
ant mimic *Cerambycidae*

see also notes of #5472 5463

5464 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 03-Apr-1990 C. R. Nelson # 5464 10 walked transect:
few *Efferia snowi*

collected:
many Stratiomyidae (several genera) *Labostigmina* & *Nemotelus* on open flowers
Therevidae, 1f
Bombyliidae 2 humpbacked *Lepidophora*?
Tachinidae
sawfly
Cerambycidae, ant mimic
Otitidae, *Tritoxa* photo
Scarabaeidae 5464

5464.1 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 04-Apr-1990 C. R. Nelson # 5464.1 10 *Scarabaeidae*, photo taken on 6 April 1990 5464.1

5465 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 05-Apr-1990 C. R. Nelson # 5465 11 photo: *Xylacopa micans* on yarrow
Languriidae
Meloidae
Stratiomyidae, males of *Nemotelus* hovering, *Labostigmina* on yarrow

Efferia snowi 1m 2f saw others

Berytidae

Gelastocoridae 5465

5465.1 USA TEXAS Travis Co. Austin, Travis Heights 05-Apr-1990 C. R. Nelson # 5465.1 11
Cerambycidae, small brown at lights of laundry room, photo taken 6 April 1990 5465.1

5466 USA TEXAS Travis Co. Austin, Shoal Creek jct Greenlawn Parkway N 30.351207 W
97.741197 209 m, 07-Apr-1990 C. R. Nelson # 5466 and family along with Shaffer family
11 looked for fossils in Eagle Ford Shale near excavation of Plesiosaur; found: ammonite
Baculites, stingray teeth, Ptychodus whipplei Marcou ca 1850, det Jack H. McLellan 1990;
shark teeth; iron pyrite common; sawfish tooth, one; also some bivalves. Later in the week
Jack McLellan sent me a manuscript dealing with localities for fossils such as stingray
teeth and shark teeth. 5466

5467 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 07-Apr-1990 C.
R. Nelson # 5467 11 also added alcohol to malaise trap jar and talked to Larry Gilbert
Therevidae 5467

5468 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 02-Apr-1990 04-
Apr-1990 C. R. Nelson # 5468 11 malaise trap sample 5468

5468.1 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 10-Apr-1990 C.
R. Nelson # 5468.1 11 walked with Jonathan English from my Biology class Sialidae
photos:

Laphria 1m 1f

Buprestidae

rough green snake

Cecidomyiidae in split gall

Empididae

Otitidae

Efferia snowi 1m 1f 5468.1

5469 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 11-Apr-1990 C.
R. Nelson # 5469 11 metallic male spider, photo taken on pyrite
saw Sargus cuprinus looking Stratiomyidae 5469

5470 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 12-Apr-1990 C.
R. Nelson # 5470 11 Laphria near flavicollis? 4m 2f including one mating pair

Lobstigmia on yarrow

Microdon? Syrphidae

Efferia snowi 1m 1f

Oncometopa leafhopper, cicadellidae

Scarabaeidae in scorpioid cyme (1996- probably Phacelia congesta, CRN) 5470

5471 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 14-Apr-1990 C.

R. Nelson # 5471 11 tract west of lake (1996-converted to rich people houses several years ago, CRN)

collected on upland tract on west side of "river" Buprestidae

Syrphidae, Volucella

Scleropogon

Chrysopidae

Lycidae mimic moth, photo

Lestidae, Andrea's prize

Villa 5471

5472 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 16-Apr-1990 C.

R. Nelson # 5472 11 also collected and preserved some more of these caterpillars all moths emerged from pupae of #5463, caterpillars on Berberis trifoliata parasites have emerged as well

Braconidae 2 spp

7 of one

1 of other

5472

5472.1 USA TEXAS Travis Co. Austin, University of Texas 16-Apr-1990 C. R. Nelson #

5472.1 11 nest overhead, but no dead mammals or birds on ground fire ants eating smashed maggots. Boiled some saved some to rear, all died. maggots on sidewalk in front of Painter Hall 5472.1

5473 USA TEXAS Travis Co. Austin, Travis Heights 05-Apr-1990 C. R. Nelson # 5473 11

photos: termites from apartment on pencil, first test of new photo tube made from 2x converter, it worked well 5473

5474 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 09-Apr-1990 16-Apr-1990 C. R. Nelson # 5474 11 malaise trap sample 5474

5475 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 17-Apr-1990 C.

R. Nelson # 5475 11 Coreidae

Laphria 5475

5476 USA TEXAS Blanco Co. Pedernales Falls State Park, Pedernales River jct Regal Creek
18-Apr-1990 C. R. Nelson # 5476 and R. W. Baumann 11 Phasmidae m, photo
spiny caterpillar, photo

in river:

Elmidae

Isonychia

Perlesta nymphs

Naucoridae

Dryopidae (1996, might be Macrelmis not dryopid, not examined however, CRN)

Calopterygidae

Baumann kept:

Chimarra adults

Scarabaeidae from flower

Hydropsyche

Psychomyia flavida (1996, I doubt this CRN)

Lampyridae 5476

5477 USA TEXAS Blanco Co. Pedernales Falls State Park, Pedernales River at Falls 18-Apr-1990 C. R. Nelson # 5477 and R. W. Baumann 11 benthic sample:

Perlesta, a few

caddis

Mayflies

saw many Corydalus

Elmidae

Dryopidae

dry:

Coenagrionidae

Efferia

Osptiocerus

Simulium

Muscidae

Cicindelidae

Bombyliidae

Tachinidae

photos: Atta ants and juniper berries

scales on Cypress trees

Saldidae

Calopterygidae

photos of aquatic plants & pool (with Pentax) 5477

5478 USA TEXAS Travis Co. Austin, Travis Heights 18-Apr-1990 C. R. Nelson # 5478 and R.

W. Baumann 11 great purple hairstreak

photos, given to Larry Gilbert 5478

5479 USA TEXAS Washington Co. 8 mi SW of Brazos River, 12 mi SW of Navasota, Hwy 105

rest area 19-Apr-1990 C. R. Nelson # 5479 and R. W. Baumann 11 open sandy area, asilid

not on vegetated sand, on large open spots photos:

Proctacanthus brevipennis

Reduviidae Apiomerus

Scarabaeidae

Micropezidae

Tephritidae

Cerambycidae 5479

5480 USA TEXAS Montgomery Co. Caney Creek, Hwy FM 1791, about 5 mi NE of Richards

near benchmark 311 19-Apr-1990 C. R. Nelson # 5480 and R. W. Baumann 11 took

photos of scarab and Proctacanthus from previous stop here. Calopterygidae

Holopogon

photos:

Cerambycidae

caterpillars

Toxorhynchites, Culicidae

green flower scarabaeidae

Perlesta nymphs 5480

5481 USA TEXAS Montgomery Co. Antony Branch Caney Creek, Hwy 149 19-Apr-1990 C.

R. Nelson # 5481 and R. W. Baumann 11 east of Richards photos:

Milesia

Empididae, one with scales another with red eyes

green Scarabaeidae

Vespula 5481

5482 USA TEXAS Walker Co. Sam Houston National Forest, Stubblefield Lake Campground
19-Apr-1990 C. R. Nelson # 5482 and R. W. Baumann 11 Empididae, red eyes

Tenthredinidae

Mutillidae

Chrysomelidae

Leptoceridae, to Baumann

green Scarabaeidae

photos: tussock caterpillar taken in motel room 5482

5483 USA TEXAS Walker Co. Sam Houston National Forest, Roark Creek, Road 207, 10 mi E
of Huntsville 20-Apr-1990 C. R. Nelson # 5483 and R. W. Baumann 11 overcast, but warm,
about 80 degrees F

several saffrana perched low on vegetation and ground, mating pairs, tail to tail

Milesia tumbled on a stump while mating

I found a clearing where large pine trees had been cut and left (Maybe last year) abundant
Laphriinae!! Laphria saffrana!!! first time caught, good photos!

Laphria macquarti, photos

Laphria near flavicollis,

"Andrenosoma" good photos

Milesia, good photo

wasps

beetles

Pompilidae 5483

5484 USA TEXAS Walker Co. Sam Houston National Forest, Cobb Creek, Road 207, about
10 mi E of Huntsville 20-Apr-1990 C. R. Nelson # 5484 and R. W. Baumann 11 Laphria
saffrana

Machimus, photos

Holopogon

saw "Andrenosoma"

wasps

5484

5485 USA TEXAS San Jacinto Co. Winters Bayou, Hwy 150, about 10 mi SW of Coldspring
20-Apr-1990 C. R. Nelson # 5485 and R. W. Baumann 11 field label said Walker Co.

changed to San Jacinto Co. Isoperla adults, to Baumann
Laphria saffrana 5485

5486 USA TEXAS San Jacinto Co. East Fork San Jacinto River, Hwy 150, about 5 mi SW of Coldspring 20-Apr-1990 C. R. Nelson # 5486 and R. W. Baumann 11 Isoperla adults and nymphs
Neoperla? nymphs 5486

5487 USA TEXAS San Jacinto Co. Coldspring, Hwy 150, The Gulley 20-Apr-1990 C. R. Nelson # 5487 and R. W. Baumann 11 hand written map on how to get to Gulley in field notes. The key is to go down Woods Lane to where it makes a quick double bend. photos: *Ptychopteridae*, *Bittacomorpha clavipes* adults

Laphria flavicollis
Empididae
Vespula 5487

5488 USA TEXAS San Jacinto Co. Sam Houston National Forest, Double Lake Branch Big Creek, Road 220 about 4 mi S of Coldspring 20-Apr-1990 C. R. Nelson # 5488 and R. W. Baumann 11 photos:
Calopteryx maculata m & f, taken on site, photos dark
Vespula
Empididae, photo tossed
Spider on leaf, photo 5488

5489 USA TEXAS San Jacinto Co. Sam Houston National Forest, Big Creek Scenic Area, Road 217, Big Creek 20-Apr-1990 C. R. Nelson # 5489 and R. W. Baumann 11 photos: Fungi

Anthribidae on shelf fungi
Laphria saffrana
Vespula
Syrphidae, bumble bee mimic
Empididae, red eyed
Tipulidae, delicate
Sisyridae
5489

5490 USA TEXAS Trinity Co. Davey Crockett National Forest, Piney Creek, Road 3317, about 4 mi NE of Groveton 21-Apr-1990 C. R. Nelson # 5490 and R. W. Baumann 11 I got bit on

the right forearm by some "insect" (probably a fire ant) by evening the area was swollen over a 6 inch by 3 inch area, with a central yellow pustule. *Laphria flavicollis*

Laphria macquarti

Laphria saffrana

Vespula

bees

wasps

Cerambycidae

Syrphidae 5490

5491 USA TEXAS Houston Co. Davey Crockett National Forest, Wood Spring Branch Elm Creek, Hwy 7 about 1 mi W of Kennard 21-Apr-1990 C. R. Nelson # 5491 and R. W.

Baumann 11 collected a fossil nodule *Laphria flavicollis*

Laphria saffrana

Amphinemura, to Baumann

Reduviidae, black & orange, photos taken

Mycetophilidae

Ptychopteridae swept, Bittacomorpha

Swallowtail

Buprestidae

Pogonosoma

Rhagionidae

Bibionidae

Vespula 5491

5492 USA TEXAS Hays Co. Davey Crockett National Forest, 3 mi W of Ratcliff, Road 521, about 0.25 mi S of jct Roads 521 and 513 21-Apr-1990 C. R. Nelson # 5492 and R. W.

Baumann 11 Open understory, a fire had passed through then the hardwood trees had been cut down, specimens were sparse

Missed several attempts at collecting a Machimus.

Baumann collected a *L. saffrana* with an Ostomid as prey. The robber fly was perched on a stump. On the same stump a cast off large buprestid prey was also sitting. A dead scarab was found at the base of the stump. Is this an example of a feeding post set up in a laphriinae? *Laphria flavicollis*

Laphria small species, first time seen, photos

Rhagionidae, photos

Buprestidae, large, photos taken in motel

5492

5493 USA TEXAS Houston Co. Davey Crockett National Forest, Whiteley Creek, Hwy 227, 3 mi NW of Ratcliff 21-Apr-1990 C. R. Nelson # 5493 and R. W. Baumann 11 Laphria saffrana

Rhagionidae

Empididae

Mycetophilidae

Vespula for photo taken in motel

Amphinemura to Baumann 5493

5494 USA TEXAS Angelina Co. Neches River, Hwy 7, 23-26 mi SW of Nacogdoches 21-Apr-1990 C. R. Nelson # 5494 and R. W. Baumann 11 Sunday morning we slept in until 8:00 am, when I showered I found a small tick on my chest Gomphidae, 1 f 5494

5495 USA TEXAS Nacogdoches Co. Naconiche Creek, Hwy 1087, about 14 mi N of Nacogdoches 22-Apr-1990 C. R. Nelson # 5495 and R. W. Baumann 11 collected with Elray Nixon, a mormon botanist at Stephen F. Austin University. We met him at church.

Ptychopteridae

Tipulidae

Apiomerus

Baumann:

Perlidae nymphs

Mayfly nymphs

Corydalidae larvae

dry upland tract:

Bombyliidae

Tachinidae

5495

5496 USA TEXAS Nacogdoches Co. "Muse" Spring, tributary of Amaloderos Creek, Chireno 22-Apr-1990 C. R. Nelson # 5496 and R. W. Baumann 11 on Perry Muse's ranch. We met him at church. He is the former branch president. Ptychopteridae, Bittacomorpha, good long series

Anisopodidae

Amphinemura, one

caddis adults

5496

5497 USA TEXAS Sabine Co. Borregas Creek, Hwy 21, 1 mi W of Milam 23-Apr-1990 C. R. Nelson # 5497 and R. W. Baumann 11 Perlesta, adults and nymphs, to Baumann
Chrysomelidae, Microrhopala?
Gyrinidae larvae 5497

5498 USA TEXAS Sabine Co. Moss Creek, 2 mi N of Milam, Hwy 87, near Red Hills Lake Campground 23-Apr-1990 C. R. Nelson # 5498 and R. W. Baumann 11 probably the same creek where Ed DeWalt collected Amphinemura:

TX: Sabine Co.

springbrook, 2 mi N Milam, Hwy 87

22 April 1987

Ed DeWalt Amphinemura to Baumann

Laphria flavicollis

Tenthredinidae

Cerambycidae

Ptychopteridae, Bittacomorpha

to Baumann:

caddisfly adults, black

Tabanidae

Elateridae 5498

5499 USA TEXAS Shelby Co. Brittain Creek, Road 126, about 2 mi SE of Goober Hill , 4 mi E of Patroon 23-Apr-1990 C. R. Nelson # 5499 and R. W. Baumann 11 4 mi E of Patroon

Laphria saffrana

Laphria flavicollis

Laphria macquarti

Cerambycidae

Buprestidae

Vespula carolina

Tachinidae

Agapostemon

Tabanidae

photos: macromyid, in motel, m kept alive 5499

5500 USA TEXAS Shelby Co. Sabine National Forest, Sanders Creek, Road 126, 3 mi NE of Goober Hill 23-Apr-1990 C. R. Nelson # 5500 and R. W. Baumann 11 photos:

Membracidae

Lauxaniidae
beetles 5500

5501 USA TEXAS Shelby Co. Sabine National Forest, Sanders Creek, Boles Field, 304 feet
23-Apr-1990 C. R. Nelson # 5501 and R. W. Baumann 11 *Laphria saffrana*

Lampyridae
Lycidae, photo
Empididae 5501

5502 USA TEXAS Shelby Co. Sabine National Forest, Sanders Creek, Brushy Creek, above
Ragtown Campground, Road 132 23-Apr-1990 C. R. Nelson # 5502 and R. W. Baumann 11
photos taken of insects in loblolly pine resin.

This area had piles of mostly hardwood logs.

many medium sized bups were drumming and mating on oak logs. females were
ovipositing. *Laphria saffrana*

photos:

Buprestidae many medium, one large

Torymidae, parasite of buprestidae

Largidae

Chrysididae
5502

5503 USA TEXAS San Augustine Co. Sabine National Forest, Turkey Creek, Hwy 1992, about
8 mi N of Broadus 24-Apr-1990 C. R. Nelson # 5503 and R. W. Baumann 11 Perlidae
nymphs

caddis adult

millipedes

all to Baumann

Empididae 5503

5504 USA TEXAS San Augustine Co. Angelina National Forest, Prairie Creek, Road 300, off
Hwy 1277, 3 mi NW of Broadus 24-Apr-1990 C. R. Nelson # 5504 and R. W. Baumann 11
Proctacanthus in sandy soil, small openings in long leaf pine forest, opening about 250 m
squared, at most

photos:

Proctacanthus brevipennis in openings

edge:

Laphria saffrana

in woods:

Rhagionidae

Lampyridae

Bombyliidae

Reduviidae, mating pair, photos

to Baumann:

Perlesta adults and nymphs 5504

5505 USA TEXAS Angelina Co. Bayou Springs Creek, Hwy 2743, 5 mi E of Zavalla 24-Apr-1990 C. R. Nelson # 5505 and R. W. Baumann 11 *Laphria saffrana*

photos: Bittacidae

Reduviidae

Scarabaeidae

Rhagionidae 5505

5506 USA TEXAS Angelina Co. Angelina National Forest, Boykin Spring Campground 24-Apr-1990 C. R. Nelson # 5506 and R. W. Baumann 11 *Machimus* collected on grassy flats near picnic area to Baumann:

Perlesta adults and nymphs

Reduviidae

photos:

Machimus

Hermetia

large spider

Vespula

5506

5507 USA TEXAS Jasper Co. Four Mile Creek, 4 mi N of Jasper, above Hwy 96 24-Apr-1990 C. R. Nelson # 5507 and R. W. Baumann 11 *Proctacanthus brevipennis*

Mutillidae

Vespidae

Reduviidae

Bombyliidae

Gomphocerinae grasshopper

to Baumann:

Perlesta

caddisflies 5507

5508 USA TEXAS Jasper Co. Sandy Creek, Hwy 777, Beech Grove 24-Apr-1990 C. R. Nelson # 5508 and R. W. Baumann 11 on Hwy 777 about 0.5 mi S of Hwy 190 in Beech Grove, houses nearby photos: *Paragnetina fumosa*

Perlesta

Calopteryx, 2 spp. very abundant, maculata very common, dimidiata less so.

Tipulidae, 1 m 1 f *Brachypremna* 5508

5509 USA TEXAS Tyler Co. Big Cypress Creek, Hwy 190, 6 mi W of Woodville 24-Apr-1990

C. R. Nelson # 5509 and R. W. Baumann 11 Perlesta m

Chrysomelidae, *Microrhopala*

Mayflies, 2 spp. males

Tipulidae

Cerambycidae

Scolytidae, one on log of long leaf pine 5509

5510 USA TEXAS San Jacinto Co. Little Creek, Road 218, 3 mi SE of Coldspring 25-Apr-

1990 C. R. Nelson # 5510 and R. W. Baumann 11 Carabidae, large red

Ptychopteridae 5510

5511 USA TEXAS Montgomery Co. Peach Creek, Hwy 105, about 8 mi W of Cleveland 25-

Apr-1990 C. R. Nelson # 5511 and R. W. Baumann 11 sawfly larvae abundant on one birch

tree near water, put some in alcohol, kept some alive, gave a series to Baumann caddis

adults to Baumann

Laphria saffrana

Laphria flavicollis

bumble bee model

Passalidae

Tenebrionidae

Ptychopteridae

sawfly larvae 5511

5511.1 USA TEXAS Lee Co. Wildlife management Area, 10-15 miles near Dimebox, on Hwy 180, road to Somerville Lake 25-Apr-1990 C. R. Nelson # 5511.1 and R. W. Baumann 11 softshell turtle, very large, crossing road 5511.1

5512 USA TEXAS Gillespie Co. Pedernales River, Hwy 16, 9 mi SW Fredericksburg 27-Apr-1990 C. R. Nelson # 5512 and R. W. Baumann 11 all to Baumann:

Perlesta 2 m

Perlidae nymphs

Hydropsychidae larvae & 1 adult

Mayfly nymphs:

Heptageniidae

Isonychia

Dryopidae

Elmidae

Curculionidae

Chrysomelidae

Buprestidae

Corydalidae

5512

5513 USA TEXAS Kerr Co. South Fork Guadalupe River, Hwy 39, Camp Arrowhead, 5 mi SW of Hunt 27-Apr-1990 C. R. Nelson # 5513 and R. W. Baumann 11 No stoneflies seen.

Why? It is a beautiful river. Corydalidae

Isonychia

Gomphidae

Dryopidae

Naucoridae

Stratiomyidae 5513

5514 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 m 16-Apr-1990 25-Apr-1990 C. R. Nelson # 5514 and A. W. Hook 11 Al Hook changed malaise trap on Wednesday instead of Monday 5514

5515 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 m 26-Apr-1990 30-Apr-1990 C. R. Nelson # 5515 11 malaise trap sample; note this is a five day sample instead of seven 5515

5516 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 m 01-May-1990 C. R. Nelson # 5516 and Rafael Marquez 11 walked "transect" Efferia snowi Efferia different species f

Sphecidae
Vespidae
Scarabaeidae
small ants 5516

5517 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 m 03-May-1990 C. R. Nelson # 5517 and Celia Stuart and A. W. Hook 11 walked with Celia Stuart, student from Entomology, last fall. She kept a couple caterpillars *Efferia*, photos of m feeding on f, after mating 5517

5518 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 m 04-May-1990 C. R. Nelson # 5518 and A. W. Hook 11 photos taken of tarantula, *Aphonopelma* sp. caught by Kelly Scott (Theraphosidae) *Efferia snowi* and 2 spp.

Triepeolus
Bombyliidae, 3 genera
Tachinidae
Mutillidae male
Chrysididae
Buprestidae
5518

5519 USA TEXAS Bastrop Co. Sayersville, County Road 49 05-May-1990 C. R. Nelson # 5519 and A. W. Hook 11 collected in sandy areas, disturbed by humans; Al and I collected at several locations along county road 49 and 179. I swept up to 30 at a time from the track of a sandy road, I aspirated others singly. We also collected some pieces of petrified wood from red layers containing more clay than the predominant sand. Eumenidae

Proctacanthus brevipennis
Bombyliidae
Sphecidae
Pompilidae
Scarabaeidae
Cerambycidae
Chrysididae
Holopogon
Townsendia? more than 125
yes, probably *pulcherrima*, based on Bromley 1934, flying around open patches of sand, the males were courting females by hovering in front of them
Tachinidae
Tephritidae

Micropezidae

spider 5519

5520 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 m 01-May-1990 07-May-1990 C. R. Nelson # 5520 11 malaise trap sample 5520

5521 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 m 08-May-1990 C. R. Nelson # 5521 11 spider: mimic of leaf cutter ant
Stratiomyidae 5521

5522 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 m 09-May-1990 C. R. Nelson # 5522 11 Pompilidae on desk in lab building 5522

5522.1 USA TEXAS Travis Co. Austin, 10-May-1990 C. R. Nelson # 5522.1 11
photographed large Rhinoceros beetle collected in Austin recently by Chris Johnson
Rhinoceros beetle 5522.1

5523 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 m 08-May-1990 14-May-1990 C. R. Nelson # 5523 11 malaise trap sample 5523

5524 USA TEXAS Blanco Co. Pedernales Falls State Park, Falls Area 14-May-1990 C. R. Nelson # 5524 and A. W. Hook & John A. Neff 11 parked at fall lot and walked down to river and also away from river on dirt road about 200 yards before parking lot. Jack Neff watched *Perdita texana* bees near "duck pond", I also collected in this area. *Efferia* 4 spp., photos taken of elongate species

photos:

Atomosia

Psilocurus

Tipulogaster

Leptogaster

Ospricerus abdominalis and *longulus*

Cicadidae, small green

Stratiomyidae, *Nemotelus*, 2 spp?

Bombyliidae

Syrphidae, strange long legged ovipositor (1996, this was probably Conopidae,

Stylogaster!, CRN)

Sphecidae

photo: Acrididae, *Pedioscirtes*

5524

5524.1 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m ss May 1990 C. R. Nelson # 5524.1 11 rainfall records from BFL recorded in handwritten field book. John Crutchfield also maintains such a record. 5524.1

5524.2 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 15-May-1990 C. R. Nelson # 5524.2 and A. W. Hook 11 caught by Al Hook at home in Austin, near 7 mi N Hwy 183, FM 1316 photos of Atomosia 5524.2

5525 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 16-May-1990 C. R. Nelson # 5525 and E. Vargo 11 I walked around the "transect" with Diana Roberts and Danforth _____, collecting a few flies.

Ed Vargo showed me something he found in the ovaries of a *Solenopsis invicta* queen. A Stylopidae! (Myrmecolacidae).

Thought to be a new record. I keyed it using Bohart, 1941, clearly, *Caenocholax fenyesi* (May be aedeagal differences). It is also the same strepsipteran I caught in numbers in the malaise trap last Fall! I collected many (a long series) from the curtains and windows in the Formicary. Efferia 2 spp f first seen

Atomosia

Microdon

Eutreta

Stratiomyidae

Elateridae

STREPSIPTERA 5525

5526 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 17-May-1990 C. R. Nelson # 5526 and E. Vargo 11 walked with Jack Neff & Steve Jones (of SW Texas State) to strepsiptera infested *Pseudopanurgus* nests near fish tank clearing. I finally sent off the *Paraponera* paper to Insectes Sociaux.

I also did library research on strepsiptera and dug several fire ant colonies looking for queens with Strepsiptera. Laphria

Carabidae 5526

5527 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 18-May-1990 C. R. Nelson # 5527 11 I watched *Crawfordia* fly around nesting site of *Pseudopanurgus*. I came back to BFL at 1:30 am (actually 19 May 1990) to watch *Atta texana* queen launching with Larry Gilbert and Ed Vargo. Strepsiptera photos, *Crawfordia* male Tachinidae photos

Stylopized *Pseudopanurgus texanus*
saw male *Promachus painteri*
Syrphidae photos
photos: spider on composite 5527

5528 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 m 15-May-1990 21-May-1990 C. R. Nelson # 5528 11 malaise trap sample, changed after a bad hail storm.
5528

5529 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 22-May-1990 C. R. Nelson # 5529 11 Diemer Fife of 113 W Johanna brought in a "small" male scarab,
Strategus *Promachus* photo
Ascalaphidae photo
Cassidinae photo
Stratiomyidae photo 5529

5530 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 23-May-1990 C. R. Nelson # 5530 11 photos:
morning
Otitidae on fresh fox dung; (1996 or is this an Anthomyiidae, CRN) 5530

5531 USA TEXAS Travis Co. Austin, Shoal Creek, jct Greenlawn Parkway 23-May-1990 C. R. Nelson # 5531 and A. W. Hook 11 found fossil teeth of sharks & rays in the upper member of the Eagle Ford Shale and lowermost Austin Chalk. Al also found part of a jaw of a larger beast. 5531

5532 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 25-May-1990 C. R. Nelson # 5532 11 *Laphria flavicollis*
photo: *Promachus bastardii*
Tachinidae
Syrphidae
Stratiomyidae 5532

5533 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170 m 22-May-1990 28-May-1990 C. R. Nelson # 5533 11 malaise trap sample, full sample, I pulled a very large *Mydas clavatus* female from the sample and pinned it. *Mydas clavatus* 5533

5534 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 28-May-1990 C. R. Nelson # 5534 11 *Promachus bastardii*, good series
Efferia aestuans 1m 1 f, first m
Stratiomyidae
Tiphidae

Tachinidae

Micropezidae

Leptogastridae 1m 5534

5535 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 30-May-1990 C. R. Nelson # 5535 11 Al Hook and Jack Neff went collecting at Sayersville in Bastrop Co. caught 11 species of robber flies. I took photos of *Proctacanthus* n. sp. near *longus* and *Nemomydas hooki* that they caught there. *Promachus bastardii* mm ff

Promachus painteri 1m

Philonicus ? 1 f

Cerambycidae

Otitidae, Tritoxa?

Stratiomyidae

Photos: *Mydas clavatus* 3 m

I caught perching on log, others in flight 5535

5535.1 USA TEXAS Travis Co. Austin, Brackenridge Field Laboratory, 170m 31-May-1990

C. R. Nelson # 5535.1 11 *Mydas*

Promachus bastardii

Laphria macquartii

Conopidae 5535.1

5536 USA NEW MEXICO Rio Arriba Co. 8 mi N of Abiquiu 02-Jun-1990 C. R. Nelson # 5536 and family 11 notes written under protest, by Kaye . . . Asilidae:

photos:

Scleropogon

Efferia 2 spp.

Dicropaltum 1f?

Sphecidae

Cicadidae 5536

5537 USA COLORADO: La Plata Co. tributary of Lime Creek, Hwy 550, 1 mi N of Coal Bank Pass, 10000 ft. 02-Jun-1990 C. R. Nelson # 5537 and family 11 no stoneflies seen. swept willow just breaking bud, other willow in pussy willow stage. Tenthredinidae 5537

5538 USA UTAH: Grand Co. 1.5 mi N of Crescent Junction, Thompson Pass Road 03-Jun-1990 C. R. Nelson # 5538 and family 11 *Atriplex confertifolia* site.

took SCI: 2 2 3 2 3 3 2 2 2 2 , average 2.3, no sign of bluebonnets

checked metal tags:

number	condition
1	2
2	2
3	2
4	2
5	3
6	2
7	2
8	1
9	3
10	2
11	1
12	2
13	2
14	3
15	2
16	3
17	1
18	2
19	2
20	2

5538

5539 USA UTAH: Carbon Co. 15 mi S of Price, jct Hwys 6 and 123 03-Jun-1990 C. R.

Nelson # 5539 and family 11 *Dicropaltum* 1 m

photos: *Cyrtopogon ablautoides* 1

Calliphoridae

photos:

Nicoletiidae in nest of *Pogonomyrmex occidentalis*? 5539

5540 USA UTAH: UtahCo. Orem, sandy bench on 12th S near jct I-15 08-Jun-1990 C. R.

Nelson # 5540 12 Conopidae

Myrmeleontidae 5540

5541 USA UTAH: UtahCo. Mount Timpanogos, Stewarts Cascade 09-Jun-1990 C. R.

Nelson # 5541 12 Meloidae, *Lytta*? green on cool season grass

Buprestidae

Elateridae

Bombyliidae, Conophorus

Asilidae, Lasiopogon male

Megarcys sp, f

Zapada cinctipes, discarded

Paraleuctra occidentalis, discarded 5541

5542 USA UTAH: Box Elder Co. Brigham City, 211 N 300 W N 41.5155 W 112.0198 14-Jun-1990 C. R. Nelson # 5542 12 This ash tree has harbored numerous Scolytidae and Sesiidae photos: Pteromalidae, parasites laying eggs in bark of green ash

5542

5543 USA Maryland: Prince Georges Co. Beltsville Agric. Research Center East 28-Jun-1990 C. R. Nelson # 5543 R. F. Whitcomb 12 Proctacanthus brevipennis f Machimus f 5543

5544 USA Maryland: Baltimore Co. Soldiers Delight Environmental Area 29-Jun-1990 C. R. Nelson # 5544 R. F. Whitcomb 12 a serpentine barrens where chromite was mined, especially from 1828-1850

future type locality of a chartreuse and maroon Limotettix n. sp. perhaps on Eleocharis or Panicum.

also chartreuse & maroon Polyamia epicata Amphinemura ff

photos: ant-mimic Salticidae

photos: Cicadellidae, Neocolla hieroglyphica

Tipulidae

Cassidinae, green

no robber flies 5544

5545 USA Maryland: Montgomery Co. Pooleville Offut Road at Willard Road 30-Jun-1990 C. R. Nelson # 5545 R. F. Whitcomb 12 near pond Efferia aestuans, mating pair 5545

5545.1 USA Maryland: Montgomery Co. Whites Ferry, Potomac River 30-Jun-1990 C. R. Nelson # 5545.1 R. F. Whitcomb 12 photo taken of Potomac River 5545.1

5546 USA VIRGINIA: Clarke Co. Shenandoah River, Hwy 7 30-Jun-1990 C. R. Nelson # 5546 R. F. Whitcomb 12 2 grass specimens, Elymus virginianus? and ? 5546

5547 USA WEST VIRGINIA: Hampshire Co? North River Mill? 30-Jun-1990 C. R. Nelson #

5547 R. F. Whitcomb 12 Perlesta

Isoperla

Leuctra

Amphinemura?

Holopogon photo

Machimus photo

two stops along "river", photos: ermine moth, sacrophagidae, Japanese beetles (Popilla japonica), flies at dead caterpillar, Reduviidae, Mystacoides leptoceridae 5547

5548 USA WEST VIRGINIA: Grant Co. Patterson Creek, 1 mi N of Medley 30-Jun-1990 C. R.

Nelson # 5548 R. F. Whitcomb 12 Amphinemura 1m

swept flies, many Lonchopteridae 5548

5549 USA WEST VIRGINIA: Tucker Co. Dolly Sods, bogs S of Red Creek Campground 30-

Jun-1990 C. R. Nelson # 5549 R. F. Whitcomb 12 Leuctra, common in barely wet bog

Cultus?, 1 specimen in very small stream, 10 cm wide by 1 cm deep 5549

5550 USA WEST VIRGINIA: Tucker Co. Red Creek at Laneville 30-Jun-1990 C. R. Nelson #

5550 R. F. Whitcomb 12 skinned my shin slipping down a hillside Pallopteridae

Clusiidae

Caddis flies 5550

5551 USA WEST VIRGINIA: Tucker Co. small trib. Blackwater River, 1.5 m S of Davis 30-

Jun-1990 C. R. Nelson # 5551 R. F. Whitcomb 12 swept, especially on hemlock Leuctra, common

Nemouridae

5551

5552 USA WEST VIRGINIA: Tucker Co. small stream in strip mined area, 4-5 mi E jct Hwy 32,

N of Davis 30-Jun-1990 C. R. Nelson # 5552 R. F. Whitcomb 12 Leuctra

Empididae

other flies

Holopogon? 5552

5553 USA WEST VIRGINIA: Hampshire Co. Romney, South Branch Potomac River? 30-Jun-

1990 C. R. Nelson # 5553 R. F. Whitcomb 12 at lights at 7-11 store and McDonalds

Perlesta, dusky

Perlesta, yellow

Perlodinae? medium

5553

5554 USA WEST VIRGINIA: Hampshire Co. North River jct Hwy 50 W of Capon Bridge 30-Jun-1990 C. R. Nelson # 5554 R. F. Whitcomb 12 at lights at convenience store; halfway between Capon Bridge and Augusta on Hwy 50 at jct road to Rio Acroneuria

Perlesta

yellow perlidae

Corydalis cornutus

Ascalaphidae, good photo

Stratiomyidae 5554

5555 USA WEST VIRGINIA: Hampshire Co. Cacapon River, Capon Bridge 30-Jun-1990 C. R. Nelson # 5555 R. F. Whitcomb 12 Perlesta

yellow perlid, photo at Bob's house

discarded dead and dried Acroneuria

Stratiomyidae

Asilidae

photo: coke machine 5555

5556 USA MaryLAND: Montgomery Co. Potomac, 10610 Belfast Place 04-Jul-1990 C. R. Nelson # 5556 R. F. Whitcomb 12 I finished the roll then started another at Beltsville, see 5557, returned to Potomac and photographed dragonfly on car radio antenna, and gray tree frog, *Hyla versicolor* that fell (unharmd) from 45 feet in a tulip poplar photos: I finished photographing Perlesta from 5555 then many insects around Whitcomb home

Chironomidae

Xylophagidae? ovipositing, might have been Stratiomyidae, *Hermetia illucens*.

Asilidae: Laphria

Machimus

Lampyridae

fungus

Stratiomyidae

leaf & fungus

Hyla versicolor 5556

5557 USA MaryLAND: Prince Georges Co. Beltsville Agric. Research Center East, near beneficial insects building 04-Jul-1990 C. R. Nelson # 5557 R. F. Whitcomb 12 photos: moths with egg cases, I discovered later they were gypsy moths, *Lymantria dispar* box turtle shell

club mosses

black widow?

found a dead corydalidae on picnic table

saw a mating pair of Tipulogaster, they escaped 5557

5558 USA MARYLAND: Montgomery Co. Potomac, 10610 Belfast Place 08-Jul-1990 C. R. Nelson # 5558 R. F. Whitcomb 12 Leptogaster
saw several near dusk, hovering over mixed vegetation 5558

5559 USA IDAHO: Bear Lake Co. Emigration Canyon Campground 14-Jul-1990 C. R. Nelson # 5559 with Jason, Andrea, Amy, Winston, and Kaye 12 photos: Plecoptera, Sweltsa, also kept specimens

snowshoe hare
pine trees, Engelmann Spruce, lodgepole pine, White? fir
cones
Mimulus
water in stream 5559

5560 USA UTAH: Rich Co. Limber Pine Trail, summit Logan Canyon, Hwy 89 14-Jul-1990 C. R. Nelson # 5560 with Jason, Andrea, Amy, Winston, and Kaye 12 walked to Limber Pine on Forest Service Trail took photos of sego lily, Old Limber Pine, ended with Orchid, Corallorhiza? (spelling?) 5560

5561 USA UTAH: Box Elder Co. Brigham City, 211 North 300 West N 41.5155 W 112.0198 19-Jul-1990 C. R. Nelson # 5561 with Jason, Andrea, Amy, Winston, and Kaye 12 on 18 Jul I videotaped Andrenosoma fulvicauda, a robber fly, in a green ash tree, also elm beetles, earwigs, etc, good photos of scale insects also spider: Dysderus crocatus; At night, My wife Kaye had a boxelder bug crawl into her ear while she slept. It was probably in her ear for 10 minutes. Kaye was extremely disturbed as well as in pain. She described the experience as "horrible". Evidently it bit her because she removed a small amount of blood on a swab. I finally was able to remove the bug with forceps when it came part way out. She was still experiencing pain when she woke up the next morning. Cerambycidae wasp mimic

I also collected a small beetle, probably Nitidulidae, from Andrenosoma

boxelder bug

Dysderus crocatus 5561

5562 USA UTAH: Box Elder Co. Bear River, Old Fielding bridge 19-Jul-1990 C. R. Nelson #

5562 12 Leptoceridae

Tephritidae, Paracantha?

acalypterate fly

Cerambycidae

photos: horned caterpillar on *Salix exigua*, pupated in lab 22 July 1990, after feeding on *Salix exigua*; emerged 31 July 1990, viceroy 5562

5563 USA UTAH: Utah Co., 12 mi E of Thistle, Hwy 6/50, Wheeler sawmill 21-Jul-1990 C.

R. Nelson # 5563 12 photos: *Machimus occidentalis* with *Musca domestica* 5563

5564 USA UTAH: Box Elder Co. 3 mi S of mantua, Nelson Ranch, CM Place 22-Jul-1990 C.

R. Nelson # 5564 12 I took photographs at a Grant Nelson family reunion. I particularly took photos of Rhea (Nelson) Anderson, Winston Nelson, Jean Nelson, Gloria Nelson, Nola Nelson, Nancy Nelson, Clyde Nelson, and many spouses & children. collected an interesting piece of fossil coral 5564

5565 USA UTAH: Box Elder Co. Brigham City, 211 North 300 West N 41.5155 W 112.0198

22-Jul-1990 C. R. Nelson # 5565 12 photos: family: Winston P. Nelson, W. Randall Nelson, C. Riley Nelson, J. Kaye Nelson, Jason R. Nelson, Andrea J. Nelson, Amy L. Nelson, also Earl Olsen photos: Reduviidae, *Reduvius personatus*; and Cali our calico kitten 5565

5565.1 USA UTAH: Daggett Co. Browns Park at Colorado border, 0.5 mi W 21-Jul-1990

5565.1 B. Austin Haws 12 I wasn't present, but B. Austin Haws reported.

Data from Haws:

In digging 10 plants on a transect, 6 had *Orthezia* and 2 had *Cerooplastes*

same transect site as sampled by C. R. Nelson #5258 *Orthezia*; *Camponotus vicinus* guarding them; Asilidae: *Ospriocerus abdominalis* 5565.1

5566 USA UTAH: Utah Co., Orem, sandy hill, near Utah Vally Community College 28-Jul-

1990 C. R. Nelson # 5566 M. F. Whiting 12 photo: *Proctacanthus nearno* with wasp prey; *Diogmites grossus*

Proctacanthella cacopiloga

Stichopogon salinus

Sphecidae 5566

5567 USA UTAH: Utah Co., 12 miles E of Thistle, Hwy 6/50, Wheeler Sawmill 28-29 July

1990 C. R. Nelson # 5567 and family 12 light: caddis adults, Bostrichidae, stonefly

Sweltsa?, Empididae came to light at dusk, acalypterates; also saw a young nymph of a

walkingstick;

malaise trap: Leptogaster 5567

5568 USA UTAH: Utah Co., Provo, BYU Atriplex Garden 30-Jul-1990 C. R. Nelson # 5568 B. A. Haws 12 in Stutz's Atriplex garden; We also sampled a mixed bunch of plants of different ploidy levels for Monoxia. All 0 except 1 2x.

We had a good talk with Howard Stutz related to the paper we are writing on ploidy detection in shadscale beetles beat from various accessions of shadscale; Pseudococcidae & ants on shadscale 5568

5569 USA UTAH: Tooele Co. Rush Valley, 0.5 mi W of Faust Railroad Station 31-Jul-1990 C. R. Nelson # 5569 12 1 low

Plant health

0 1 2 3

2 0 0 0

1 1o 0 0

3 5o 0 0

1 0 0 1oMyrmica

1 25o 1o 1o

3 0 0 0

3 27o 0 2o

0 3o 1o 0

SCI=1.8

2 high

2 0 0 5pseud 2 parasitized

3 0 0 0

1 0 0 0

2 0 0 0

1 0 0 0

2 0 0 0

3 0 0 0

3 0 0 0

2 1o 47o 35oCamp vic; soft soil hillock, near Pogo nest

3 0 0 0

SCI = 2.2

photos: Promachus; Megaphorus; grasshopper; one Megaphorus with Sphecid and camel cricket; also photo of parasitized Pseudococcidae 5569

5570 USA UTAH: Box Elder Co. Brigham City, 211 North 300 West N 41.5155 W 112.0198
05-Aug-1990 C. R. Nelson # 5570 12 Asilidae: *Andrenosoma fulvicauda* on *Fraxinus pennsylvanica* var *lanceolata* = green ash; photo taken at USU 8 August 1990 KR, Nikon
5570

5571 USA UTAH: Box Elder Co. Brigham City, 211 North 300 West N 41.5155 W 112.0198
08-Aug-1990 C. R. Nelson # 5571 12 morning: *Cerambycidae* on wall, attracted to light
from previous night;

afternoon: *Andrenosoma fulvicauda* with *Callibaetis subimago*, photos 5571

5572 USA UTAH: Utah Co., 12 mi E of Thistle, Hwy 6/50, Wheeler Sawmill 12-Aug-1990 C.
R. Nelson # 5572 12 malaise trap: *Leptogaster*, *Myrmeleontidae*, *Bombyliidae*

UV light: *Coloradia* moths, *saturniidae* (2)

Diogmites grossus female

Oestris ovis 5572

5573 USA TEXAS: Randall Co. Palo Duro Canyon State Park 22-Aug-1990 C. R. Nelson #
5573 12 good collecting area in riparian zone. I would liked to have tried uplands as well.
Collected in Hackberry Campground in stabilized sand. *Diogmites* flew no more than 30
cm above ground.

also took pictures of corn: Texas: Dallam Co., Dalhart Asilidae: *Diogmites*,
Proctacanthella, photo of *Proctacanthus nearno*, *Megaphorus*

Cicadidae

Sphecidae

Cicindelidae

Tabanidae

5573

5574 USA TEXAS: McCulloch Co. 20 mi N of Brady, Hwy 283 23-Aug-1990 C. R. Nelson #
5574 12 at beginning of hills. photo taken at Shaffer's in Austin.

We passed through Brady again on 2 January 1999 on our way back from Utah and
Colorado. We traveled down Hwy 71 at 11:00 am when it was 39dF outside. It was much
colder than it was in August of 1990. We'll be moving to Provo next August. Will I ever see
Brady, population 6000 again? Acrididae: giant short winged adults on road, lubbers

5574

5575 USA TEXAS: Travis Co. Austin, southside, Circle C Ranch 25-Aug-1990 C. R. Nelson # 5575 12 Shaffer's in Austin. Asilidae: Atomosia, many with prey, photos taken 5575

5576 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 22 - 28 August 1990 C. R. Nelson # 5576 12 malaise trap 5576

5577 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 22 - 28 August 1990 C. R. Nelson # 5577 12 found an indian artifact in newly cleared area between culvert fish ponds and tall building, left in BFL Library collection Proctacanthella cacopiloga 5577

5578 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 28-Aug-1990 03-Sep-1990 C. R. Nelson # 5578 12 photo: termite nest, Proctacanthella 5578

5579 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 06-Sep-1990 C. R. Nelson # 5579 Kim Blackmon

Beth Bolyard

Tim Droemer

Dara Fariss

Ron Kramer

David Orange

Armin

Melody Lytle 12 light trapped with entomology students Blaberidae: green 5579

5580 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 04-Sep-1990 10-Sep-1990 C. R. Nelson # 5580 12 malaise trap changed Promachus painteri, Diogmites 5580

5580.1 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 11-Sep-1990 C. R. Nelson # 5580.1 Chriss Tannehill, Tina Jacques, Melody Lytle, Ron Kramer, Brett Goodwin, mustache 12 Polacantha, Diogmites 5580.1

5581 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 11-Sep-1990 17-Sep-1990 C. R. Nelson # 5581 12 malaise trap sample

also hand collected 17 Sep, afternoon:

also 14 Sep 1990, photos taken while collecting with class, Mantidae, Rana frog, butterfly Heteropogon n. sp. first sightings of year, saw three caught 2 f

Diogmites
Bombyliidae
Gomphidae
Libellulidae
5581

5582 USA TEXAS: Travis Co. Austin, 6803 Star Drive 20-Sep-1990 C. R. Nelson # 5582 12
also, 21 Sep 1990, photos mating millipedes Mantidae photos

also, 21 Sep 1990, photos mating millipedes 5582

5583 USA TEXAS: Travis Co. Austin, Circle C Ranch 22-Sep-1990 C. R. Nelson # 5583 12
Shaffer's house Atomosia 5583

5584 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 24-Sep-1990 C.
R. Nelson # 5584 12 28 Sep 1990, photos of soy beans near Columbia, Missouri Asilidae:
Polacantha
Diogmites
Heteropogon

Libellulidae
Nematoceran?
Gastropoda 5584

5585 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 29-Sep-1990 C.
R. Nelson # 5585 and family 12 28 Sep 1990, photos of soy beans near Columbia, Missouri
Photos: Asilidae: Heteropogon, one with Curculio
Holopogon?
Stichopogon
Bombyliidae
Tetrigidae
Mantidae, short wings

Reduviidae
Cerambycidae 5585

5586 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 24-Sep-1990 01-
Oct-1990 C. R. Nelson # 5586 12 malaise trap changed 5586

5586.1 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 01-Oct-1990
C. R. Nelson # 5586.1 12 photos: Rick Miller & Rich Patrock

bottles, snakeskin, gears, globe, purple "seeds", wasps, beefly, cotton Asilidae:
Promachus painteri; Heteropogon; Diogmites; Polacantha; Cerambycidae on
Eysenhardtia, photos; Formicidae, Pseudomyrmex brunnei, Camponotus 5586.1

5587 USA TEXAS: Blanco Co. Pedernales Falls State Park 05-Oct-1990 C. R. Nelson #

5587 Tina Jacques

Ron Kramer

Melody Lytle

David Orange

Tim Droemer

Kim Blackmon

Armin Lopez

Beth Bolyard & friend

Jeff Hayes

Lori Anne

Mike Scott

Brett Goodwin

Jim Jackson

Chris Tannehill

Dana Fariss

Emma Samways

Alfred Brice

Jana

Rich Patrock 12 collecting with Zoo 333 class Ascalaphidae

Braconidae

Chrysomelidae 5587

5588 USA TEXAS: Blanco Co. Pedernales Falls State Park 06-Oct-1990 C. R. Nelson #

5588 Tina Jacques

Ron Kramer

Melody Lytle

David Orange

Tim Droemer

Kim Blackmon

Armin Lopez

Beth Bolyard & friend

Jeff Hayes

Lori Anne

Mike Scott

Brett Goodwin

Jim Jackson

Chris Tannehill

Dana Fariss

Emma Samways

Alfred Brice

Jana

Rich Patrock 12 also light trap

collecting with Zoo 333 class Asilidae:

Stichopogon

Heteropogon

Proctacanthus

Proctacanthella

Diogmites

Ephemeroptera

Calopterygidae, 2 spp.

photos:

mantispidae

Corydalidae larva

Alydidae, velvet ant mimic

Tachinidae, 2 spp.

Opilionidae

Danaidae, queen

Nymphalidae

Lycaenidae, 2 spp, incl. great purple hairstreak

5588

5589 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 02-Oct-1990 08-Oct-1990 C. R. Nelson # 5589 12 malaise trap sample

record high temperatures over weekend, record low on 10 October! 5589

5590 USA TEXAS: Travis Co. Austin, Shoal Creek (Allandale) 12-Oct-1990 C. R. Nelson #

5590 12 Evaniidae

photo: Chilopoda 5590

5591 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, upland tract across river
12-Oct-1990 C. R. Nelson # 5591 and A. W. Hook 12 Asilidae: Heteropogon, 2 spp.

Eumenidae

Braconidae

Reduviidae

photos: galls 5591

5592 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 09-Oct-1990 15-Oct-1990 C. R. Nelson # 5592 12 malaise trap sample

also was mailed specimens:

Texas: Coryell Co.

Gatesville

16 Oct 1990

Terry Durham, shipped me a large sphingid caterpillar, pupated after a couple days without feeding, emerged 3 Feb 1991: Eumorpha vitis on 15 Oct: hand collected: Heteropogon f; Halictidae, Agapostemon; Tachinidae, Phasiinae 5592

5593 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 22-Oct-1990 C. R. Nelson # 5593 12 collected with Entomology class lab; also walked with Chad Baird, scorpions; and Tiffany Smith, aquatic plants & snails for "Nature Experiences" Polacantha composita (no, gracilus) Bombyliidae: Toxophora 5593

5594 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 16-Oct-1990 23-Oct-1990 C. R. Nelson # 5594 12 malaise trap sample

note extra length, 8 days 5594

5595 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 26-Oct-1990 C. R. Nelson # 5595 12 photo session with some Heteropogon holotypes 5595

5596 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 26-Oct-1990 C. R. Nelson # 5596 12 collected berlese sample from outside east border of BFL, behind apartments on flood plain Protura!

also Syrphidae Microdon 5596

5597 USA TEXAS: Bastrop Co. Lost Pines Scout Reservation, 6 mi N of Bastrop off Hwy 21
27-Oct-1990 C. R. Nelson # 5597 and J. R. Nelson 12 Asilidae:
Diogmites

Panorpidae
Cerambycidae 5597

5598 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 24-Oct-1990 29-
Oct-1990 C. R. Nelson # 5598 12 malaise trap sample

good full sample 5598

5599 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 31-Oct-1990 C.
R. Nelson # 5599 and Brenda Lenahan 12 I worked with Brenda Lenahan of the 301L class
on a Nature Experience. We collected and observed ants. army ants raiding a *Conomyrma*
insana nest;

Aphaenogaster texana
Neivamyrmex?

She collected *Pheidole dentata* and *Pheidole* sp.

photo: hog nosed snake (*Heterodon*) and a medium sized Sphingidae caterpillar: pupated
without feeding after a couple days then emerged 25 Jan 1991: *Xylophanes tersa* 5599

5600 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 30-Oct-1990 05-
Nov-1990 C. R. Nelson # 5600 12 malaise trap sample
5600

5601 USA TEXAS: Travis Co. Austin, 6803 Star Drive 10-Nov-1990 C. R. Nelson # 5601 12
photos:
Heteropogon on clothesline
Hesperiidae 5601

5602 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 10-Nov-1990 C.
R. Nelson # 5602 12 photo & specimen: Trichopoda, Tachinidae 5602

5603 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 06-Nov-1990
12-Nov-1990 C. R. Nelson # 5603 12 malaise trap sample
5603

5604 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 14-Nov-1990 C. R. Nelson # 5604 12 Alydidae, ant mimics
Hemerobiidae adult & larva
Chamaemyiidae
all on cactus, *Opuntia lindheimeri*, infested with *Dactylopius* scales

photos: Hemerobiid? or Chrysopid?, Alydidae & Cerambycidae on mesquite; Acrididae

Mecoptera 5604

5605 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 14-Nov-1990 C. R. Nelson # 5605 12 photo session with Wild Microscope

also took bee hive shot: Austin, Parkway Drive. Chamaemyiidae larva on cactus, will rear 5605

5606 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 13-Nov-1990 19-Nov-1990 C. R. Nelson # 5606 12 malaise trap sample
photos taken of *Panorpa nuptialis* feeding on sphingid eggs. 5606

5607 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 21-Nov-1990 C. R. Nelson # 5607 and A. W. Hook 12 Al Hook and I crossed the lake in a row boat, collected a few fish in a spring also *Sialis*

Pentax: *Arundo* grass, cotton, sumac, white composite?;

Nikon:

Pentatomidae on *Ligustrum*

Chrysomelidae on milkweed vine

spider with tachinidae

Bibionidae

then table top of material from Town Lake

collected Gerridae from open water:

Metrobates

Rheumatobates, bizarre males

darther

tetra

Gambusia

shrimp

crayfish 5607

5608 USA TEXAS: Travis Co. South Austin, near DittMar Road 24-Nov-1990 C. R. Nelson #
5608 12 queen, Danaidae 5608

5608.1 USA TEXAS: Travis Co. South Austin, Comburg Drive 22-Nov-1990 C. R. Nelson #

5608.1 and family 12 at Woods' house for Thanksgiving Photos:

Sarah's caterpillar (Ecpantheria)

Miridae

Halictidae

Gryllidae

composite seed head 5608.1

5609 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 20-Nov-1990

26-Nov-1990 C. R. Nelson # 5609 12 malaise trap sample

5609

5610 USA TEXAS: Travis Co. Austin, 6803 Star Drive 10-Nov-1990 C. R. Nelson # 5610 12

Chrysopidae at house lights 5610

5610.1 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 27-Nov-1990

C. R. Nelson # 5610.1 12 earlier in the day at BFL I caught and photographed Anthribidae
on a fungus attacking a stump 5610.1

5611 USA TEXAS: Travis Co. Austin, University of Texas 27-Nov-1990 C. R. Nelson # 5611

12 I took photos of a wasp nest collected by Larry Gilbert from a house. Vespula on paper
nest, several castes.

also photos of specimens from Costa Rica: Corcovado National Park July 1989, L. E.

Gilbert: Coreidae with very broad hind legs; Chloronia (Corydalidae) and Tabanidae with
long proboscis Vespidae

Chrysomelidae on american elm tree

5611

5612 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 27-Nov-1990

03-Dec-1990 C. R. Nelson # 5612 Marilyn Kish 12 malaise trap sample

5612

5612.1 USA TEXAS: Travis Co. Austin, 6803 Star Drive 01-Dec-1990 C. R. Nelson # 5612.1

12 saw the spider again on 16 December. photos: black & white jumping spider (Phiddipus

audax?) that lives in our bedroom, Amy, age 4, named it "Up". I use this photo regularly in my classes (CRN Dec 1996) 5612.1

5613 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 04-Dec-1990 C. R. Nelson # 5613 13 sample jar on malaise trap changed 5613

5613.1 USA LOUISIANA: ? New Orleans 06-Dec-1990 C. R. Nelson # 5613.1 13 photos of fish & stuff in the Aquarium of the Americas 5613.1

5614 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 msl 12-Dec-1990 C. R. Nelson # 5614 13 photos of flyover (by Dick Richardson?) photos of termites (nasutes) 5614

5614.1 USA TEXAS: Travis Co. Austin, Zilker Park Botanical Gardens 15-Dec-1990 C. R. Nelson # 5614.1 13 photos of Gerridae; ferns, and family members; insects on yellow composites 5614.1

5615 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 11-17 Dec 1990 C. R. Nelson # 5615 13 malaise trap sample jar changed 5615

5616 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 msl 18-28 Dec 1990 C. R. Nelson # 5616 13 malaise trap sample jar changed. Note long interval. Very cold weather, down to about 11 degrees F and daytime highs up to 40 degrees F. 5616

5617 USA TEXAS: Travis Co. Austin, Comburg Drive 01-Jan-1991 C. R. Nelson # 5617 13 American cockroach at Barry & Sheila Woods' house, photos taken (Blattaria) 5617

5618 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 04-Jan-1991 C. R. Nelson # 5618 13 photos taken: brown banded cockroaches, *Supella longipalpus*? from ant colonies in Fire Ant Lab; also photo of *Periplaneta* of #5617 5618

5618.1 USA TEXAS: Travis Co. manor 03-Jan-1991 5618.1 David & Orion Wills 13 large larvae from "mushy" willow log; 1 preserved by boiling, then Kahle then 70% EtOH, 1 burrowed back into log, 1 living? photos of Scarabaeidae by C. R. Nelson; probably *Strategus* 5618.1

5619 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 msl 29 December 1990 - 7 January 1991 07-Jan-1991 C. R. Nelson # 5619 13 malaise trap sample jar changed. Note long interval. malaise trap taken down. 5619

5620 USA TEXAS: Travis Co. Austin 26-Jan-1991 5620 Mike Kobe, Karens husband (she worked with Kaye at Purchase Power) 13 white grubs & Asilidae larvae 5620

5620.1 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 25-Jan-1991 C. R. Nelson # 5620.1 13 Sphinx moth, Sphingidae: *Xylophanes tersa* emerged in lab, collected as larva 31 October 1990. 5620.1

5620.2 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 01-Feb-1991 C. R. Nelson # 5620.2 13 Finishing a short roll:

#1, slide 20: *brevipennis* m lat 4-5 inches with 1 tube at f32;

#2, slide 21: *brevipennis* dors 3 inches 1 tube;

#3, slide 22, *heros* m dors 5 inches and no tube;

#4, slide 23, *heros* m lat 5 and 1 tube;

#5, slide 24 *heros* m lat 5 and 1 tube;

#6, slide 25, *craverii* m lat 4 and 1 tube;

#7, slide 26, *craverii* m dors 4 and 1 tube;

#8, slide 27, *variabilis* m dors 4 and 1

#9, slide 28, *vairabilis* m lat 4 and 1

#10, slide 29, *longus* f lat 4 and 1

#11, slide 30, *longus* f lat 4 and 1

#12, slide 31, *longus* f dors 4 and 1

#13, slide 32, *agrion* f lat 4 no tube;

14, 33 *agrion* f lat 4 and 1

15, 34 *gracilis* f lat 4 and 1

16, 35, *gracilis* f dors 4 and 1

17, 36, *gracilis* ?, lat 4 and 1

18, 37 hand numbered, *arno* m lat 4 and 1

NEW ROLL, 1, 1 *arno* m dors 4 and 1

2, 2 *arno* f dors 4 and 1

3, 3 *arno* f dors 4 and 1

4, 4 *nearno* m lat 4 and 1

5, 5 *nearno* m dors 4 and 1

6, 6 *nearno* f dors 4 and 1

7, 7 *nearno* f lat 4 and 1

8, 8 *milbertii* m lat 4 and 1 from USNM Gay's Mill Wisc (not holotype) P. Q. R. coll. with pupal skin

9, 9 *milbertii* above, just skin lat 4 and 1

10, 10 head of above skin lat 2 and 2

11, 11 head & more of above lat 2 and 2

12, 12, *milbertii*, moldy n sp Beaver, lat 2 and 2

13, 13 *nearno* m lat 2 And 2

14, 14 phil from Riverton NJ coupled 9-25-1922 lat 2 and 2
15, 15 n sp longus, Victoria, TX, coupled lat 2 and 2
16, 16 n sp longus, College Station with libellulid prey m lat 4 and no tubes
17, 17 n sp longus, College Station with tettigoniid prey, m lat 2 and 1 tube
18, 18 *Satanus gigas* m lat 2 and 1
19, 19 *Satanus gigas* m dors 2 and 1
20, 20 *Satanus gigas* m lat 2 and 1
21, 21 *Satanus gigas* f lat 2 and 1
22, 22 *Satanus gigas* f dors 2 and 1
23, 23 *Satanus gigas* wing of f flash under
24, 24 *Satanus gigas* wing of f flash above
25, 25 silvered phil lateral
26, 26 silvered phil dorsal

frames 27-36 + of asilid larva #5620 Holotypes of *Proctacanthus*, photos taken: 5620.2

5620.3 USA TEXAS: Brazoria Co. 4 mi W of West Columbia, Gilbert property along San Bernard River 20-Jan-1991 5620.3 L. E. Gilbert 13 17 scarab larvae (*Strategus*), 1 died 1 May 1991, 1 *Passalidae* adult, photos taken of both taxa by C. R. Nelson 5620.3

5621 USA TEXAS: Travis Co. Austin, 6803 Star Drive 07-Feb-1991 C. R. Nelson # 5621 13 photos: german cockroach 5621

5621.1 USA TEXAS: Coryell Co. Gatesville ca 16 October 1990 5621.1 Terry Durham, phone: 817-487-3253 13 as caterpillar, mailed to C. R. Nelson, emerged in lab at BFL 3 February 1991 sphinx moth, photos taken by C. R. Nelson; vine sphinx, *Eumorpha vitis*, spread with proboscis extended 5621.1

5622 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 08-Feb-1991 C. R. Nelson # 5622 13 photos wingless moth, a geometrid, pinned & frozen. I checked it periodically, it was still alive 14 May 1991; fungus on tree; flower: legume? 5622

5623 USA TEXAS: Travis Co. Little Barton Creek, Bee Caves near jct Hwys 71 and 2244 09-Feb-1991 C. R. Nelson # 5623 13 photos *Zealeuctra hitei* adults and nymphs; dead photos of *Empididae* which were skating; crayfish - home to fish tank (note: it lived a long life with us, several years) 5623

5624 USA TEXAS: Travis Co. Austin, near Oak Hill 10-Feb-1991 Mike Kobe 5624 Terry Durham, phone: 817-487-3253 13 in garden: scarab larvae; photos: asilid larvae, earthworms; sphingid pupa wounded, *Stratiomyidae* larvae: adult emerged 1 on 4 March 1991, no photos because antennae broken, 1 on 17 March 1991; also 20 March 1991, photos, but lost specimen, found specimen later in good order, *Hermetia illucens*. 5624

5625 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 msl 11-Feb-1991 C. R. Nelson # 5625 13 photos, Therevidae larva from near Fish Tanks, a poor photo first time; Asilidae larva from Firefly Meadow; photos: Opiliona; photos: Filistatidae, spider 5625

5626 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 msl 14-Feb-1991 C. R. Nelson # 5626 13 collected with 2nd Entomology lab caught a new record genus of robber fly for BFL: Nicocles! (later determined to be Holopogon) it was on Forsteria pubescens (elbow bush) which is in bloom and attracting a wide variety of insects; wingless geometrids near front entrance 5626

5627 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 18-Feb-1991 C. R. Nelson # 5627 13 afternoon: Syrphidae- Eristalis on Forsteria (Notes of 13 Jun 1995: actually near Eristalis, probably Palpada, I'm not sure Eristalis occurs at BFL, I'm making this judgement without the specimen in front of me)

No Nicocles seen (Holopogon . . .)
5627

5628 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 msl 21-Feb-1991 C. R. Nelson # 5628 13 photo session: cleaned animal cages, photos Nematodes near mouth of scarabs of #5624; also asilid larva #5620 drinking; wingless moth #5622 was pinned and frozen ca 8-15 Feb, still alive when thawed, replaced into freezer; 16 of 17 scarab larvae from Brazoria Co., still accounted for; only 3 large scarab larvae #5624 left (of approximately 100) see notes below 5628

5629 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 msl 24-Feb-1991 C. R. Nelson # 5629 & Chris Tannehill 13 Syrphidae, Calliphoridae, Anthomyiidae, Tipulidae, looked for asilidae near Forsteria shrubs but saw none 5629

5630 USA TEXAS: Travis Co. Austin, Bull Creek, St. Edwards Park, Spicewood Springs Road 23-Feb-1991 C. R. Nelson # 5630 & A. W. Hook 13 Al also gave me some flies he collected at BFL including the early season robber fly (Holopogon? CRN June 1995) aquatics sampled, good numbers: Perlida decipiens nymphs, Hydropsyche crosbyi nymphs (reared 1 m emerged 1 March, 1 f emerged 7 March, f didn't emerge properly, I had to dissect her out; Stratiomyidae, Tabanidae, Elmidae; Ephemeroptera: Caenidae: Caenis amicus, using Provonsha 1991; Heptageniidae: Stenonema x , also subimago male with skin; Baetidae, 2 spp. 2 tails & three tails, Maybe two species with three tails; Trichoptera: Hydroptilidae, Philopotamidae, Hydropsychidae; Coenagrionidae; Libellulidae; Terrestrial: Bibionidae 5630

5631 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 25-Feb-1991 C. R. Nelson # 5631 13 wingless Geometridae #5622 removed from freezer and thawed, still living on pin! thawed 20 March 1991 Tipulidae, 5631

5632 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 msl 26-Feb-1991 C. R. Nelson # 5632 13 Tipulidae on wall; tiny beetle in lab 5632

5633 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 01-Mar-1991 C. R. Nelson # 5633 & C. Tannehill 13 Asilidae: Holopogon?/Nicocles; Syrphidae; Tipulidae; Chrysopidae; bees; anole lizard; Buprestidae larvae & pupae in log; Chalcididae 5633

5634 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 04-Mar-1991 C. R. Nelson # 5634 13 Zoraptera!; Staphylinidae; Sialidae under bark of a cottonwood tree near Town Lake; beetles under bark; photos: Buprestidae larvae, while looking for asilid larvae (none found); photos: Centipede, about 4 inches long; thrown away beetle larva - photo on skin, thought to be a bedbug, wrong 5634

5635 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 06-Mar-1991 C. R. Nelson # 5635 13 Holopogon n. sp.!, previously referred to as Nicocles, 2pm: 3 males and 10 females; tip perchers, never higher than chest high, on sparse twigs, both vertical and horizontal (later I found that the flies would go very high to tips of trees, 13 June 1995, CRN).

6pm: 4 m and 7 f, 2f released, had mottled winged psyllids for prey; search high on twigs near dusk, more males up high.

5635

5636 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 07-Mar-1991 C. R. Nelson # 5636 13

6pm, dusk: photos of spider & Tipulidae; photo Holopogon m & f, will walk on twigs, flash of camera elicited head grooming; photos Polistes exclamans on nest; photo flea 5636

5637 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 11-Mar-1991 C. R. Nelson # 5637 13 Holopogon n. sp. 2 f 5637

5638 USA COLORADO: Larimer Co. Young Gulch, jct Poudre River, Hwy 14, Ansel Watrous Campground 14-Mar-1991 C. R. Nelson # 5638 & Mitchell Harris 13 Photos: Capnia gracilaria & decepta, adults and nymphs; Photos: Zapada cinctipes; Photos: Chironomidae and Leptophlebiidae (Paraleptophlebia?) 5638

5639 USA COLORADO: Larimer Co. Redstone Creek, 2 mi above Road 25 16-Mar-1991 C. R. Nelson # 5639 & Mitchell Harris 13 Photos: *Capnia decepta*, 15m 10f; Photos: *Capnura wanica* 16m 4 f; *Prostoia besametsa* 1 m; photos of a robin 5639

5640 USA COLORADO: Larimer Co. Buckhorn Creek, 18 mi above Masonville, below junction Buckhorn Creek and ____ Prairie Creek 16-Mar-1991 C. R. Nelson # 5640 & Mitchell Harris 13 *Capnia decepta* 92 m 17 f; *Capnura* 2m; *Boreidae* 1m, photos taken in Austin, poor quality; pinned *Sphaeroceridae*, *Staphylinidae*, *Curculionidae* 5640

5641 USA COLORADO: Larimer Co. tributary of Skin Gulch, 1 mi above Poudre River & Hwy 14 on road 27 16-Mar-1991 C. R. Nelson # 5641 & Mitchell Harris 13 *Capnia gracilaria* 4 m 1 f; *Zapada cinctipes* 12m 5 f; *Mesoveliidae* 5641

5642 USA COLORADO: Larimer Co. Elkhorn Creek jct Poudre River, Hwy 14 16-Mar-1991 C. R. Nelson # 5642 & Mitchell Harris 13 *Capnia decepta* 2 m 1 f; *Capnia gracilaria* 12 m 7 f; *Zapada* (NO!); *Utacapnia logana* 1m 5642

5643 USA COLORADO: Larimer Co. Young Gulch, junction Poudre River, Hwy 14 16-Mar-1991 C. R. Nelson # 5643 & Mitchell Harris 13 *Capnia decepta* 18 m 13 f; *Capnia gracilaria* 6 m 0 f; *Zapada cinctipes* 3m 9f; *Mycetophilidae*; millipede- *Polyxenus* 5643

5644 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 20-Mar-1991 C. R. Nelson # 5644 13 *Platygastridae* with dorsal projection; photo taken with Wild Microscope, Nikon, and 4 tubes, flash at 2 inches of dead Zorapteran, focus bad but exposure good;

Holopogon n. sp. f, with psyllid prey; photo *Argidae*, m with U shaped third antennal segment; *Efferia snowi* seen for first time; *Sialidae*; Al Hook collected *Laphria flavicollis* on 21 March 1991 5644

5644.1 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 22-Mar-1991 C. R. Nelson # 5644.1 13 On wound of live oak tree (*Quercus fusiformis*): *Odiniidae*; *Drosophilidae*; *Scatopsidae*?; on twig: *Holopogon* 5644.1

5645 USA TEXAS: Travis Co. Little Barton Creek, Bee Caves, Gill Ranch, near junction Hwys 71 and 2244 23-Mar-1991 C. R. Nelson # 5645 & J. R. Nelson 13 *Sialis*; *Empididae*; Ants- with queens, *Dolichoderinae*; Jason's catch: scorpion, centipede - small red; centipede, large green; grasshopper babies; Mayfly nymphs, stonefly nymphs, damselfly, robber fly 5645

5646 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 25-Mar-1991 C. R. Nelson # 5646 13 Holopogon n sp 2m 4f; Syrphidae; Drosophilidae and Odiniidae on wounds of live oak 5646

5647 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 27-Mar-1991 C. R. Nelson # 5647 13 caught aquatic things with Laura Leigh Hahn from Bio 301L; and termites with Charles Riess photos: Hydrometridae, Papilionidae- giant swallowtails; Sialidae 5647

5648 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 01-Apr-1991 C. R. Nelson # 5648 13 Holopogon n sp 2m 1f; Stratiomyidae 2 spp.; Raphidiidae; Pipunculidae - swarming! 5648

5648.1 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 03-Apr-1991 C. R. Nelson # 5648.1 13 Stratiomyidae 2 spp.; Eumenidae; Clambidae?; Formicidae - Pseudomyrmex?; Tipulidae; Asilidae: Efferia snowi, Holopogon n sp 1m 2f also saw another pair: f perched on high twig looking down, m approached from below with hind legs spread, hovered about 4 inches below f for a long time (25 sec) then approached her but was apparently rejected; tried several repeats; saw Laphria flavicollis in several places; Ichneumonid photo 4 April 1991; Curculionid photo (red); caterpillar faces photo, then released 5648.1

5649 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 05-Apr-1991 C. R. Nelson # 5649 13 photos: parasitized lycaenid caterpillar; photos through microscope: thrips & weevil flash at 2 inches with scope aperture closed down. Thrips exposure good, weevil exposure slightly hot with low mag & all tubes 5649

5650 USA TEXAS: Medina Co. 1 mi NE Natalia, rest area I-35 05-Apr-1991 C. R. Nelson # 5650 & family 13 Holopogon snowi, dead, abdomen missing; Machimus? f; Syrphidae - Volucella (Copestylus?) - big black; Tachinidae; Calliphoridae - Cochliomyia?; bull nettle blooming; a few blooming bluebonnets 5650

5650.1 USA TEXAS: Webb Co. Laredo 06-Apr-1991 C. R. Nelson # 5650.1 & family 13 Formicidae: Ponerinae alate 5650.1

5651 USA TEXAS: Zapata Co. 3 mi Nw San Ygnacio, Hwy 83, rest area on S side 06-Apr-1991 C. R. Nelson # 5651 & family 13 Myrmeleontidae; Tachinidae; Pompilidae; Asilidae, small, Cophura n. sp. near texana, photos on rock, taken in motel after photos of 5652; mixed mesquite & Palo Verde? and other shrubs 5651

5652 USA TEXAS: Zapata Co. 18 mi SE of Zapata, Hwy 83 06-Apr-1991 C. R. Nelson # 5652 & family 13 Myrmeleontidae; photos: Cantharidae (acceptable), Rhipiphoridae (good),

Sphecidae: sleeping *Ammophila* 2 spp. (good), Asilidae: *Saropogon abbreviatus* (good) perching on grass stems 5652

5653 USA TEXAS: Cameron Co. Harlingen 06-Apr-1991 C. R. Nelson # 5653 & family 13 flea on Amy 5653

5654 USA TEXAS: Nueces Co. Mustang Island, Access road 3, near Corpus Christi Pass 07-Apr-1991 C. R. Nelson # 5654 & family 13 marked on page 178 of County maps of Texas Book (1987) Gulf Beach habitat: Anthomyiidae, Ephydriidae, Empididae 2 spp., Dolichopodidae, Sphaeroceridae; Pentax photos of jellyfish & Portuguese men of war; 5654

5655 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 10-Apr-1991 C. R. Nelson # 5655 13 took pictures of Kaye in her office photos: Geometridae caterpillar, insect eggs on cattail both handheld and with microscope (Stratiomyidae) stopped down at 1 and 2 inches, some hatched by 12 April 1991, more photos taken 12 April; photos: mantispidae eggs & larvae (dead) collected last fall by Chriss Tannehill, get data; Sialidae; Arctiidae 2 spp.; Hook saw the *Holopogon* n. sp. 5655

5656 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 12-Apr-1991 C. R. Nelson # 5656 13 Collected with 333 class in evening and at light: Rich Patrock, Vinnie Bagwa, Corby Baxter, Erik Bendiks, Adrian Corralus, Mark Dugas, Angela Foster, Ernest Gonzalez, Robert Hedrick, Rhonda Krick, Elizabeth Marikle, Michele Markstein & Sam, Stephen Murchison, Greg Omelchuck, Nimish Patel, Stephen Pursley, Bill Well Photos: Pieridae on crucifer; lygaeid; caterpillars; crab spider (Thomisidae); lacewing eggs, Chrysopidae; braconidae on geometridae, end under scope; Miridae;

Tachinidae; Scarabaeidae; Cerambycidae 5656

5657 USA TEXAS: Bastrop Co. Sayers, 10 mi N of Bastrop 13-Apr-1991 C. R. Nelson # 5657 & class 13 Collected with 333 class: Rich Patrock, Vinnie Bagwa, Corby Baxter, Erik Bendiks, Adrian Corralus, Angela Foster, Elizabeth Marikle, Michele Markstein, Stephen Murchison, Greg Omelchuck photos: *Holopogon snowi*, long series; Micropezidae; Photos: Scoliidae; Syrphidae; Photos: weird Miridae, caterpillars, western whip snake, Polyphagidae female; several class members collected *Proctacanthus brevipennis* (I took photos); photos with Pentax: *Tradescantia* 5657

5658 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 19-Apr-1991 C. R. Nelson # 5658 13 photos of common snapping turtle (found crossing road near BFF on 15 April 1991) and box turtle found at BFL by Ed Jurado the gardener 18 April 1991. I walked around BFL in the early morning to photograph flowers (matelea, caterpillar on

Eysenhardtia, Miridae, Phaecelia flowers, Berytidae) and spiders in the morning dew. I also took photos of a centipede (8 inches long) that Ed Jurado had hit with a lawnmower. Ed Vargo took some pictures of it on my arm. I also took a picture while holding it in my hand. Photos: aphids on composites; Oxyopidae spiders 5658

5659 USA TEXAS: Travis Co. Austin, Star Drive 20-Apr-1991 C. R. Nelson # 5659 13 Buprestidae,

Photos: Elateridae at church at Parker & Oltorf. 5659

5660 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 24-Apr-1991 C. R. Nelson # 5660 13 actually 23 Apr, Photos: fungus on stump and sphingid caterpillar.

Photos: 24 Apr: Sonje Hinich brought in Scytodes spider & dermestid larvae; Photos: Ed Vargo brought in a scorpion; photographed and mounted a winged male Zorapteran from #5634 5660

5661 USA TEXAS: Travis Co. Austin, Bull Creek, St. Edwards Park, Spicewood Springs Road 24-Apr-1991 C. R. Nelson # 5661 13 blacklighting: Plecoptera: Perlidae: Perlesta decipiens, abundant; caddis flies, Hydropsychidae and Leptoceridae; Scarabaeidae, round 5661

5662 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, Red Bud Island below Tom Miller Dam on Colorado River 24-Apr-1991 C. R. Nelson # 5662 13 blacklighting: Photos: caddis flies, Hydropsychidae and Leptoceridae; Photos: Scarabaeidae, bumpy; Photos: mantispidae 5662

5663 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 25-Apr-1991 C. R. Nelson # 5663 13 red shiny spiders in office: Clubionidae 5663

5664 USA TEXAS: Travis Co. Austin, Bull Creek, St. Edwards Park, Spicewood Springs Road 25-Apr-1991 C. R. Nelson # 5664 13 collected with Ernest Gonzales and Michelle Markstein of the Entomology class Photos: Perlesta decipiens, nymphs and adults; Culicidae; Blattellidae; Salticidae; saw a yellow comp with several heads: Engelmannia pinnatifida 5664

5665 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 01-May-1991 C. R. Nelson # 5665 13 also photos of brown recluse from: TX: Blanco Co., Pedernales Falls State Park, 30 April 1991, Tony Shelfo many photos: bees etc. on Gaillardia, Empididae, Laphria flavicollis, end with Argyrodes spider in large web of Araneidae then photos green scarab (then pinned); Odiniidae & Drosophilidae on oak wound; coreidae nymph on Opuntia; buckeye butterfly 5665

5665.1 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 26-May-1991 C. R. Nelson # 5665.1 13 Photos: Pentatomidae eating caterpillar 5665.1

5666 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, upland site 06-May-1991 C. R. Nelson # 5666 13 Photos: Asilidae: Eudioctria disjuncta* this is the first record away from the type locality in Kerrville! Later this site was bulldozed and a huge, ugly, white house was built on the bluff overlooking the Colorado River; Photos: Beameromyia; Photos: Stratiomyidae; Megachilidae; Sphecidae; Photos: Hippoboscidae; Lauxaniidae; Chrysomelidae; Photos: lone star tick; photos: Gomphidae 5666

5667 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 10-May-1991 C. R. Nelson # 5667 13 Collected with Tamas Vasarhelyi of the Zoological Department of the Hungarian Natural History Museum;

Dr. Tamas Vasarhelyi
Zoological Department
Hungarian Natural History Museum
H-1088 Budapest v. B (or is it 13)
phone 1130-035

H-1125 Budapest
Diosarok v. 16/II
phone 1556-177 Photos: Aradidae (his specialty); Membracidae; Asilidae: Psilocurus modestus; Chrysomelidae; Photos: Scytodes spider 5667

5668 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 13-May-1991 C. R. Nelson # 5668 13 Asilidae: Efferia male on Ligustrum 5668

5669 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m. elev. 14-May-1991 C. R. Nelson # 5669 13 Photos: silverfish (bad photos, discarded); Photo session: Aradidae #5667, Chrysididae from TX: Kendall Co., Boerne, Route 4, 11 May 1991, Chriss Tannehill; long legged Scytodes? spider #5667, (16 June 1995, I think perhaps I was confusing Filistatidae with Scytodidae); wingless moth geometridae #5622, still alive 5669

5670 USA COLORADO: Larimer? Co. 17-May-1991 C. R. Nelson # 5670 & stonefly crew? 13 Pteronarcella badia 5670

5671 USA COLORADO: Larimer Co. Fort Collins 19-May-1991 C. R. Nelson # 5671 13 house centipede: Scutigera? 5671

5672 USA COLORADO: Larimer Co. Cache la Poudre River, junction Roaring Creek 19-May-1991 C. R. Nelson # 5672 & stonefly crew from NAPS 13 photos: Eucapnopsis

brevicauda, *Capnia* sp or spp.; *Prostoia besametsa*; photos: *Skwala americana* last of site; photo: ant- *Formica* eating *Capniidae*; spider; cactus with bee 5672

5673 USA COLORADO: Jackson Co. Michigan River, 2 mi N of Gould 19-May-1991 C. R. Nelson # 5673 & stonefly crew from NAPS 13 fleas in swallow nest; *Skwala americana*; *Diura knowltoni*; In lab took nymph photos: from this site first: *Diura* f then m then *Skwala* f 5673

5674 USA COLORADO: Jackson Co. Little Grizzly Creek, 10 mi SW of Walden 19-May-1991 C. R. Nelson # 5674 & stonefly crew from NAPS 13 photos: *Tenebrionidae*, *Eleodes* specimen to Fred Kirchner; photos: *Sphecidae*: *Podalonia luctuosa*? specimen to BYU 5674

5675 USA COLORADO: Jackson Co. Michigan River at Walden 19-May-1991 C. R. Nelson # 5675 B. P. Stark, S. W. Szczytko, Chris Henderson, Kate Parkin 13 *Capnia* adults; photos: *Paracapnia* adult, *Skwala* adults, *Isoperla pinta* nymphs, *Pteronarcella badia* nymphs, *Hesperoperla pacifica* nymphs (good photos!), *Suwallia*? nymphs;

Cultus nymphs, small 5675

5676 USA NEW MEXICO: Colfax Co. Cimarron River above Ute Park 20-May-1991 C. R. Nelson # 5676 , B. P. Stark, S. W. Szczytko, Chris Henderson 13 Raining! nymphs: *Hesperoperla*, *Claassenia*, *Isoperla fulva*, *Drunella grandis*, *Drunella doddsi*, *Ameletus* 5676

5677 USA NEW MEXICO: Taos Co. Rio Fernando de Taos, La Jara Canyon, 1 mi W of Palo Flechado Pass, 17 mi NE of Taos 20-May-1991 C. R. Nelson # 5677 B. P. Stark, S. W. Szczytko, Chris Henderson 13 mileage 964, also fossils in reddish sandstone *Isoperla sobria*, *Chloroperlidae*, *Limnephilidae* 5677

5678 USA NEW MEXICO: Taos Co. Rio Fernando de Taos, 9 mi above of Taos, Hwy 64 20-May-1991 C. R. Nelson 5678 , B. P. Stark, S. W. Szczytko, Chris Henderson 13 odometer: 972 at 981 - Taos: pinned: *Lonchopteridae*, *Bibionidae*, *Drosophilidae*, *Mycetophilidae*, *Phoridae* adults *Utacapnia logana* 2f; *Capnia confusa* 51m 36f, *Eucapnopsis* 1 f; *Zapada cinctipes* 2m 3 f; *Prostoia besametsa* 5m 2f; nymphs: *Isoperla phalerata*, *Pteronarcella badia* 5678

5679 USA NEW MEXICO: Santa Fe Co. North Fork Tesuque Creek, Big Tesuque Campground, 10 mi NE of Santa Fe 21-May-1991 C. R. Nelson # 5679 14 *Capnia*, *Zapada*, *Taenionema* , *Paraleuctra* 5679

5680 USA NEW MEXICO: Santa Fe Co. South Fork Tesuque Creek, 9 mi NE of Santa Fe, about 1 mi below Big Tesuque Campground 21-May-1991 C. R. Nelson # 5680 14 Photos: Capnia, Zapada, Paraleucra 5680

5681 USA NEW MEXICO: Santa Fe Co. Santa Fe, College of Santa Fe 21-May-1991 C. R. Nelson # 5681 14 photos: Efferia near snowi 5681

5681.1 USA NEW MEXICO: Santa Fe Co. Santa Fe, College of Santa Fe 23-May-1991 C. R. Nelson # 5681.1 14 Photos: Solpugida; army ants, Therevidae 5681.1

5682 USA NEW MEXICO: Santa Fe Co. North Fork Tesuque Creek, Big Tesuque Campground, 10 mi NE of Santa Fe 23-May-1991 C. R. Nelson # 5682 14 Photos: Taenionema 6m 2f, Anthocoridae, Aradidae; Zapada oregonensis 1m 4f, Zapada cinctipes 2f, Capnia gracilaria 3m 5f; Tenthredinidae, Phoridae 5682

5683 USA NEW MEXICO: Sandoval Co. 1 mi E of Las Conchas Campground, Hwy 4, NW of Los Alamos, 8600 ft. 24-May-1991 C. R. Nelson # 5683 , Robin Faitoute, Paul Spangler 14 many aquatic beetles in borrow pit pool, Dolichopodidae with prey, misc. flies swept pool side, camel crickets 5683

5684 USA NEW MEXICO: Sandoval Co. Jemez River, Las Conchas Campground, Hwy 4 24-May-1991 C. R. Nelson # 5684 , Robin Faitoute, Paul Spangler 14 Ollie & Carol Flint came by while we were collecting photos: Isoperla fulva adults 52m 31f; Tipulidae; Hydroptilidae larvae; long caddis cases, Nectopsyche?; Syrphidae; Photos: tachinid chasing Sphecidae, calliphoridae, Syrphidae, Lygaeidae, Andrenidae, Bombus (last photo of site), Pentax photos of Spangler & Faitoute picking net 5684

5685 USA NEW MEXICO: Sandoval Co. Jemez River, Jemez Falls 24-May-1991 C. R. Nelson # 5685 , Robin Faitoute, Paul Spangler 14 photos of Falls & Douglas Fir with Pentax meter not working properly Mycetophilidae; photos: Erotylidae, weevil, flower, Tipulidae 5685

5686 USA NEW MEXICO: Santa Fe Co. Santa Fe, College of Santa Fe 25-May-1991 C. R. Nelson # 5686 , Jon K. Gelhaus 14 Jon K. Gelhaus is a friend and contemporary who now works at the Academy of Natural Sciences of Philadelphia photo: Efferia male, 2 spp.: near snowi and subcuprea in juniper trees, Dicropaltum mesae; Tipulidae; Sphecidae; bees; ichneumonidae; Raphidiidae 5686

5687 USA NEW MEXICO: Bernalillo Co. Sandia Mountains, Embudo Park, Albuquerque, head Indian School Road 25-May-1991 C. R. Nelson # 5687 , Jon K. Gelhaus 14 last photo of site, male Efferia on rock, 2 spp.: argyrosoma and cressoni; Promachus albifacies;

saw Leptogaster; Sphecidae; Apoidea; Myrmeleontidae; photos: Chrysomelidae on Cowania and Tipulidae 2 spp. 5687

5688 USA NEW MEXICO: Bernalillo Co. Sandia Mountains, Cedro Campground 26-May-1991 C. R. Nelson # 5688 , Jon K. Gelhaus 14 pinyon juniper & grass area night of 25-26: Scarabaeidae; Cerambycidae; Scolytidae; Hemerobiidae all came to blacklight, ants; day of 26: Tenebrionidae, Trimerotropis pallidipennis; photos: Dicolonus, Leptogaster, Efferia 3 spp: latruncula, near snowi, Stenopogon inquinatus, Beameromyia, Holopogon, saw Psilocursu or Laphystia; photos: Tiger whiptail caught in valve box 5688

5689 USA NEW MEXICO: Bernalillo Co. Sandia Mountains, Dry Camp Picnic ground, 8000 ft. 26-May-1991 C. R. Nelson # 5689 , Jon K. Gelhaus 14 mixed conifers; not a camping area, but high and in an easily accessible area of the Sandias photo: Cyrtopogon 1 m n. sp. near glarealis on vertical trunk of fir tree det CRN 12 Oct 1994; bee moth; bees; Sphecidae 5689

5689.1 USA NEW MEXICO: Bernalillo Co. Sandia Mountains, Sandia Crest, 10678 ft 26-May-1991 C. R. Nelson # 5689.1 , Jon K. Gelhaus 14 photos: Podalonia sphecid with cutworm larva 5689.1

5690 USA NEW MEXICO: Bernalillo Co. Sandia Mountains, Las Huertas Creek, Las Huertas Campground 26-May-1991 C. R. Nelson # 5690 , Jon K. Gelhaus 14 box elders abundant; very good spot, return in winter! photos: Sweltsa hondo abundant: 51m and 18f (5m & 5 f sent to Boris Kondratieff of CSU; malenka 1f; Perlodid? Cultus pileatus 1f; Tipulidae; spider m; 5690

5691 USA NEW MEXICO: Torrance Co. manzano Mtns., New Canyon Campground 27-May-1991 C. R. Nelson # 5691 , Jon K. Gelhaus 14 Cyrtopogon 3f; Muscidae; Tachinidae; Hymenoptera; Stenopogon inquinatus 5691

5692 USA NEW MEXICO: Torrance Co. manzano Mtns., Canon del Encierro, 3 mi NW of manzano 27-May-1991 C. R. Nelson # 5692 , Jon K. Gelhaus 14 rock with crinoid stems; canyon at National Forest boundary sign Tipula (Lunatipula) uncinata group; Stenopogon inquinatus 5692

5693 USA NEW MEXICO: Torrance Co. 1 mi NW of manzano 27-May-1991 C. R. Nelson # 5693 , Jon K. Gelhaus 14 pinyon-juniper: 2 spp. "osteospermum and arizona" Stenopogon inquinatus; cicadas 5693

5694 USA NEW MEXICO: Lincoln Co. Jicarilla Mtns., Lincoln National Forest, Jicarilla 27-May-1991 C. R. Nelson # 5694 , Jon K. Gelhaus 14 set up camp and stayed the night. Jon caught many tipulids at the black light. The camp site was a mixture of ponderosa pine and

gambels oak with junipers and pinyon interspersed. We camped and collected in a gulch S of Jicarilla in a deer camp. A sign "Secrists" marked the turnoff from the main road. I watched an aggregation of *Eleodes* males apparently searching for females. Sixteen of the large beetles were within a 3 meter circle. One grasped a larger individual tightly but did not copulate. When three others found the pair a melee ensued with all grasping each other with legs and the Mass rolling around. Eventually the three left and the original pair broke up. I found another large individual (thought to be a f) placed in it the aggregation. When it sprayed all the individuals tipped up and remained motionless for several minutes, then those furthest from the new female quickly retreated. One male nearest the female stayed tipped for over ten minutes before scurrying off. *Passimachus carabid*; *Stenopogon inquinatus*; cicadas; *Efferia latruncula*; *Syrphidae*; *Ichneumonidae*; *Holopogon atripennis*; *Leptogaster* 5694

5694.1 USA NEW MEXICO: Torrance Co. about 7 mi SE of Willard, sand dunes, Hwy 42 27-May-1991 C. R. Nelson # 5694.1 , Jon K. Gelhaus 14 coming south, stopped just north of bend in road near mesa on west side photo: *Tenebrionidae*, flanged 5694.1

5695 USA NEW MEXICO: Lincoln Co. Jicarilla Mtns., Lincoln National Forest, Jicarilla 28-May-1991 C. R. Nelson # 5695 , Jon K. Gelhaus 14 set up camp and stayed the night. Jon caught many tipulids at the black light. The camp site was a mixture of ponderosa pine and gambels oak with junipers and pinyon interspersed. We camped and collected in a gulch S of Jicarilla in a deer camp. A sign "Secrists" marked the turnoff from the main road. I watched an aggregation of *Eleodes* males apparently searching for females. Sixteen of the large beetles were within a 3 meter circle. One grasped a larger individual tightly but did not copulate. When three others found the pair a melee ensued with all grasping each other with legs and the Mass rolling around. Eventually the three left and the original pair broke up. I found another large individual (thought to be a f) placed in it the aggregation. When it sprayed all the individuals tipped up and remained motionless for several minutes, then those furthest from the new female quickly retreated. One male nearest the female stayed tipped for over ten minutes before scurrying off. collected around camp, many mine diggings: *Stenopogon inquinatus*, photos: *Heteropogon Martini*, photos: *Efferia latruncula*, *Holopogon atripennis* and near *wilcoxi*, *Ospricerus abdominalis*, bees, sphecids, bombyliidae; cicadas; *Lycidae*; top of Jicarilla Peak: photo: *Efferia*, *Stenopogon inquinatus*; *Sphecidae*; *Chrysididae*; *Pompilidae*; *Tachinidae*; photo: *cicadidae* 5695

5696 USA NEW MEXICO: Lincoln Co. Sacramento Mtns., Bonito Creek, 3 mi above Bonito Lake, jct Bonito Creek & Tanbark Canyon 28-May-1991 C. R. Nelson # 5696 , Jon K. Gelhaus 14 more photos in morning 29 May 1991; bathed in stream; raccoon visited during

the night; saw an elk while I was lying in bed! photos: Podmosta, abundant, Triznaka pintada, caddis, Tipulidae: Dicranota, moth; also Empididae 5696

5697 USA NEW MEXICO: Lincoln Co. Sacramento Mtns., Bonito Lake 29-May-1991 C. R. Nelson # 5697 , Jon K. Gelhaus 14 lycid beetle from 5695 photographed out of order

vegetation was: Ponderosa pine, oak scrub, and Cercocarpus bee: Callanthidium?; photos of pindrops plant, a parasite. 5697

5698 USA NEW MEXICO: Lincoln Co. Sacramento Mtns., Philadelphia Canyon, 2 mi W of Angus 29-May-1991 C. R. Nelson # 5698 , Jon K. Gelhaus 14 ponderosa pine with sparse oak understory, a few shaded junipers (alligator); small flowing stream with watercress, no stoneflies but a variety of tipulids photos: Tipula (Lunatipula) uncinata group, caught many under rock overhangs in first major draw to right going up canyon; photos: (Lunatipula) smaller, tergata group; Erioptera (Mesocyphona) 1 f; Dolichopodidae under rocks with tipulids; photos: Reduviidae 5698

5699 USA NEW MEXICO: Otero Co. James Canyon Campground, 2 mi W of Mayhill, Hwy 82 29-May-1991 C. R. Nelson # 5699 , Jon K. Gelhaus 14 windy Sphecidae; Stenopogon inquinatus; Heteropogon Martini; Efferia latruncula; Dicolonus sparispilosum; Scleropogon texanus; Ospricerus; Machimus griseus; Chrysididae; Cynipidae; green snake; last photo was Stenopogon inquinatus with cicada; also photos on 30 May 1991 in morning 5699

5700 USA NEW MEXICO: Otero Co. mouth Alamo Canyon, Alamogordo, 4400 ft 30-May-1991 C. R. Nelson # 5700 , Jon K. Gelhaus 14 last photo with Pentax, dead cactus then whiptail then cliffs & creosote; Larrea, Chilopsis, Acacia, composites, Cowania, Cholla; whiptail lizard: Cnemidophorus photos: Promachus giganteus, many pairs many with prey including one that had a Chilopsis blossom!!; photos: Proctacanthus nearno mating, female leads male in flight; photos: Efferia anomala and argyrosoma; bees; Cantharidae on apache plume; Holopogon currani; photos: Agave and Ocotillo; cicadidae; 5700

5701 USA NEW MEXICO: Dona Ana Co. Organ Mtns., Aguirre Springs Campground 31-May-1991 C. R. Nelson # 5701 , Jon K. Gelhaus 14 good tipulidae in drying stream canyons, collecting under overhangs; start Nikon with Tipulidae last shot with Nikon Promachus with Alydidae, last shot with pentax end RGB roll with butterflies (shots no good); rocky canyon with oaks and junipers photos: Promachus albifacies; Efferia anomala and supcuprea; Holopogon atripennis; Machimus griseus; Polacantha sinuosa; photos: Bellardina, Tipula (Lunatipula) polyacantha; Limonia; Geranomyia; Nephrotoma; Lunatipula uncinata group; Bembix 5701

5702 USA ARIZONA: Cochise Co. Chiricahua Mtns., East Turkey Creek, 3 mi above Paradise, 6500 ft. 01-Jun-1991 C. R. Nelson # 5702 , Jon K. Gelhaus, Chen Young from Carnegie Museum 14 good tipulidae in drying stream canyons, collecting under overhangs; start Nikon with Tipulidae last shot with Nikon Promachus with Alydidae, last shot with pentax end RGB roll with butterflies (shots no good); rocky canyon with oaks and junipers Tipulidae; Efferia subcuprea and another species; Nemouridae: malenka coloradensis; Stenopogon inquinatus; Asilidae skin from James Canyon; Mycetophilidae; photos: Eretmidae, Epiphragma (Tipulidae), and red dragonfly (I guess in 1995 as Libellula saturata?) 5702

5703 USA ARIZONA: Cochise Co. Chiricahua Mtns., The Nippers, 7.5 mi N of Portal 02-Jun-1991 C. R. Nelson # 5703 Chen Young from Carnegie Museum, Steven Bullington, Charles Young, Lynn Carroll 14 Efferia 3 spp. carinata group subcuprea, anomala male photo, argyrosoma male and female; Promachus giganteus; Ospreocerus abdominalis; one person caught a Polacantha; 1st shot Nikon Paracosmus bombyliidae 5703

5704 USA ARIZONA: Cochise Co. 2 mi E of Gleeson (E of Tombstone) 03-Jun-1991 C. R. Nelson # 5704 , J. K. Gelhaus 14 sandy grassland with mesquite and showy legume shrub photo: Scleropogon duncani; Proctacanthella leucopogon; photos: Cerotainiops abdominalis; Efferia benedicti females 5704

5705 USA ARIZONA: Cochise Co. arroyo 11.5 mi E of Sierra Vista, Hwy 90 03-Jun-1991 C. R. Nelson # 5705 , J. K. Gelhaus 14 photo: Haplopogon near triangulatus, perched head up on high twigs of a thorny shrub; sawflies; Scleropogon duncani; Cicadidae; photos: Flatidae; Sphecidae; Efferia benedicti female 5705

5706 USA ARIZONA: Cochise Co. San Pedro River, Hwy 90, 7.5 mi E of Sierra Vista, 4074 ft. 03-Jun-1991 C. R. Nelson # 5706 , J. K. Gelhaus 14 The mesquite tree from which I collected Heteropogon in 1985? was gone, removed by bridge construction. I noted that the San Pedro River flows from Mexico! photos: Stichopogon arenicola, catulus, n. sp., and trifasciatus; Holopogon wilcoxi; photos: Cerotainiops abdominalis; photos: Efferia albibarbis; parasitic bees; Myrmeleontidae; last photo: Scleropogon duncani; Laphystia rubra 5706

5706.1 USA ARIZONA: Cochise Co. Huachuca Mountains 03-Jun-1991 C. R. Nelson # 5706.1 , J. K. Gelhaus 14 Jon and I also briefly visited Ramsey and Miller Canyons. We then drove through Montezuma Canyon on the southern end of the Huachuca Mountains. The brakes on the truck are going bad. We are running out of gas and the oil is low. We passed several relatively good streams. One in Bear Creek and another further west. 5706.1

5707 USA ARIZONA: Cochise Co. Huachuca Mountains, Lakeview Campground, 28 mi SE of Sonoita 04-Jun-1991 C. R. Nelson # 5707 , J. K. Gelhaus 14 Not a very good place to collect, a reservoir. *Efferia carinata* group: *supcuprea* 2 females in juniper tree; Leptoceridae at light (to ANSP) 5707

5708 USA ARIZONA: Pima Co. Santa Rita Mountains, Box Canyon, Basin Spring, Road 62, 12 mi SE of Continental 04-Jun-1991 C. R. Nelson # 5708 , J. K. Gelhaus 14 I took many photos of insects on a dam face, very rich desert oasis in mountains, good camping spot *Promachus albifacies*; *Holopogon wilcoxi*; photos: *Stichpogon* 2 spp., *trifasciatus* & n. sp.; *Efferia albibarbis*; photos of Curculionidae in agave, photos with both cameras; photos: Stratiomyidae on agave, Syrphidae on agave; *Heteropogon patruelis*; photos: Dolichopodidae; photos: Ephydriidae; photos: Coenagrionidae 5708

5709 USA ARIZONA: Santa Cruz Co. Santa Rita Mountains, Madera Canyon, Roundup Picnic Area 04-Jun-1991 C. R. Nelson # 5709 , J. K. Gelhaus 14 Met & talked with Brad Sinclair and John Swann who were at the Dipterists Conference *Leptogaster* 1 male, small species 5709

5710 USA ARIZONA: Santa Cruz Co. Santa Rita Mountains, Madera Canyon, Bog Springs Campground 04-Jun-1991 C. R. Nelson # 5710 , J. K. Gelhaus 14 *Leptogaster* 2 spp. lg sm (id'ed at home as *Beameromyia* and *Leptogaster* 5710

5711 USA ARIZONA: Pinal Co. Picacho Peak, Hwy I-10 05-Jun-1991 C. R. Nelson # 5711 , J. K. Gelhaus 14 Buprestidae to ANSP; photo: Tettigoniidae nymph, *Insara* and Mantidae nymph; both were cryptic on *Larrea* 5711

5712 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 10-Jun-1991 C. R. Nelson # 5712 14 *Mydas clavatus*; *Polacantha grossa* & dark other?; Diognites; *Laphria macquarti*; *Promachus bastardi*; *Efferia aestuans*; *Philonicus* sp. 5712

5713 USA TEXAS: Travis Co. Austin, Star Drive 13-Jun-1991 C. R. Nelson # 5713 14 photo with Pentax: Sphecidae after sealing cell with green Pentatomidae inside 5713

5714 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 13-Jun-1991 C. R. Nelson # 5714 14 photos with Pentax eyed Elateridae; *Mydas clavatus*; *Osprionotus* near *rhadamanthus*; *Promachus bastardi*; *Promachus dimidiatus*; *Philonicus* sp.; Tachinidae; Sphecidae: Tachytes; Stratiomyidae; Buprestidae; Cicadellidae: *Oncometopa*?; *Efferia aestuans* with calliphoridae 5714

5715 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 14-Jun-1991 C. R. Nelson # 5715 14 photos with Pentax *Efferia aestuans*; *Philonicus* sp.; *Promachus bastardi*; *Promachus dimidiatus*; Fulgoridae; *Polacantha grossa* dark form; Romalaeinae;

weevils? on giant ragweed; Hemerobiidae; Polyxenidae millipede on vegetation; photo: spider mimicking Crematogaster ant; photos: Cerambycidae, an ichneumonid mimic 5715

5716 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 17-Jun-1991 C. R. Nelson # 5716 14 photos with Pentax *Promachus bastardii*; *Promachus dimidiatus*; *Polacantha grossa*; saw *Diogmites angustipennis*; *Mydas clavatus*; *Efferia*; *Leptogaster*; photos of female *Promachus bastardii* 5716

5716 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 17-Jun-1991 C. R. Nelson # 5716 14 photos with Pentax *Promachus bastardii*; *Promachus dimidiatus*; *Polacantha grossa*; saw *Diogmites angustipennis*; *Mydas clavatus*; *Efferia*; *Leptogaster*; photos of female *Promachus bastardii* 5716

5717 USA TEXAS: Bastrop Co. Little Sandy Creek, N of Sayers on Road 49 21-Jun-1991 C. R. Nelson # 5717, A. W. Hook, C. Durden, and J. E. Gillasp 14 photos: *Mallophora orcina*; *Efferia albibarbis*; *Efferia tabescens*; *Stichopogon abdominalis*; *Stichopogon trifasciatus*; *Proctacanthus near longus*; *Townsendia pulcherrima*; *Saropogon?*; photo: *Sphecidae*, orange with green eyes; *Nemomydas hooki*; *Megaphorus acrus* 5717

5718 USA TEXAS: Bastrop Co. Sayersville, long dirt road 21-Jun-1991 C. R. Nelson # 5718, A. W. Hook, C. Durden, and J. E. Gillasp 14 *Proctacanthus near longus*; *Stichopogon abdominalis*; *Megaphorus acrus* 5718

5719 USA TEXAS: Bastrop Co. Alum Creek, jct. Colorado River, Red Bluffs S of Bastrop 21-Jun-1991 C. R. Nelson # 5719, A. W. Hook, C. Durden, and J. E. Gillasp 14 *Promachus hinei*, mating pair; *Efferia aestuans*, *Efferia staminea* 5719

5720 USA TEXAS: Blanco Co. Blanco River, Road 165, 5a mi NE of Blanco 22-Jun-1991 C. R. Nelson # 5720 # & family 14 *Gerridae*; *Efferia albibarbis*; *Stichopogon trifasciatus* 5720

5721 USA TEXAS: Blanco Co. Pedernales Falls State Park, Pedernales River swimming area 22-Jun-1991 C. R. Nelson # 5721 & family 14 photos: *Diogmites*, dainty; *Promachus bastardii*; *Efferia albibarbis*; *Efferia n. sp. near aestuans*; photos: *Proctacanthus hinei* with *Vespidae*, *Polistes*; *Stichopogon trifasciatus*; saw *Mallophora*; *Ospricerus near rhadamanthus*; *Ascalaphidae* 5721

5722 USA TEXAS: Blanco Co. Pedernales Falls State Park, falls parking are 22-Jun-1991 C. R. Nelson # 5722 & family 14 *Diogmites angustipennis* det CRN 1994 with wasp prey 5722

5722 USA TEXAS: Blanco Co. Pedernales Falls State Park, Pedernales River Falls area 22-Jun-1991 C. R. Nelson # 5722 & family 14 *Promachus bastardii*, *Promachus hinei*; *Diogmites angustipennis*; *Mutillidae*; *Sphecidae* nests; *Efferia albibarbis*; *Megaphorus acrus* 5722

5723 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 05-Jul-1991 C. R. Nelson # 5723 14 photos with Pentax Polacantha grossa dark, including 1 mating pair; Promachus bastardii, Promachus painteri, Promachus sp.; Diogmites; Mallophora faultrix; Bombus; Eristalis; Stratiomyidae; Ichneumonidae; Leptogaster; photos: Acanthocephala 5723

5724 USA TEXAS: Blanco Co. Pedernales Falls State Park, Pedernales River Falls area 06-Jul-1991 C. R. Nelson # 5724 & family 14 stung four times by Polistes exclamans! I was pausing on the river bank in the shade when they stung me for inadvertently disturbing their nest. I threw my net high in the air and ran. It was very difficult for me to get the courage to sneak back and retrieve my net after the swarm had calmed some. Efferia albibarbis; Efferia n. sp. near aestuans; Promachus n. sp., in open area, johnson grass, one with Megachilidae prey; Bembicini sphecidae; Stichopogon trifasciatus; Diogmites neoternatus?; Diogmites angustipennis; Ospriocerus near rhadamanthus; Holopogon; Pipunculidae; Reduviidae; Buprestidae; Proctacanthus hinei 5724

5725 USA TEXAS: Blanco Co. Pedernales Falls State Park, duck pond near Pedernales Falls parking area 06-Jul-1991 C. R. Nelson # 5725 & family 14 Promachus hinei, hangs around in mesquite trees near open areas, especially near duck pond, many mating pairs around 1:00pm; Efferia albibarbis; Efferia n. sp. near aestuans; Ospriocerus rhadamanthus; Megaphorus acrus; Holopogon; Prolepsis tristis; Efferia sp 4, 1 female 5725

5726 USA TEXAS: Travis Co. McKinney Falls State Park, falls area 11-Jul-1991 C. R. Nelson # 5726 & family 14 photos with Pentax, end with gourd Triorla interrupta; Polacantha; Promachus hinei; Pompilidae 5726

5727 USA TEXAS: Travis Co. Austin, SW area near Sunset Valley 12-Jul-1991 C. R. Nelson # 5727 14 Phasmida, walkingstick, large female at the Flaten's house on Saloma Street; Amy will keep it as a pet; I took several photographs 5727

5727.1 USA TEXAS: Travis Co. Austin, Star Drive 19-Jul-1991 C. R. Nelson # 5727.1 14 Cali and her kittens, conceived 14-15 May 1991;

11:07: Milo, yellow & white male with spotted left hind thigh with placenta

11:26: contraction

11:31: contraction

11:32: black & white socks female

11:07: spotting while petting

11:48: contraction with placenta

1:36: contraction, Otis: orange male with little white; right eye opened 25 July

2:05: contraction
2:08: contraction and birth, orange & white male with white spot on back
2:20: contraction, placenta
2:36: ate fourth placenta
4:18: birth white & black male
5:08: birth all orange male, Tiger!; white right foot? no, but darker than 1st, all orange.
cats 5727.1

5727.1 USA TEXAS: Travis Co. Austin, Star Drive 19-Jul-1991 C. R. Nelson # 5727.1 14
Cali and her kittens, conceived 14-15 May 1991;

11:07: Milo, yellow & white male with spotted left hind thigh with placenta
11:26: contraction
11:31: contraction
11:32: black & white socks female
11:07: spotting while petting
11:48: contraction with placenta
1:36: contraction, Otis: orange male with little white; right eye opened 25 July
2:05: contraction
2:08: contraction and birth, orange & white male with white spot on back
2:20: contraction, placenta
2:36: ate fourth placenta
4:18: birth white & black male
5:08: birth all orange male, Tiger!; white right foot? no, but darker than 1st, all orange.
cats 5727.1

5728 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 24-Jul-1991 C.
R. Nelson # 5728 14 photos with Pentax Sphecidae; Efferia aestuans; saw Diogmites,
Promachus, Mydas clavatus 5728

5729 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 31-Jul-1991 C.
R. Nelson # 5729 14 very hot day, 100 degrees plus, 25% RH; but asilidae were in deep
forest shade near the stream bed; This is the first time I've caught M. belzubel. I saw two,
the male I caught was teneral and appeared very large; many photos taken of it at home.
photos: Promachus painteri, Mallophora leschenaulti (=belzubel), Diogmites 5729

5730 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 01-Aug-1991 C.
R. Nelson # 5730 14 Promachus painteri, Diogmites, Proctacanthella cacopiloga,
Holopogon, Hadrokolos, Efferia, Polacantha grossa; Tachinidae; Scarabaeidae 5730

5731 USA UTAH: Box Elder Co. Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 41.5155 W 112.0198 11-Aug-1991 C. R. Nelson # 5731 14 photos: Scenopinidae; photos: milkweed insects; photos: family shots 5731

5732 USA WYOMING: Lincoln Co. Afton 12-Aug-1991 C. R. Nelson # 5732 14 on trip with Winston P. Nelson, W. Randall Nelson, Jean Nelson, Riley Nelson, Nick Nelson, Chris Nelson photos: Elkhorn arch 5732

5732.1 USA WYOMING: Teton Co. Grand Teton National Park, Jenny Lake 12-Aug-1991 C. R. Nelson # 5732.1 14 photos: "scales" on logdepole pine; photos: people 5732.1

5733 USA WYOMING: Teton Co. Grand Teton National Park, Jackson Lake, Colter Bay 12-Aug-1991 C. R. Nelson # 5733 14 photos: scenery 5733

5734 USA UTAH: Box Elder Co. Woods Creek Duck Club, 2 mi SW of Corinne 15-Aug-1991 C. R. Nelson # 5734 14 many photos of insects, videos of waterfowl and much scenery photos: Acroceridae, Ogcodes with eggs; Tabanidae; Syrphidae 5734

5735 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 21-Aug-1991 C. R. Nelson # 5735 14 I walked around BFL thinking of ideas for my field ecology class. I also saw several robber flies and collected others. saw *Efferia* female, *Promachus painteri*; *Proctacanthella*, saw mating, merely a blitz by the male followed by searching with genitalia; *Polacantha grossa* dark form; *Diogmites angustipennis*, with pupal head case still on adult 5735

5736 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 26-Aug-1991 C. R. Nelson # 5736 14 *Promachus painteri*; *Proctacanthella cacopiloga*; *Polacantha grossa* dark form; *Diogmites*; *Bombyliidae*, *Toxophora*; mantispa; *Syrphidae* 5736

5736 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 28-Aug-1991 C. R. Nelson # 5736 14 also caught an *Evanidae* in the Biology offices on campus. *Promachus* n. sp.; *Promachus painteri*; *Polacantha grossa* dark form 5736

5737 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, upland tract 26-Aug-1991 C. R. Nelson # 5737 14 This site above Red Bud Island has been converted to rich people housing by 1994. I lost a good collecting site here! *Promachus hinei* & n. sp.; *Promachus painteri* 2 females; *Efferia* "armata" female; *Polacantha grossa* dark form; saw *Mallophora leschenaulti* (belzube); *Eumenidae* 5737

5739 USA TEXAS: Blanco Co. Pedernales Falls State Park 31-Aug-1991 C. R. Nelson # 5739 15 *Diogmites angustipennis* det CRN 1994 with *Polacantha gracilis* prey 5739

5739 USA TEXAS: Blanco Co. Pedernales Falls State Park, falls area 31-Aug-1991 C. R. Nelson # 5739 15 set up malaise traps; I took pictures of *Eccritosisia zamon* at home. This was the first time I collected the extraordinary *Eccritosisia*. Kaye took pictures of me with *Eccritosisia* on my face. *Promachus* n. sp., *Diogmites angustipennis*, *Efferia albibarbis*, *Efferia grandis*, 2 other *Efferia* spp., *Eccritosisia zamon*, *Psilicurus nudiusculus*, *Proctacanthella cacopiloga*, *Stichopogon trifasciatus*, *Hadrokolos texanus*, *Proleptis tristis*, *Polacantha grossa*, *Megaphorus acrus*, 5739

5740 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 04-Sep-1991 C. R. Nelson # 5740 & Bio 208 class: Gene Atwood, distance; Mikael Behrens: distance; Militza Diaz, identifier; Steve magid?; John Opincar?; Melanie Pavlas, record; James, record; Rachel Waugh, parent & behavior; Brian, new add, time & record; T. A., David Zippen, Bio 412, 471-5028 15 watched cichlid fish behavior in fish ponds; # of fish: cichlid A (studied parents): 2 big & little (male & female?); Cichlid B: 5, 4A + 1C; mollies: 3; minnow: 5; sunfish: 6; Cichlid C (unstudied parents): 2. 5740

5741 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 05-Sep-1991 C. R. Nelson # 5741 & Entomology class: Wendy Donaldson, Kevin Alexander, Sunita Thadani, Luke Harper, Anne Marie Jennings, Robert Tizard, Daniel 15 ran blacklight by boathouse kept: *Sisyridae*, 2; *Lampyridae* 5741

5742 USA TEXAS: Blanco Co. Pedernales Falls State Park, falls area 06-Sep-1991 C. R. Nelson # 5742 , & Entomology class: Sunita Thadani, Anne Marie Jennings, Laurie Dries, Wendy Donaldson, Nathan Bryant, Daniel ? 15 Raining, changed malaise trap *Efferia* female; *Polacantha grossa*; *Proctacanthella* 5742

5743 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 09-Sep-1991 C. R. Nelson # 5743 & Robin Lim 15 *Promachus painteri*; *Bombus*; *Syrphidae*; *Tachinidae*; *Megachilidae* 5743

5744 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 11-Sep-1991 C. R. Nelson # 5744 & A. W. Hook 15 *Promachus painteri*; *Syrphidae* 5744

5745 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 12-Sep-1991 C. R. Nelson # 5745 & Entomology class 15 *Promachus painteri*; *Syrphidae*; *Proctacanthella cacopiloga*; saw *Diogmites*; *Mallophora leschenaulti* (Monica Swartz photographed Riley with it); *Phasmida* male 5745

5746 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 13-Sep-1991 C. R. Nelson # 5746 15 *Mallophora leschenaulti* with *Sphex ichneumon* male parasitized with female Strepsipteran; *Promachus painteri*; *Bombus*; *Xylocopa*; green lynx spider with *Bombus* 5746

5746.1 USA TEXAS: Bastrop Co. Sayers, 10 mi N of Bastrop, sandy road W of Road 49 14-Sep-1991 C. R. Nelson # 5746.1 , J. R. Nelson & A. W. Hook 15 We collected with Dr. Hook's entomology class from St. Edwards University.

In the evening we had a departmental slide show at Larry Gilbert's house. grasshoppers; dragonfly; Sphecidae; Cerceris, 1 with Alleculidae; Tachysphex; Mutillidae; Cicindelidae; Syrphidae; photo Lampria bicolor; photos: Triorla & grasshopper; photos: spiders; Efferia albibarbis; Stichopogon abdominalis; Nemomydas; Proctacanthella cacopiloga 5746.1

5747 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 16-Sep-1991 C. R. Nelson # 5747 & Entomology class 15 Tachinidae, Trichopoda; Argidae; photos of bladderwort aquatic plant; photos: caterpillar beneath silk; photo: fungi; photos of people 5747

5748 USA TEXAS: Blanco Co. Pedernales Falls State Park, campground 20-21 Sep 1991 C. R. Nelson # 5748 , & Entomology class: Michael; Jarrod; Kelli, Nathan, Stephanie, Rich, David, Andre, Kaye, Jason, Andrea, Amy, Riley, Daniel, Vic, Glenn, Daiyu, Kevin, Laurie, Wendy, Anne Marie, Oscar, Sunita, Tony, Rob, Luke, Cherry, Rick, Randy; also evening only: Michael, Tarak, Rajesh, Prashid, Salim 15 Very successful field trip night: photos: green lynx with wheel bug; Fulgorid on cypress; glowworms, Phengodidae? or Lampyridae; camel cricket; photos: moths on cypress bark
day: aquatics; photos fulgorid on cypress; Heteropogon on twig tips; Eccritosisia on sandy beach; photos Embioptera; photos: ponerinae ants: Leptogenys; photos: phymatidae; photos Leptinotarsa larvae & eggs; photo: Salticidae 5748

5749 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev. 27-Sep-1991 C. R. Nelson # 5749 & A. W. Hook 15 Diogmites angustipennis det CRN 1994 with Trichopoda prey and bland tachinidae prey 5749

5749 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 27-Sep-1991 C. R. Nelson # 5749 & A. W. Hook 15 Promachus painteri, Diogmites; Tachinidae, Trichopoda; Heteropogon n. sp. 3 females in meadow above botany gardens; Polacantha grossa , dark form 5749

5750 USA TEXAS: Blanco Co. Pedernales Falls State Park, campground 21-28 Sep 1991 C. R. Nelson # 5750 & A. W. Hook, malaise trap 15 Tipulidae; Empididae; Tabanidae; Heteropogon; Curculionidae; Mutillidae; Pompilidae; kept Mycetophilidae in alcohol 5750

5751 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 30-Sep-1991 C. R. Nelson # 5751 15 Heteropogon 2 spp. 3 males 5751

5752 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 02-Oct-1991 C. R. Nelson # 5752 , & R. Patrock 15 photos: Tephritidae on Helianthus maximiliani; photos: Buprestidae on yellow Verbesina; insects on giant ragweed 5752

5753 USA TEXAS: Travis Co. Austin, Bull Creek, St. Edwards Park, Spicewood Springs Road 03-Oct-1991 C. R. Nelson # 5753 , & Entomology class 15 photos: Psephenidae: Psephenus texanus larva; no Plecoptera despite heavy collecting effort; photos: Chrysomelidae, orange & black large flea beetle on Gutierrezia texana 5753

5754 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 03-Oct-1991 C. R. Nelson # 5754 15 photos on Helianthus maximiliani: Cicadellidae, mummified aphids, Membracidae & ants (Crematogaster), Curculionidae (Smicronyx); also photos: Buprestidae: Acmaeodera, and Tephritidae; photos: Chrysomelidae on milkweed vine, adult and eggs. 5754

5755 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, upland site 07-Oct-1991 C. R. Nelson # 5755 15 parasitic bee; Syrphidae: Copestylus & Allograpta; photos: Pieridae, Coreidae, Apidae. 5755

5756 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 09-Oct-1991 C. R. Nelson # 5756 , & Ecology class 15 Leptogenys, Odontomachus, Pheidole, Solenopsis, Camponotus, Monomorium; photos: Hemerobiidae, snake; mystery wasp 5756

5757 USA TEXAS: Blanco Co. Pedernales Falls State Park, falls area 11-Oct-1991 C. R. Nelson # 5757 15 took down malaise trap, no specimens retained Panorpidae; Heteropogon lautus & n. sp.; Diogmites; photos: Cicindelidae, tree cricket male, red 5757

5758 USA TEXAS: Live Oak Co. 4 mi W of Three Rivers, Choke Canyon State Park, South Shore Campground 19-Oct-1991 C. R. Nelson # 5758 & Entomology class 15 camped at sites immediately below dam along the spillway of the Frio River photos: Efferia completa was abundant; Diogmites; Heteropogon lautus 5758

5759 USA TEXAS: Live Oak Co. 4 mi W of Three Rivers, Choke Canyon State Park, South Shore Picnic beach 19-Oct-1991 C. R. Nelson # 5759 & Entomology class 15 photos: skull of alligator gar; Tetrigidae; Tridactylidae; Cicindelidae; Efferia completa was abundant, one with Volucella, photos: female laying eggs in drier sand; also caught 1 Efferia pratti; Araneidae: Gasteracantha?; bees; Sphecidae; Syrphidae: Epistrophe? 5759

5760 USA TEXAS: Travis Co. Austin, Onion Creek jct William Cannon Drive 30-Oct-1991 C. R. Nelson # 5760 , Ecology class 15 aquatic samples taken with Ecology class Tipulidae adult; Psephenidae larvae abundant 5760

5761 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 13-Nov-1991 C. R. Nelson # 5761 15 later in day we resampled with the ecology class. The lab went well. marked Pogonomyrmex in morning 5761

5762 USA TEXAS: Bastrop Co. Lost Pines Scout Reservation 16-Nov-1991 C. R. Nelson # 5762 15 gave Nature walks to Blazer scouts Belostomatidae: Lethocerus; Hydrometridae 5762

5763 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 16-Dec-1991 C. R. Nelson # 5763 & A. W. Hook 15 started shooting with Velvia 50, to end of roll; new roll of Kodachrome 64

added 10 March 2017: looked in my collection and found skate, shark teeth collected at Shoal Creek on 27 December 1991. Same locality as CRN 5466. USA TEXAS Travis Co. Austin, Shoal Creek jct Greenlawn Parkway, N 30.351207° W 97.741197°, elev. 209 m, 27 December 1991, C. R. Nelson #5763.5. I visited this locality often.

Fossils in Eagle Ford Shale near excavation of Plesiosaur.

stingray teeth, Ptychodus whipplei Marcou, det Jack H. McLellan 1991.

photos: in lab: Tephritidae, Paracantha also Panorpidae: Panorpa nuptialis. On Smilax, Ligustrum, and Tillandsia 5763

5764 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 1-2 Jan 1992 C. R. Nelson # 5764 & J. R Nelson 15 swept above a fungus: a morel type stinkhorn; set up malaise trap on 1 Jan, vandals ruined it on 2 or 3 Jan 1992; also collected a very large ray tooth from the Eagle Ford formation: Texas: Travis Co., Austin, Allendale, Shoal Creek, Greenlawn Blvd, 27 Dec 1991, C. R. & J. R. Nelson Drosophilidae 2-3 spp.; Heleomyzidae 5764

5765 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 29-Jan-1992 C. R. Nelson # 5765 15 We worked as an Ecology class, Bio 208, sampling vegetation in Firefly Meadow. We took 3 linear transects and 3 more limited circular plots. Mycetophilidae adults in a mossy hole between some tree clumps in the middle of Firefly Meadow. I pinned about 32 specimens mostly (or all) female. 5765

5766 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 31-Jan-1992 C. R. Nelson # 5766 15 Syrphidae 2 spp.; Tephritidae 5766

5767 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 08-Feb-1992 C. R. Nelson # 5767 & A. L. Nelson 15 walked the grounds at BFL with Amy. She spotted the larva as we were digging. Amy found 18 golf balls. Tipulidae; Sphecidae, dug up from ground; Syrphidae; Asilidae larvae 5767

5768 USA TEXAS: Travis Co. Little Barton Creek, Bee Cave, Gill Ranch, near jct 2244 & 71
12-Feb-1992 C. R. Nelson # 5768 Rich Patrock & J. E. Gillaspay & Bio 208 class 15 photos
of hitei male first then female arnoldi.

surber samples, D net samples, swept vegetation *Zealeuctra hitei* adults & nymphs, with
mites; 5768

5769 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 12-Feb-1992 C.
R. Nelson # 5769 , Oscar Hernandez 15 Tipulidae in patch of St. Augustine grass: adults
abundant, pupal skins, pupae, and 1 larva 5769

5770 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 13-Feb-1992 C.
R. Nelson # 5770 15 Photos: Tipulidae, aquatic insects esp. Stratiomyidae, last shot was
aquatic plant & bubbles. 5770

5771 USA TEXAS: Travis Co. Little Barton Creek, Bee Cave, Gill Ranch, near jct 2244 & 71
14-Feb-1992 C. R. Nelson # 5771 & S. W. Stringer, Rich Patrock & J. E. Gillaspay & Bio 208
class 15 photos of hitei male first then female arnoldi.

surber samples, D net samples, swept vegetation *Zealeuctra hitei* adults 5 males & 1
female; *Zealeuctra arnoldi* 2 males and 2 females; photos: *Zealeuctra* nymph; aquatics:
photos: Heptageniidae nymph & adult (adult male escaped in lab); Dytiscidae; photos:
Nepidae: *Curicta scorio*; photos: Tipulidae larva 5771

5772 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 14-Feb-1992 C.
R. Nelson # 5772 15 overflow from fishpond: Photos: Baetidae, Coenagrionidae,
gammarus, leech. Lab photos: Angela Foster, Sunita Thadani, James E. Gillaspay at age 74
and Al Hook at age 38 5772

5773 USA TEXAS: Travis Co. Austin, Bull Creek, St. Edwards Park, Spicewood Springs Road
15-Feb-1992 C. R. Nelson # 5773 , & family 15 *Zealeuctra hitei* 1 female; Heptageniidae
subimago reared to adult 5773

5774 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 18-Feb-1992 C.
R. Nelson # 5774 , O. Rodriguez, & S. Thadani 15 I found a sleeping raccoon in the animal
cages; also fish pond pictures with Mary Pat Waldron on 19 Feb 1992, photos: Diptera larva
photos: common snapping turtle, carapace length 30 cm. Sunita collected ant lion larvae
and Oscar collected tipulid larvae 5774

5775 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 28-Feb-1992 C.
R. Nelson # 5775 15 photos: slug, scarab (green), Syrphidae: *Chrysotoxum*; Tipulidae;
photos: red bat 5775

5776 USA TEXAS: Travis Co. Onion Creek, McKinney Falls State Park 29-Feb-1992 C. R. Nelson # 5776 , & family 15 photos: *Solenopsis invicta* queen launching; photos: kids & Kay, end of 1st roll in Olympus: Fuji Reala 5776

5777 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 05-Mar-1992 C. R. Nelson # 5777 15 photos: *Cerambycidae* ant mimic 5777

5778 USA TEXAS: Live Oak Co. 4 mi W of Three Rivers, Choke Canyon State Park, South Shore Campground 6-7 March 1992 C. R. Nelson # 5778 & Entomology class 15 camped at sites immediately below dam along the spillway of the Frio River photos: *Tabanidae* larvae moving in C across water; photos: *Gryllacrididae*; *Coreidae*; Beetle larva, elateriform 5778

5779 USA TEXAS: Live Oak Co. 4 mi W of Three Rivers, Choke Canyon State Park, South Shore camp area 07-Mar-1992 C. R. Nelson # 5779 & Entomology class 15 *Myrmecocystus* 5779

5780 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 11-Mar-1992 C. R. Nelson # 5780 15 also Dr. James E. Gillaspay has been running light traps at BFL for the past week, many pyrgotids are in the trap. I am shipping some to CAS, USU, BYU, and CSU ants; photos: Salamander: *Plethodon glutinosus* *albagula* 5780

5781 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 13-Mar-1992 C. R. Nelson # 5781 15 photos: emerald moth; photos: *Dasymutilla*; photos: snakefly, *Raphidia bicolora*; *Syrphidae* small black; sawflies; fire ants & aphids; *Holopogon* n. sp. 2 females: caught 1 and missed 1 5781

5782 USA TEXAS: Travis Co. Austin, 6803 Star Drive 14-Mar-1992 C. R. Nelson # 5782 15 photos: *Aphididae* on *Lactuca serriola*; photo: *Apis mellifera* on dandelion; photo: *Syrphidae* pupae with aphids 5782

5783 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 16-Mar-1992 C. R. Nelson # 5783 , James E. Gillaspay 15 photos: *Pyrgotidae*; at home first female then male 5783

5784 USA TEXAS: Hidalgo Co. Bentsen Rio Grande State Park 18-Mar-1992 C. R. Nelson # 5784 , A. W. Hook 15 *Heteropogon* n. sp. near *phoenicurus* was abundant, males hover in front of female on exposed twig tip, bumping or nearly bumping heads. males flare one pair of legs (not sure which). and females flare hind legs. males very persistent, if no quick reaction, male will land on twig tip facing female but tending to underside of twig. Set up malaise trap, taken down 20 Mar 1992 *Heteropogon* n. sp. near *phoenicurus*; *Efferia carinata* group female; bees; *Sphecidae* *Cerceris californicus*; *Syrphidae*: *Copestylum*;

Chrysomelidae; Nikon photos of robber flies; photo: leaves of mesquite with Olympus; photos Embiidina, large green Curculionidae. At light: army ant males, Leptoceridae 5784

5785 USA TEXAS: Hidalgo Co. Bentsen Rio Grande State Park 19-Mar-1992 C. R. Nelson # 5785 , A. W. Hook 15 brought back a bagworm to rear, it emerged 26-27 Mar 1992, photos. In the Heteropogon photos I hoped for a good one with Cydnidae and spiders! photos: Heteropogon n. sp. near phoenicurus, many with prey and courtship; Syrphidae: Palpada & Toxomerus; Bombyliidae; Chrysopidae; Stratiomyidae; parasitic bees; Sphecidae; Halictidae. at light: Cerambycidae, Embiidina, Berothidae, moths, Heteroceridae, Reduviidae: thread legged, Tipulidae 5785

5786 USA TEXAS: Hidalgo Co. 1 mi E of Los Ebanos, Hwy 83 20-Mar-1992 C. R. Nelson # 5786 , A. W. Hook 15 Efferia snowi; photos: Haplopogon, Saropogon abbreviatus; Sphecidae: diverse 5786

5787 USA TEXAS: Starr Co. Falcon State Park near campgrounds 20-Mar-1992 C. R. Nelson # 5787 , A. W. Hook 15 Stichpogon; Haplopogon; Efferia 2 spp.; Myrmeleontidae; Sphecidae; Formica; Messor? 5787

5788 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 25-Mar-1992 C. R. Nelson # 5788 15 photos: Laphria flavicollis male 7 female; Efferia snowi; photo: Ichneumonidae; photos: Holopogon n. sp; Halictidae; Tenthredinidae; Platystomatidae: Senopterina; photos of jumping beans, moth emerged 27 Mar 1992 from "beans" purchased in San Antonio at Mercado 5788

5789 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 03-Apr-1992 C. R. Nelson # 5789 , A. Foster, & J. E. Gillasp 15 late afternoon, not much movement, 1st good day after a long cold spell Acalypterates; Tachinidae; Tipulidae: large limoniinae; Syrphidae; Stratiomyidae 5789

5790 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 06-Apr-1992 C. R. Nelson # 5790 15 photos: Reduviidae, Triatoma?; Micropezidae: Rainieria antennaepes; saw, not collected: Laphria flavicollis, some mating; photos; Salticidae: Crematogaster mimic; Syrphidae; 8 spotted forester: Harrisina; black moths; Tenthredinidae; Sphecidae: Cerceris; Stratiomyidae; photos: Blaberidae: Panchlora nivea 5790

5791 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 06-Apr-1992 C. R. Nelson # 5791 , J. E Gillasp & Bio 208 15 collected plants 5791

5792 USA TEXAS: Travis Co. Austin, Bull Creek, St. Edwards Park, Spicewood Springs Road
09-Apr-1992 C. R. Nelson # 5792 , & some in Entomology class 15 UV light: *Perlesta*
decipiens; caddisflies; Pyralidae: *Petrophila* 5792

5793 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 13-Apr-1992 C.
R. Nelson # 5793 15 saw: *Laphria flavicollis*; search for *Brachypremna*, no luck 5793

5794 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 14-Apr-1992 C.
R. Nelson # 5794 15 phorid Identified by Brian Brown: watched a female phorid fly (my
det of *Dohrniphora* was wrong) attacking a millipede. It would ride on back near "tail" and
probe underneath with ovipositor. I took photographs. When millipede would squirm the
fly would hold on tight, even move to exposed leg areas, presumably for softer areas to
pierce while ovipositing. Fly died 16 April 1992 phorid 5794

5795 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 15-Apr-1992 C.
R. Nelson # 5795 & Bio 208 class 15 Tadpole shade experiment *Efferia snowi*; photos:
Hexagenia; Rhagionidae 5795

5796 USA TEXAS: Bastrop Co. near Buescher State Park, Stengl Ranch, soon to be Lost
Pines Biological Station 22-Apr-1992 C. R. Nelson # 5796 & Bio 208 class 15 photos:
Cicindelidae; scorpions for pets 5796

5797 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 23-Apr-1992 C.
R. Nelson # 5797 & Entomology class 15 Tadpole shade experiment blacklight at boat
ramp: *Tipulidae*; *Perlidae*: *Perlesta* in spider web; *Hemerobiidae*; *Leptoceridae*;
Philopotamidae; beetles; photo: *Psocoptera*; photos: spiders; photos: bat: *Myotis*; photos:
Tortricidae 5797

5798 USA TEXAS: Blanco Co. Pedernales Falls State Park 24-Apr-1992 C. R. Nelson #
5798 & Entomology class: Kevin Haman & ?, Robert Hansen & Becky; Jana McFarland,
Grace & Mack Parker; Willie Ngyen; Heather Humphries; Shann Stringer; Brian Fitzpatrick;
Bryan Donner & ?; Michael Crane; Ann Parungao; Johnny Peet; Kelli Smith; Joel Hunter &
Sherry; Michael Kaspari; Sonny Cavazos; Andy Black; Andy Snell; Laura Russell? & ?; Bill
Terhune & ?; David Steen; Debbie Edmunson; Kim Maroney 15 We ran three blacklights in
the campground an another down near the trammel crossing on the Pedernales River. All
lights caught dobsonflies and stoneflies. We quit blacklighting at about 10 pm. I slept in
the kids tent. I need to sleep lengthwise. photos: *Corydalidae*; photos: *Perlesta*;
Ospreicerus; *Efferia* 2 spp.; *Phengodidae*; *Carabidae*: large *Calosoma* 2 spp.; bombardier
beetles, photos; photos: *Reduviidae* 5798

5799 USA TEXAS: Blanco Co. Pedernales Falls State Park 25-Apr-1992 C. R. Nelson #
5799 & Entomology class: Kevin Haman & ?, Robert Hansen & Becky; Jana McFarland,

Grace & Mack Parker; Willie Ngyen; Heather Humphries; Shann Stringer; Brian Fitzpatrick; Bryan Donner & ?; Michael Crane; Ann Parungao; Johnny Peet; Kelli Smith; Joel Hunter & Sherry; Michael Kaspari; Sonny Cavasos; Andy Black; Andy Snell; Laura Russell? & ?; Bill Terhune & ?; David Steen; Debbie Edmunson; Kim Maroney 15 I photographed a number of insects down near the river. Dolichopodidae; Pedioscirtes nymph green grasshopper; Mayfly: Isonychia? students collected: Machilidae; Nicoletiidae; Embiidina 5799

5800 USA TEXAS: Travis Co. Austin, 6803 Star Drive 26-Apr-1992 C. R. Nelson # 5800 15 photos: Stephanidae 5800

5801 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 27-Apr-1992 C. R. Nelson # 5801 15 photos: Salticidae 5801

5802 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 28-Apr-1992 C. R. Nelson # 5802 15 Syrphidae: Volucella, Palpada; Libellulidae, 8 spot silver male 5802

5803 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 30-Apr-1992 C. R. Nelson # 5803 15 Tipulidae: Brachypremna! 5803

5804 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170m 04-May-1992 C. R. Nelson # 5804 16 photos of taxa, most not collected Chrysomelidae, Cassidinae, Coccinellidae, Syrphidae 5804

5805 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170m 07-May-1992 C. R. Nelson # 5805 & J. Neff 16 Observations and photos of emergence of Strepsiptera from bees, Pseudopanurgus rugosus. The parasites emerged from bees with feet upward, struggled to get out of puparium" then flipped over and beat wings full speed for about 10 seconds then flew off. The entire process took about 40 seconds. Emergence was at 10:30am on a cool (65dF) day. I waited long for emergence but when site heated up the emergence was very quick. I observed 2 males emerge both Jack and I took photos. Photos very good but not great. Strepsiptera, Crawfordia, Pseudopanurgus 5805

5806 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170m 08-May-1992 C. R. Nelson # 5806 16 Photographed mating Strepsiptera on Pseudopanurgus and the other taxa Strepsiptera, Crawfordia, Pseudopanurgus, Tipulidae: Brachypremna; Anthribidae; Cicadellidae: Flexamia?; Bombyliidae 5806

5807 USA TEXAS: Bastrop Co. Lost Pines Field Station, Steng Ranch near Buescher State Park 09-May-1992 C. R. Nelson # 5807 & family 16 Photos, plant host actually from BFL Mycetophilidae: Asindulum montanum; Curculionidae, sweet potato beetle on Ipomoea trichocarpa 5807

5808 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170m 11-May-1992 C. R. Nelson # 5808 & Jack Neff 16 watched *Pseudopanurgus* hoping for *Crawfordia* emergence, none happened *Pseudopanurgus*; *Evaniidae*; *Asilidae*: *Atomosia*, *Promachus*; *Tipulidae*; *Cicadellidae* photos; *Cercopidae* photos; *Coccinellidae* photos 5808

5809 USA TEXAS: Travis Co. Austin, Star Drive 12-May-1992 C. R. Nelson # 5809 & A. L. Nelson 16 *Pyralidae* with purplish reflections 5809

5810 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170m 12-May-1992 C. R. Nelson # 5810 16 A german, Jorg Leidel visited from TXAM looking for *Corydalus*. I sent him to Pedernales Falls. *Chrysomelidae*: *Cassidinae*: on *Ipomoea trichocarpa*, photos 5810

5811 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170m 13-May-1992 C. R. Nelson # 5811 16 I was stung by both ant species. *Reduviidae*: *Triatoma* reared from nymph, photos, nymph was collected 6 Apr 1990 #5790; *Solenopsis geminata* and *invicta* photos from BFL Formicary. 5811

5812 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170m 14-May-1992 C. R. Nelson # 5812 16 *Tipulidae*: *Nephrotoma*; *Asilidae*: *Taracticus*, photos, *Efferia* 2 females, *Polacantha*?, *Promachus*; *Cerambycidae*; *Cicadellidae*: *Graphicephala coccinea* photos; 5812

5813 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170m 22-May-1992 C. R. Nelson # 5813 , Jon K. Gelhaus, J. E. Gillaspay, David P. Koenig 16 mailed application to Texas Parks & Wildlife for Conservation Biologist position. *Tipulidae*: many *Lunatipula*; *Asilidae*: *Taracticus*, *Polacantha*, saw *Promachus*, *Leptogaster*; *Nerodia erythrogaster* water snake photos; fungus photos; fungus beetles on fungus photos 5813

5814 USA TEXAS: Val Verde Co. Seminole Canyon State Park, Hwy 90, 15 mi SE of Langtry 23-May-1992 C. R. Nelson # 5814 , J. K. Gelhaus, D. P. Koenig 16 101d20m 29d40m estimated from County maps of Texas 1987 *Asilidae*: *Polacantha*; *Ichneumonidae*: *Ophion*?; *Syrphidae*: *Copestylum*, *Chrysotoxum*!; *Cantharidae* 5814

5815 USA TEXAS: Jeff Davis Co. Chihuahua Desert Research Institute, 2 mi SE of Fort Davis, Cienega Creek? 23-May-1992 C. R. Nelson # 5815 , J. K. Gelhaus, D. P. Koenig 16 103d50m 30d33m *Dytiscidae*: *Thermonectes marmoratus*; *Chrysopidae*, white stigma; *Languriidae*; *Asilidae*: *Promachus*. 5815

5816 USA TEXAS: Jeff Davis Co. Davis Mountains State Park, campground 23-May-1992 C. R. Nelson # 5816 , J. K. Gelhaus, D. P. Koenig 16 103d55m 30d35m from map book *Tipulidae*: *Nephrotoma*, *Limonia*, *Lunatipula*; *Lampyridae*; *Chrysopidae* 5816

5817 USA TEXAS: Jeff Davis Co. Davis Mountains State Park, campground 24-May-1992
C. R. Nelson # 5817 , J. K. Gelhaus, D. P. Koenig 16 103d55m 30d35m from map book
Asilidae; Efferia carinata group photos including m & f with prey; Therevidae; Vespidae:
Polistes; Scarabaeidae: Rutelinae; Chrysomelidae: Cassidinae; Phengodidae;
Chrysopidae, three spp.; mantispidae: Mantispa photos; Myrmeleontidae; Syrphidae 5817

5818 USA TEXAS: Jeff Davis Co. Davis Mountains State Park, scenic overlook road 3A 24-May-1992 C. R. Nelson # 5818 , J. K. Gelhaus, D. P. Koenig 16 hilltop overlooking Fort Davis
Acrididae, lubber nymph; Vespidae; Sphecidae; Chrysomelidae; Asilidae: Scleropogon
latipennis, Efferia carinata group m & f; Chrysopidae; acalyptrate flies mating on
underside of Yucca leaves; Heleomyzidae in cave 5818

5819 USA TEXAS: Jeff Davis Co. Rest Area 23 mi NE of Fort Davis, Hwy 118 24-May-1992
C. R. Nelson # 5819 , J. K. Gelhaus, D. P. Koenig 16 in pines, strange pinyon & ponderosa,
also alligator bark juniper Tachinidae, blue, from cave; Mycetophilidae; Drosophilidae;
Trichoptera; Tipulidae to Gelhaus, Eremotipula, Lunatipula; Hemerobiidae 5819

5820 USA TEXAS: Jeff Davis Co. Davis Mountains State Park, campground 25-May-1992
C. R. Nelson # 5820 , J. K. Gelhaus, D. P. Koenig 16 Scarabaeidae: Rutelinae, green 5820

5820.1 USA TEXAS: Jeff Davis Co. Fort Davis 24-May-1992 C. R. Nelson # 5820.1 , J. K.
Gelhaus, D. P. Koenig 16 Lycidae, photos 5820.1

5821 USA TEXAS: Jeff Davis Co. Davis Mountains Resort, 1 mi or so past Davis Mtns. Resort
welcome sign in Limpia Creek drainage 25-May-1992 C. R. Nelson # 5821 , J. K. Gelhaus,
D. P. Koenig 16 Collected on Dan Keith property, while collecting Terry & Diane Taylor
stopped us and invited us to their insect storeroom isolated up a small canyon. They are
the owners of Combined Scientific, suppliers of insects to collectors and others. It rained
hard and they invited us to stay but we needed to get to our night collecting spot. Dave
Marta?, formerly of L. A. County Parks also dropped by. He is an insect collector as well.
Syrphidae; Asilidae: Efferia carinata group, saw Promachus m, albifacies size; sphecidae
5821

5822 USA TEXAS: Jeff Davis Co. Rest Area 23 mi NE of Fort Davis, Hwy 118 25-26 May
1992 C. R. Nelson # 5822 , J. K. Gelhaus, D. P. Koenig 16 stayed night, this is probably
Madera Creek, we stayed in the Lawrence E. Wood Rest Area. This was a breakthrough
area where we learned search techniques to find Tipula in Texas. Jon was pleased. same
site as 5819 Tipulidae: Lunatipula, caught many in crevices in the hillside in the morning.
5822

5823 USA TEXAS: Culberson Co. 1 mi E of Plateau exit of I-10, 19 mi E of Van Horn 26-May-
1992 C. R. Nelson # 5823 , J. K. Gelhaus, D. P. Koenig 16 Efferia male 5823

5824 USA TEXAS: Culberson Co. 3 mi W of Plateau exit on I-10; 15 mi E of Van Horn 26-May-1992 C. R. Nelson # 5824 , J. K. Gelhaus, D. P. Koenig 16 on west bound frontage road, Michigan Flat Exit Asilidae: Efferia 2f, Ospricerus; Sphecidae; bees; Myrmeleontidae; Carabidae, Passimachus 5824

5825 USA NEW MEXICO: Eddy Co. Guadalupe Mountain, Dark Canyon, 3 mi below Klondike Gap 27-May-1992 C. R. Nelson # 5825 , J. K. Gelhaus, D. P. Koenig 16 beetle quality water in streambed, not flowing, no stonefly water here. I broke my net ring, good thing I have a spare. I stepped over a small rattlesnake, he was cold but sounded then got under a rock too large to lift. Pinyon pine, Ponderosa Pine, alligator bark juniper, big tooth maple! Tipulidae: Limonia, Lunatipula, Trichotipula; Chrysopidae; Mycetophilidae: macrocera. 5825

5825.1 USA NEW MEXICO: Eddy Co. Guadalupe Mountains, near Queen 27-May-1992 C. R. Nelson # 5825.1 , J. K. Gelhaus, D. P. Koenig 16 kept the spider for a lab pet. She molted in May 1993 but my cats mauled her when I took her home to show a kindergarten class. I was sad, she had lasted a long time. tarantula 5825.1

5826 USA NEW MEXICO: Eddy Co. Guadalupe Mountains, Sitting Bull Falls 27-May-1992 C. R. Nelson # 5826 , J. K. Gelhaus, D. P. Koenig 16 Asilidae: Efferia tuberculata?, Efferia ? f, Efferia zonata photos, Efferia albibarbis, Cophura sp. photos, Scleropogon photos; Scarabaeidae; Sphecidae; bees; Calamoceratidae; Cicadidae; Formicidae pulling dead Tachinidae photos; Chrysomelidae photos; found a large colorful caterpillar on sotol, Dave took it. It pupated in Philadelphia but didn't emerge 5826

5826.1 USA NEW MEXICO: Eddy Co. road to Carlsbad from Sitting Bull Falls 27-May-1992 C. R. Nelson # 5826.1 , J. K. Gelhaus, D. P. Koenig 16 picked up a male tarantula, Dave took it to Philadelphia 5826.1

5827 USA TEXAS: Ward Co. Monahans Sandhills State Park 28-29 May 1992 C. R. Nelson # 5827 , J. K. Gelhaus, D. P. Koenig 16 Asilidae: Laphystia, Stichopogon, Proctacanthus photos, Machimus, Holopogon, Proctacanthella; Myrmeleontidae; Chrysopidae; Flatidae on legume; Meloidae; Sphecidae; Cerambycidae photos of Prionus but not of white Tetraopes; Bombyliidae, 1 very small; Cicindelidae, Scarabaeidae photos are beautiful one with ant on leg; Scaphiopus spadefoot toad photos; Bufo photos 5827

5828 USA TEXAS: Presidio Co. Big Bend Ranch State Natural Area, Cuevas AmarillasSprings, 20 road miles E of Presidio 30-31 May 1992 C. R. Nelson # 5828 , J. K. Gelhaus, D. P. Koenig 16 to get to site Hwy 67 to eastern limit of Presidio on Hwy 170: 2.7 miles then city limit to Cas Piedras Road: 3.3 miles then 1st right fork to 2nd: 5.6 miles then 2nd right fork to gate: 2.1 miles then gate to springs: 6.4 miles, equals 20.1 miles. To

access the springs we drove 4 miles SW on Hwy 170 to the Casa Piedra Road, then 8 miles on a gravel road bearing right, right, left when forks came in the road. Then we opened the locked front gate and drove another 6.4 miles to the spot where riparian vegetation and Yellow cliffs dominated the view: Cuevas AmarillasSprings! Asilidae: Efferia 3 spp., Ospricerus photos, Promachus; wasps on Baccharis; mantispidae: mantispa & Plega; Meloidae; Leucospididae photos; Canyon tree frog photos; Red spotted toad photos; Vinegaroon photos. 5828

5829 USA TEXAS: Presidio Co. Big Bend Ranch State Natural Area, Cuevas AmarillasSprings, 20 road miles E of Presidio 01-Jun-1992 C. R. Nelson # 5829 , J. K. Gelhaus, D. P. Koenig 16 to get to site Hwy 67 to eastern limit of Presidio on Hwy 170: 2.7 miles then city limit to Cas Piedras Road: 3.3 miles then 1st right fork to 2nd: 5.6 miles then 2nd right fork to gate: 2.1 miles then gate to springs: 6.4 miles, equals 20.1 miles. To access the springs we drove 4 miles SW on Hwy 170 to the Casa Piedra Road, then 8 miles on a gravel road bearing right, right, left when forks came in the road. Then we opened the locked front gate and drove another 6.4 miles to the spot where riparian vegetation and Yellow cliffs dominated the view: Cuevas AmarillasSprings! Odonata; black tailed rattle snake 33 inches, photos; Asilidae: Stichopogon; Hymenoptera; Buprestidae 5829

5830 USA TEXAS: Presidio Co. Presidio 01-Jun-1992 C. R. Nelson # 5830 , J. K. Gelhaus, D. P. Koenig 16 Buprestidae 5830

5831 USA TEXAS: Brewster Co. Big Bend National Park, Chisos Basin Campground 01-Jun-1992 C. R. Nelson # 5831 , J. K. Gelhaus, D. P. Koenig 16 three rolls of Fujichrome velvia mailed and last roll of Kodachrome to Dallas! the end of an era of film usage! Tipulidae: Bellardina, indicative of a spring habitat nearby 5831

5832 USA TEXAS: Brewster Co. Big Bend National Park, Fossil Bone Exhibit 02-Jun-1992 C. R. Nelson # 5832 , J. K. Gelhaus, D. P. Koenig 16 Scarabaeidae, dung beetle rolling, photos 5832

5833 USA TEXAS: Pecos Co. Glass Mountains, rest area, summit Hwy 385 02-Jun-1992 C. R. Nelson # 5833 , J. K. Gelhaus, D. P. Koenig 16 Asilidae: Efferia 2 spp.; Sphecidae 5833

5834 USA TEXAS: Pecos Fort Stockton, 3000 Dickinson Road 02-Jun-1992 C. R. Nelson 5834 , J. K. Gelhaus, D. P. Koenig 16 collected in a creosote flat with other natural vegetation in a vacant lot. We collected while Fred Piñera worked on the truck's charging system. I also talked with Fred's father, George, about the printing business. Asilidae, numerous very rich site. First time I saw Efferia wilcoxi, Saropogon, Leptogaster, Hymenoptera 5834

5835 USA ARKANSAS: on highway between Mena and Fort Smith 5835 16

Chrysopidae, Buprestidae 5835

5836 USA TEXAS: Comal Co. Guadalupe River State Park, 15 mi E of Boerne, off Hwy 46

10-11 June 1992 C. R. Nelson # 5836 , A. J., & A. L. Nelson, R. W. Baumann, B. C.

Kondratieff, Loren Liu 16 Perlidae: Perlesta, Neoperla at UV light; Asilidae: Diogmites, Atomosia, Polacantha, Efferia 2 spp., Promachus, Laphria macquarti to CSU, Taracticus, Beameromyia, Psilocurus, Laphystia to BYU; Tabanidae, Nemestrinidae photos; Bombyliidae; Therevidae; Reduviidae photos on Boris' arm. many elmids at night see BYU & CSU; Ephemeroptera; cast skin of flattened dragonfly nymph; Hetaerina 2 spp.; many geckos on restroom. 5836

5837 MEXICO Yucatan State Chichen Itza 17-Jun-1992 C. R. & J. K. Nelson 5837 16

Vespidae on Mayan ruin: The Observatory; Asilidae: Atomosia, Ommatius 5837

5838 USA TEXAS: Hayes Co. Aquarena Springs, headwaters of the San Marcos River 20-

Jun-1992 C. R. & J. K. Nelson & familiy 5838 16 Gerridae 5838

5839 USA MICHIGAN: Livingstone Co. E. S. George Reserve 27-Jun-1992 C. R. Nelson,

Theodore & Jean Cohn 5839 16 Bombyliidae, Chrysopidae, Asilidae: Efferia aestuans, Dioctria baumhaueri det CRN 1994, Leptogaster No! CRN 1994, Beameromyia det CRN 1994, Ommatius, Machimus; Panorpidae 5839

5840 USA MICHIGAN: Livingstone Co. Hell, NW of Ann Arbor 27-Jun-1992 C. R. Nelson,

Theodore & Jean Cohn 5840 16 Cerambycidae; photos of signs 5840

5841 USA MICHIGAN: Washtenaw Co. Ann Arbor, Huron River 27-Jun-1992 C. R. Nelson

5841 16 Leptoceridae- beautiful; Micropezidae; Pallopteridae 5841

5842 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170m 03-Jul-1992 C. R.

Nelson, A. W. Hook, Chris Tannehill Jackson 5842 16 Asilidae: Taracticus photos, Polacantha, Promachus painteri, Promachus n. sp., Efferia sp; Coccinelidae; Tachinidae; Hook has sawfly larvae 5842

5843 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170m 06-Jul-1992 C. R.

Nelson, R. W. Patrock 5843 16 Mydidae: Mydas clavatus; Asilidae: Promachus; saw fly larvae (purple) photos 5843

5844 USA TEXAS: Blanco Co. Pedernales Falls State Park 11-Jul-1992 C. R. Nelson &

family 5844 16 Asilidae: Eccritosia, Efferia albibarbis, Stichopogon trifasciatus; Membracidae; Diogmites angustipennis det CRN 1994 5844

5844.1 USA TEXAS: Nueces Co. Padre Island, Malaquite Beach 18-Jul-1992 C. R. Nelson & family 5844.1 16 Asilidae: Proctacanthus hinei, Proctacanthella robusta (first time I've seen or caught!), Efferia, Laphystia 5844.1

5845 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170m 29-Jul-1992 C. R. Nelson & Steven Bernal from Bio 303 5845 16 Asilidae: Promachus n. sp. with Tachytes sphecid, fly escaped, Triorla interrupta photos, saw Proctacanthella cacopiloga; Syrphidae: Meromacrus acutus photos; mantispidae: mantispa. 5845

5845.1 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170m 06-Aug-1992 C. R. Nelson & A. W. Hook 5845.1 16 Asilidae: Promachus painteri photos, Promachus n. sp. mating photos, saw Efferia, Diogmites angustipennis det CRN 1994, Hadrokolos?; Halictidae, Syrphidae, Coccinelidae 5845.1

5846 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 14-Aug-1992 C. R. Nelson & A. W. Hook 5846 16 photos whiteflies on Chinaberry Promachus painteri, saw Promachus n. sp., Polacantha, Proctacanthella, Hadrokolos?, Coelioxys, Chrysopa, Syrphidae: Spilomyia, 5846

5847 USA WISCONSIN: Oneida Co. Camp Six Creek, 12 km SE of Rhinelander 16-Aug-1992 Isobe, Hanada, & C. R. Nelson 5847 16 Perlesta (photos), Limnephilidae, Syrphidae 5847

5848 USA WISCONSIN: Lincoln Co. Ripley Creek Jct Wisconsin River, below Grandfather Falls 16-Aug-1992 Ed DeWalt, B. P. Stark, & C. R. Nelson 5848 16 photos Pscoptera; photos Paragnetina media Syrphidae, Paragnetina media, Leuctra, Trichoptera, Pscoptera 5848

5849 USA WISCONSIN: Lincoln Co. Pickerel Creek, Treehaven Field Station N 45.499982 W 89.550491, 468 m 17-Aug-1992 C. R. Nelson 5849 16 Google Earth 2014 malaise trap sample Tipulidae, Machimus, Pelecinidae (photos), Trichoptera (photos), Acalypterate with spotted wings (Heleomyzid, photos), Cicadellidae: Graphocephala (photos) 5849

5850 USA WISCONSIN: Lincoln Co. Pickerel Creek, Treehaven Field Station N 45.499982 W 89.550491, 468 m 18-Aug-1992 B. C. Kondratieff, R. F. Kirchner, Ignac Sivec C. R. Nelson 5850 16 Google Earth 2014 malaise trap sample Tipulidae, Machimus, Panorpa 5850

5851 USA WISCONSIN: Lincoln Co. Pickerel Creek, Treehaven Field Station N 45.499982 W 89.550491, 468 m 19-Aug-1992 P. Zwick & C. R. Nelson 5851 16 Google Earth 2014 malaise trap sample Syrphidae larva (photos); Ptychopteridae: Bittacomorpha (photos); Panorpa; Sphecidae; smooth green snake (photos); Tipulidae larva & large adult (photos) 5851

5852 USA WISCONSIN: Lincoln Co. Pickerel Creek, Treehaven Field Station N 45.499982 W 89.550491, 468 m 20-Aug-1992 C. R. Nelson 5852 16 Google Earth 2014 malaise trap sample Panorpidae (photos); Syrphidae (photos); Meloidae; Bombyliidae; Machimus? 5852

5853 USA WISCONSIN: Lincoln Co. Prairie River, Prairie River State Public Hunting & Fishing Area, Hwy 17 20-Aug-1992 Stonefly Symposium & C. R. Nelson 5853 16 Google Earth 2014 5853

5854 USA WISCONSIN: Lincoln Co. Prairie River, former site of Prairie Dell Dam 20-Aug-1992 Stonefly Symposium & C. R. Nelson 5854 16 other things to Baumann or Zwick, photos of deep sediments from former dam Cicindelidae larva (photos) 5854

5855 USA WISCONSIN: Lincoln Co. Beaver Pond behind maintenance shed, Treehaven Field Station 20-Aug-1992 P & H Zwick, R. Fochetti, & C. R. Nelson 5855 16 Belostomatidae: Lethocerus to Fochetti, Belostoma to Zwick; Ranatra; Pleidae! first time collected 5855

5856 USA WISCONSIN: Oneida Co. Bearskin Creek, Hwy 51, 6 mi N of Lake Nokomis 20-Aug-1992 B. P. Stark, S. W. Szczytko, & C. R. Nelson 5856 16 dragonfly nymphs: Gomphidae, Cordulegastridae, Calopterygidae; Ephemerae: Hexagenia, Ephemerella; Isoperla dicala det CRN 1994 (photos); Perlodes decipiens det CRN 1994 (photos); Haploperla brevis det CRN 1994 (photos) 5856

5857 USA WISCONSIN: Lincoln Co. Pickerel Creek, Treehaven Field Station 16-21 August 1992 C. R. Nelson 5857 16 Tipulogaster det CRN 1994 5857

5858 USA WISCONSIN: Lincoln Co. Ripley Creek Jct Wisconsin River, below Grandfather Falls 21-Aug-1992 Romolo Fochetti, Stan Szczytko, Ian McClellan, Takao Shimizu, & C. R. Nelson 5858 16 Leuctra tenuis det CRN 1994; Acroneuria nymph 5858

5859 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev. 02-Sep-1992 C. R. Nelson 5859 16 The Eysenhardtia is in full bloom. It is attracting large numbers of Hymenoptera. Promachus painteri det CRN 1994; saw but didn't collect Diogmites angustipennis; Polacantha det CRN 1994; Proctacanthella cacopiloga det CRN 1994; Syrphidae, Coenagrionidae, Sphecidae 5859

5860 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev. 03-Sep-1992 C. R. Nelson 5860 16 saw many Promachus painteri det CRN 1994; Syrphidae, Palpada; Sphegus ichneumonius with empty Strepsiptera case; Odonotus, mantispha, Tritoxa, Toxophora, Libellulidae 5860

5861 USA TEXAS: Burnet Co. Inks Lake State Park, Spring Creek, Devils Hole 05-Sep-1992
J. R. & C. R. Nelson 5861 16 Is this when I caught the stinkpot? Libellulidae; Tetrigidae;
Otitidae; tick - Amblyomma nymph 5861

5862 USA TEXAS: Blanco Co. Pedernales Falls State Park, campground river area 18-19
Sep 1992 Entomology class & C. R. Nelson 5862 16 sampled extensively at trammel
crossing at campground area:
moth eggs on spider web (photos); malaise trap; Bombyliidae several spp.; Fulgoridae on
cypress; Cicindelidae; Mutillidae; Diogmites, Promachus painteri det CRN 1994; Proleptis
tristis; Heteropogon lautus, Heteropogon n sp; Proctacanthella; Stichopogon;
at Falls Beach:
Eccritosisa zamon det CRN 1994 (photos); Efferia 3 spp.; mantispidae; Sphecidae;
Stratiomyidae; Cerambycidae (photos) 5862

5863 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev. 23-Sep-1992
Jason Hook & C. R. Nelson 5863 16 Tachinidae: Trichopoda; Sphecidae; Tiphiidae;
Eumenidae; Alydidae, one black wingless; Diogmites angustipennis det CRN 1994
(photos); Promachus painteri det CRN 1994 (photos) with Vespula squamosa prey;
Polacantha det CRN 1994; geometridae caterpillar (photo); leaf miner damage on lantana
(photo) 5863

5864 USA TEXAS: Hays Co. Wimberley, Blue Hole, Cypress Creek 26-Sep-1992 A. W.
Hook & C. R. Nelson 5864 16 30 degree N 98 degree 05 minutes W 5864

5865 USA TEXAS: Bastrop Co. Lost Pines Biological Station, Stengl Ranch, between state
parks 03-Oct-1992 Entomology class, J. R. & C. R. Nelson 5865 16 photo of crab spider
with Battus philenor; photo of jumping spider with moth suspended from rafter; photo of
sundew caddisfly adults at UV light; Diogmites angustipennis det CRN 1994; Halictidae;
Chrysopidae, Hemerobiidae; Psychodidae: Lutzomyia? (photos) 5865

5866 USA TEXAS: Bastrop Co. Sayers, Big Sandy Creek, long road site 03-Oct-1992
Entomology class, J. R. & C. R. Nelson 5866 16 received card of landowner Henry Newton
Bell III Attorney at Law, 305 E Huntland Drive, Second Floor, Austin, Texas 78752 bees;
Mutillidae; Pompilidae; Ammophila (photo digging); Cicindela (photo), 3 spp.; Cophura?;
Proctacanthella; Syrphidae: Palpada; Conopidae; Bombyliidae: Ligyra, Neodiplocampta,
Anastoechus 5866

5867 USA TEXAS: Bastrop Co. Sayers, Little Sandy Creek, at road 49 03-Oct-1992
Entomology class, J. R. & C. R. Nelson 5867 16 Myrmeleontidae 5867

5868 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev. 05-Oct-1992
Entomology class & C. R. Nelson 5868 16 Anax junius (photos); Tachinidae; Bombyliidae,

Lepidophora (photos); Sesiidae (photos); all of the above were on frostweed, *Verbesina virginica*; Syrphidae (photos); Pentatomidae black nymphs (photos); Salticidae eating *Diabrotica* (photos); leech & babies (photo) 5868

5869 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev. 08-Oct-1992 C. R. Nelson 5869 16 Coniopterygidae; lantana with Agromyzidae? larvae & pupae; Mayfly adult; Sphingidae larva (photos) 5869

5870 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev. 21-Oct-1992 Heather Humphrey & C. R. Nelson 5870 16 Salticidae mimicking *Pseudomyrmex* 5870

5871 USA TEXAS: Bastrop Co. Lost Pines Scout Reservation; Lake Bastrop 24-Oct-1992 J. R. & C. R. Nelson 5871 16 Odonata; Mutillidae; *Diogmites angustipennis* det CRN 1994; *Neivamyrmex harrisi* (army ants); fungus (photos); fire ants (photos); Salticidae, Mutillidae mimic (photos) 5871

5872 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 27-Oct-1992 C. R. Nelson & Larry Bezark 5872 17 Larry visited from Sacramento, California. Bibionidae; Libellulidae; Syrphidae; Sphingidae; *Polacantha*; *Heteropogon* 5872

5873 USA TEXAS: Gillespie Co. Enchanted Rock State Natural Area 07-Nov-1992 C. R. & C. R. Nelson 5873 17 photos of sunrise, rocks, goats and Ted Hodge eating a grasshopper. 5873

5874 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 16-Dec-1992 C. R. Nelson 5874 17 Reduviidae, *Arilus cristatus*; photos of tick (*Ixodes*) on mandy, James Gillaspys dog 5874

5875 USA TEXAS: Dawson Co. 5 mi W of Lamesa, cotton field 19-Dec-1992 C. R. Nelson & family 5875 17 photos of cotton field 5875

5876 USA NEW MEXICO: San Juan Co. ca. 10 mi N of Newcomb 20-Dec-1992 C. R. Nelson & family 5876 17 photos of Colorado Plateau salt desert with snow in winter, Photos: *Pogonomyrmex occidentalis* mounds covered with snow; *Atriplex*. Photos: *Stipa hymenoides* photos 5876

5877 USA ARIZONA: Navajo Co. Monument Valley 20-Dec-1992 C. R. Nelson & family 5877 17 photos of The Mittens rocks 5877

5878 USA UTAH: Emery Co. Book Cliffs, ca. 10 mi NW of Green River 20-Dec-1992 C. R. Nelson & family 5878 17 photos of Book Cliffs & surroundings 5878

5879 USA UTAH: Utah Co., 12 mi E of Thistle, Wheeler sawmill 26-Dec-1992 C. R. Nelson & family 5879 17 photos of bowl on south side of Hwy 6 across from sawmill 5879

5880 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev. 01-Feb-1993 C. R. Nelson & G. I. Baird 5880 17 for vegetation analysis we set up plots to generate species-area curves. The weather was great, although days now can be generally dreary. 4 16x16 m plots accomplished by 3 groups of 5 students. Met at BFL and used all four hours of the lab period. 5880

5881 USA TEXAS: Hayes Co. Camp Ben McCullough 01-Feb-1993 C. R. & J. R. Nelson 5881 17 Scout camp with ward, Citizenship in the World Tipulidae 5881

5882 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev. 08-Feb-1993 C. R. Nelson & G. I. Baird 5882 17 fire ant preference lab with 208 ants 5882

5883 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev. 10-Feb-1993 C. R. Nelson, H. Gregory, J. Gillaspay 5883 17 Tipulidae, Chrysomelidae, Mycetophilidae, Scatophagidae, & set up malaise trap 5883

5884 USA TEXAS: Travis Co. Little Barton Creek, Bee Cave, near jct Hwy 71 & FM 2244 15-Feb-1993 C. R. Nelson, G. I. Baird, & 208 class 5884 17 mapped stream Mayfly nymphs, Zealeuctra 5884

5885 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 23-Feb-1993 C. R. Nelson 5885 17 at porch light Noctuidae? 5885

5886 USA TEXAS: Travis Co. Austin, Cold Spring, Town Lake 24-Feb-1993 C. R. Nelson & R. Hansen 5886 17 rowed across lake from BFL Perlesta nymph, Psephenidae, gammaridae, Tipulidae larvae 5886

5887 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 25-Feb-1993 C. R. Nelson 5887 17 Tipulidae at porch light 5887

5888 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev. 25-Feb-1993 C. R. Nelson 5888 17 photos of Masses of fire ants in tray, photo of Ed Vargo Solenopsis invicta 5888

5888.1 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev. 26-Feb-1993 Heather Gregory 5888.1 17 changed bottle on malaise trap; repaired trap head at home in evening, replaced in the morning 5888.1

5889 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev., malaise trap 05-Mar-1993 C. R. Nelson & H. Gregory 5889 17 changed malaise trap 5889

5890 USA TEXAS: Blanco Co. Pedernales Falls State Park, campground river area 06-Mar-1993 C. R. & J. R. Nelson; G. Baird, & 208 class 5890 17 sampled extensively at trammel crossing aquatic insects, short winged Noctuidae 5890

5891 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev. 10-Mar-1993 C. R. Nelson 5891 17 observed Holopogon for three hours, at 3:30pm a male approached from below the twig tip perched female, sighted at about 50cm then slowly hovered upward to within 5 cm then female rejected him by rotating backward on perch (nearly falling off) and fluttering her wings; male left immediately; entire sequence took about 30 sec. Carabidae, Passimachus; Holopogon n. sp. released. 5891

5892 USA TEXAS: Mason Co. Beaver Creek, Hwy 87, 10 mi SE of Mason 13-Mar-1993 C. R. Nelson; K. D. Alexander, R. W. Baumann, A. W. Hook, R. Hansen, B. C. Kondratieff, S. M. Stringer 5892 17 larger sample with Shann & Robert Hydroperla nymphs & skins; Isonychia 5892

5893 USA TEXAS: Mason Co. Llano River, FM 2389 ca. 5 mi S of Mason 13-Mar-1993 C. R. Nelson; K. D. Alexander, R. W. Baumann, A. W. Hook, R. Hansen, B. C. Kondratieff, S. M. Stringer 5893 17 Naucoridae; Isonychia; macromyia; Calopterygidae; Centruroides 5893

5894 USA TEXAS: Mason Co. James River near junction Salt Creek 13-Mar-1993 C. R. Nelson; K. D. Alexander, R. W. Baumann, A. W. Hook, R. Hansen, B. C. Kondratieff, S. M. Stringer 5894 17 photos of bombardier beetles 5894

5895 USA TEXAS: Kimble Co. James River, 2 mi N of Hwy 385 13-Mar-1993 C. R. Nelson; K. D. Alexander, R. W. Baumann, A. W. Hook, R. Hansen, B. C. Kondratieff, S. M. Stringer 5895 17 Perlesta nymphs; Hydroperla adult, dead on water; Naucoridae 5895

5896 USA TEXAS: Gillespie Co. Pedernales River, FM 2093, 12 mi E of Fredericksburg 13-Mar-1993 C. R. Nelson; K. D. Alexander, R. W. Baumann, A. W. Hook, R. Hansen, B. C. Kondratieff, S. M. Stringer 5896 17 photos

CRN checked this in database on 5 November 2015, Baumann's notes say 12 miles West of Fredericksburg off 2093 on White Oak Road. I think he is right! I seem to have written east when I should have said west. Hydroperla 5896

5897 USA TEXAS: Gillespie Co. Fredericksburg, Lady Bird Johnson City Park 14-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5897 17 Hydropsychidae adult 5897

5898 USA TEXAS: Bandera Co. North Prong Medina River, Hwy 16, 4 mi N of Medina 14-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5898 17 Chimarra, photos; Hydropsychidae, photos; spotted caddis, photos; Perlesta nymphs; Odonata; Ephemeroptera 5898

5899 USA TEXAS: Bandera Co. West Prong Medina River, Hwy 337, junction Coalkin Road, 2 mi E of Medina 14-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5899 17 Chimarra; Hydropsychidae 5899

5900 USA TEXAS: Bandera Co. Elam Creek, junction Hwy 337 8 mi W of Medina 14-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5900 17 Athericidae; Stenonema x; Cimicidae, photos 5900

5901 USA TEXAS: Bandera Co. Hwy 337, 12 mi W of Medina 14-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5901 17 photos of juniper & grazing contrast 5901

5902 USA TEXAS: Bandera Co. Lost maples State Park, Can Creek 14-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5902 17 Calamoceratidae larvae; Psephenidae 5902

5903 USA TEXAS: Edwards Co. Nueces River, Barksdale, Hwy 55 15-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5903 17 collected below cement outfall of highway crossing; Kevin took some saturniid pupae to Denton, TX. Ephemeroptera; Trichoptera; Petrophila; Simuliidae; saw Corydalidae; Tricorythodes; Stenonema x; Baetidae; Elmidae; Veliidae; Dryopidae 5903

5904 USA TEXAS: Val Verde Co. Loma Alta, 43 mi N of Del Rio 15-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5904 17 Holopogon, n. sp. "anaana"; Efferia 5904

5905 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 15-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5905 17 blacklight sample Trichoptera; Formicidae- army ant alates; Pyrgotidae 5905

5906 USA TEXAS: Val Verde Co. Dolan Creek near junction Devils River, Shelf Angle Springs 16-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5906 17 photos of "Shelf Angle Springs", first large spring upstream from Devils River, channel from spring runs upstream (relative to Dolan Creek) in etched trough. This name is mine, for my reference in notes. The spring is officially unnamed. Tipulidae; Zygoptera; Ephemeroptera; Scleropogon; Xylocopa; Osmia on chestnut; Bibionidae hovering 5906

5907 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 16-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5907 17 Zygoptera; Geometridae - Eubaphe; Holopogon, photos; Polistes; Xylocopa; Bombyliidae; Raphidiidae; Phymata, photos on showy legume 5907

5908 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 17-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5908 17 met matt & Ron Kessler of Austin. They help with fund raising for The Nature Conservancy in Austin, Texas. Dave Braun sent them. Simuliidae, many males in a swarm on water's surface above a standing wave, fewer males 5-10 ft off

the water; Ephemeroptera; Odonata; Sialidae adult; Pyrgotidae at house lights, Asilidae; Therevidae; whipsnake photos 5908

5909 USA TEXAS: Val Verde Co. Snake Creek junction Dolan Creek, near Devils River 18-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5909 17 Corydalidae; Psephenidae; Tabanidae 5909

5910 USA TEXAS: Val Verde Co. Dolan Creek junction Snake Creek, pond below Yellow Bluff, near Devils River 18-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5910 17 Nepidae, Ranatra 5910

5911 USA TEXAS: Val Verde Co. Dolan Springs, below Yellow Bluff, near Devils River 18-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5911 17 Psephenidae adults; mealybugs on sotol (Dasylirion) 5911

5912 USA TEXAS: Val Verde Co. Dolan Falls Preserve, Leon Springs, E of Devils River 19-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5912 17 Dytiscidae; Nepidae; Belostomatidae; Notonectidae; Corixidae 5912

5913 USA TEXAS: Val Verde Co. Dolan Creek near junction Devils River 19-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5913 17 took 100 animal sample from cobble riffle about 500 m upstream from confluence with Devils River Petrophila case, photo 5913

5914 USA TEXAS: Val Verde Co. Dolan Creek at first big spring upstream from Devils River 19-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5914 17 same site as in #5906 Gerridae 5914

5915 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 20-Mar-1993 C. R. Nelson, K. D. Alexander, S. M. Stringer 5915 17 Tricorythidae, hovering at dawn 5915

5916 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 27-Mar-1993 C. R. Nelson & G. I. Baird 5916 17 got scorpions for movie people; photographed slime mold, black-headed snakes; Plethodon scorpions; Hydrophilidae 5916

5917 USA TEXAS: Travis Co. Austin, University of Texas 05-Apr-1993 C. R. Nelson & Bio 208 class 5917 17 Heliconius experiment in Larry Gilbert's greenhouse 5917

5918 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 09-Apr-1993 C. R. Nelson 5918 17 photo of Ceraturgus caught by Mark Guckeyson Laphria flavicollis; Efferia snowi; Syrphidae mimicking Eumenidae 5918

5919 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 12-Apr-1993 C. R. Nelson, G. I. Baird, & Bio 208 class 5919 17 Population estimates of Pogonomyrmex;

photos of *Tillandsia* on fence saw *Laphria flavicollis*, *Efferia snowi*; *Sialis*; weevils on disk of *Pogonomyrmex* nest; Erioptera, black tipulid 5919

5920 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 13-Apr-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5920 17 specimens to ANSP with other collectors 5920

5921 USA TEXAS: Bastrop Co. Lost Pines Biological Station, Stengl Ranch, between state parks 17-Apr-1993 C. R. & J. R. Nelson, G. I. Baird, & Bio 208 class 5921 17 photo of crab spider with *Battus philenor*; photo of jumping spider with moth suspended from rafter; photo of sundew *Ceraturgus*, photos; *Laphria flavicollis*; *Laphria* sp 5921

5922 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 19-Apr-1993 C. R. Nelson & Bio 208 class 5922 17 hot dog traps for ants Chrysomelidae; Stratiomyidae; *Efferia snowi*, photos of mating; *Diadasia* photos 5922

5923 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 23-Apr-1993 C. R. Nelson & M. D. Guckeyson 5923 17 photos of *Efferia snowi* laying eggs, by two days later they hatched and died; photos of Gomphidae, actual photos taken by botany pond on campus *Efferia auripila*; *Leptogaster*; saw many *Efferia snowi*; *Laphria flavicollis*; Tipulidae; Crabro in nest, photo 5923

5924 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 25-Apr-1993 C. R. Nelson 5924 17 *Hermetia illucens* at porch light 5924

5925 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 03-May-1993 C. R. Nelson, G. I. Baird, & Bio 208 class 5925 17 fish preference test - they prefer shade; repaired malaise trap; photos of bladderwort in bloom; Reduviidae with coccinellid 5925

5926 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 10-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5926 17 later at home I photographed silkworm pupae *Efferia snowi*, *auripila*, *aestuans*?; *Leptogaster* det CRN 1994, *Tipulogaster* det CRN 1994,; *Taracticus*; *Laphria macquarti*; *Laphria flavicollis* *Polacantha grossa*; Tachinidae; Cerambycidae; Tipulidae 5926

5927 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 12-May-1993 C. R. Nelson, A. W. Hook, J. Neff 5927 17 *Tipulogaster* (*Leptogaster* det CRN 1994); *Psilocurus*; *Taracticus*; *Efferia aestuans*?; *Atomosia*; *Efferia auripila*; Sphecidae; Mutillidae 5927

5927.1 USA TEXAS: Washington Co. Hwy 105, turnoff to Washington-on-the-Brazos 14-May-1993 C. R. Nelson, J. K. Gelhaus, R. Hansen, A. W. Hook, & D. P. Koenig 5927.1 17 Eumenidae; *Ospricerus* 5927.1

5928 USA TEXAS: Walker Co. Sam Houston National Forest, Roark Creek, ca. 10 mi SE of Huntsville 14-May-1993 C. R. Nelson, J. K. Gelhaus, R. Hansen, A. W. Hook, & D. P. Koenig 5928 17 near site of CRN #5483 *Laphria saffrana*, photos; *Milesia scutellata* photos; *Vespula*; *Cicindela*; *Cerambycidae*; *Buprestidae*; *Bittacus*; *Bittacomorpha* 5928

5929 USA TEXAS: San Jacinto Co. Sam Houston National Forest, Winters Bayou, Hwy 150 ca 10 mi SW of Coldspring 14-May-1993 C. R. Nelson, J. K. Gelhaus, R. Hansen, A. W. Hook, & D. P. Koenig 5929 17 same site as CRN #5485 *Isoperla* adults; *Bittacus* 5929

5930 USA TEXAS: Jasper Co. Angelina National Forest, Boykin Spring Campground 15-May-1993 C. R. Nelson, J. K. Gelhaus, R. Hansen, A. W. Hook, D. P. Koenig, D. & W. mathis 5930 17 *Machimus*; *Nerodia* snake photos; *Bittacidae*; *Bittacomorpha* photos; *Sciaridae*; *Reduviidae* mutillid mimic 5930

5931 USA TEXAS: Jasper Co. Angelina National Forest, Boykin Spring Road, 1 mi from Hwy 63 15-May-1993 C. R. Nelson, J. K. Gelhaus, R. Hansen, A. W. Hook, & D. P. Koenig 5931 17 *Holopogon*, long series; *Proctacanthus brevipennis*; *Laphria saffrana* 5931

5932 USA TEXAS: San Augustine Co. 1 mi SE of Broaddus, Hwy 83 16-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5932 17 *Ichneumonidae*; *Bittacidae*; *Vespula* 5932

5933 USA TEXAS: Angelina Co. Upland Island Wilderness, Graham Creek, ca. 6 mi S of Zavalla then 1-2 mi E 16-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5933 17 *Bittacidae*; *Teuchilabis*; *Gonomyia*; *Yamatotipula*; *Brachypremna*; *Epiphragma*; *Pilaria*; *Erioptera*; *Nephrotoma*; *Cicindelidae*; *Eumenidae*; *Perlesta* 5933

5934 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 18-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5934 17 ran blacklight and kept a sample; all collectors for this Devils River trip included:
C. R. Nelson, J. K. Gelhaus, R. Hansen, A. W. Hook, D. P. Koenig, & R. Vockeroth, D. M. Wood. Set up malaise trap near windmill gulley. *Stichopogon trifasciatus*; *Efferia* n. sp. small; *Promachus painteri*; *Promachus* sp.; *Efferia* 2 spp.; *mantispidae*, very long series at light; *Cantharidae*; *Meloidae*; *Trichoptera* 5934

5934.1 USA TEXAS: Val Verde Co. Dolan Creek near Devils River 17-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5934.1 17 *Hexagenia* sub skin 5934.1

5935 USA TEXAS: Val Verde Co. Devils River, Dolan Falls, hillside above cabin 18-May-1993 C. R. Nelson, D. P. Koenig, & D. M. Wood 5935 17 walked to top of ridge; collecting was excellent for robber flies. We returned by way of deep gully downstream from Devils River ford. *Thamnophis* photos; *Selaginella*, resurrection plant photo; *Efferia* & prey many photos; *Agraulis vanillae* mating photos; *Nemestrinidae* photos 5935

5936 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 18-May-1993 C. R. Nelson & R. Hansen 5936 17 aquatic samples from 1, solid bedrock; 2 undercuts & cobble; check field label, May by numbered 5935 5936

5937 USA TEXAS: Val Verde Co. springs of Dolan Creek, "Shelf Angle" Springs" 18-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5937 17 ran light and malaise trap at springs 5937

5938 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 19-May-1993 C. R. Nelson 5938 17 spent morning collecting on hilltop between Devils River & Dolan Creek, many gomphids; afternoon worked downstream on E side of river to Mexican Oak camp, sisyrids on *Rhamnus betulifolia*; watched light at night but no sample kept; removed fish hook from Al Hook's right little finger. Excellent collecting day! Gomphidae; Sisyridae; Saropogon; other robber flies 5938

5939 USA TEXAS: Val Verde Co. Devils River, above Dolan Falls 20-May-1993 C. R. Nelson, J. K. Gelhaus, R. Hansen, A. W. Hook, & D. P. Koenig 5939 17 took 100 animal sample; emptied malaise traps as we took it down, good amount of dry material 18-20 May 1993 is range. 5939

5940 USA TEXAS: Val Verde Co. Dolan Creek near junction Devils River 20-May-1993 C. R. Nelson, J. K. Gelhaus, R. Hansen, A. W. Hook, & D. P. Koenig 5940 17 100 animal sample Ephydriidae sample; Odonata 5940

5941 USA TEXAS: Val Verde Co. 3.6 mi N of Loma Alta, Hwy 277, junction Dolan Creek Road 20-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5941 17 swept from *Ratibida columnaris* flowers; Al Hook had a flat tire coming out from Devils River; later we had a flat east of Sanderson at dusk. We drove in to Alpine and bought two new tires & a used rim in the morning, cost \$200. Stratiomyidae, Nemotelus; *Ospricerus latipennis* 5941

5942 USA TEXAS: Brewster Co. Elephant Butte Wildlife management Area, park property on Calamity Creek, 30 mi S of Alpine 21-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5942 17 some pools of water in *Baccharis* (wide leaf) covered creek bottom. State manager Jack Kilpatrick balked at my Texas Parks permit then was very friendly in granting access to a small piece of park property on Calamity Creek along Hwy 118 *Stichopogon trifasciatus*; *Ospricerus latipennis*; *Efferia albibarbis*; *Proctacanthella*; Ephydriidae; Geron; Anthrax; Cerambycidae; Buprestidae 5942

5943 USA TEXAS: Brewster Co. Big Bend National Park, Chisos Mountains, Oak Creek, Cattail Falls & Trail, elev. 4200 feet 21-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5943 17 also visited Oak Spring & changed Jon's malaise trap catch. Tipulidae at Cattail Falls included *Oriomarga*, *Cryptolabrus*, *Gonomyia*, and *Bellardina Efferia*

albibarbis; Efferia anomala; Nyssoninae; Canthon scarab; Trypoxylon; Reduviidae; Dasymutilla gloriosa photos; Libellula saturata; damsel flies 5943

5944 USA TEXAS: Jeff Davis Co. Davis Mountains State Park 21-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5944 17 camped in park at night, light rain mantispidae at light 5944

5945 USA TEXAS: Jeff Davis Co. Limpia Spring above Davis Mountains Resort, elev. 1730 m 22-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5945 17 Rick McLaren's property. changed catch in Jon's malaise trap. Pine/oak canyon with much grass, spring is slow flowing but very productive for insects (but probably not Plecoptera). Much filamentous algae. Rick uses some water flowing through a small plastic tube. many beetles in water Promachus small; Efferia 2 spp.; Machimus, saw & missed; Lunatipula photos; Cuterebra in creek bed photos; Libellulidae; Coenagrionidae; Ammophila; scarabs 5945

5946 USA TEXAS: Culberson Co. small dune, Hwy 54, 9.5 mi S of junction with Hwy 62/180 22-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5946 17 5:30 pm after a rainstorm, ca. 80 degrees F Efferia albibarbis; Proctacanthella; Rhipiphoridae; Pompilidae; Cerambycidae 5946

5947 USA TEXAS: Culberson Co. Guadalupe Mountains National Park, Choza Spring, Hwy 62/180, 2 mi E of headquarters 22-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5947 18 set up a malaise trap; Jon & Dave emptied theirs; spent night of 22-23 May in motel in Las Cruces, NM. Dioctria, new state record?; Monilema, Pyrgotidae; Phthiria on Ratibida columnaris 5947

5948 USA ARIZONA: Cochise Co. Peloncillo Mountains, Guadalupe Canyon, 30 mi E of Douglas 24-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5948 18 spent night of 23-24 May outside the gate at the entrance of Guadalupe Canyon. Added on 9 August 2015: There was a memorable sunset. I was sitting on a big pile of rounded boulders looking across the valley into Mexico when a pickup truck full of Mexicans was coming from the far side of the valley singing at the top of their lungs, "Ay, yai, yai, yai! Canta y no llores!" as the sun went down. It seemed like it was Friday night and I imagined these farm workers riding to town for drinking fun, which seemed to have started already. But I just checked, it was Sunday night. Holopogon; Heteropogon; Efferia; Cuterebra; bees on globemallow; bee on poppy; Syrphidae on Nolina flowers; Elateridae with pectinate antennae photo 5948

5949 MEXICO SONORA Peloncillo Mountains 24-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5949 18 stepped briefly across border near monument Holopogon; Stratiomyidae; Buprestidae 5949

5950 USA ARIZONA: Cochise Co. Chiricahua Mountains, Ruck Creek above Rucker Lake Campground, elev. 6500 ft. 25-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5950 18 I walked to cliffs south of the campground, couldn't easily reach the top to hill top for flies. Spent the night 24-25 in campground, fierce weather was wet & rainy. Light trapping was not good. We prepared specimens in tent. Tipulidae; Sweltsa photos of adults & nymphs; malenka photos of adults & nymphs; Mycetophilidae; photos of stream insects including: Epeorus?, Baetis?, Hetaerina, Planarian, and Elmidae 5950

5951 USA ARIZONA: Cochise Co. Dragoon Mountains, Cochise Stronghold, 10 mi W of Sunsites 25-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5951 18 spent night of 25-26 May in campground. No flowing water at campsite (but good culinary water). I found a good stream up trail to Cochise Spring. No caddis seen at light! Neohermes came long distance. Tipulidae galor! photos of Tipula polycantha, Lunatipula, Trichotipula, Eremotipula, Geranomyia, Limonia. Plega, Neohermes? 5951

5952 USA ARIZONA: Cochise Co. Willcox Playa, Hwy 191, 4 mi N of Cochise 26-May-1993 C. R. Nelson & D. P. Koenig 5952 18 Apiocera photos; Efferia sp.; Efferia wilcoxi? photos, Cerotainiops photos, Ospriocerus, Machimus; Perdita (nests extremely abundant on a margin of vegetation); other bees; Mutillidae; Myrmeleontidae; Sphecidae; Cicadidae; Cerambycidae on mesquite 5952

5953 USA ARIZONA: Cochise Co. Dragoon Mountains, Cochise Stronghold, 10 mi W of Sunsites, trail to Cochise Spring 26-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5953 18 Polyergus ants in swarm moved across parking lot then returned in opposite direction along same trail! This all took about 45 minutes at about 5 pm. Efferia anomala, zonata, albibarbis, carinata group; Promachus; Holopogon; Heteropogon; Leptogaster det CRN 1994. Hermetia on Agave; photos of column of Dolichoderine ants; Nemestrinidae; Syrphid eumenid mimic; Chrysomelidae on twig tips like Heteropogon; Medetera and a lauxaniid above Polyergus swarm; Mutillidae photo. 5953

5954 USA ARIZONA: Graham Co. Pinaleno Mountains, Stockton Pass Campground, Hwy 266 27-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5954 18 spent night of 26-27 May. No fee campground. Running culinary water, dry otherwise. I walked to the top of a hill S of the campground. Leptogaster det CRN 1994; Efferia anomala, carinata group, sp.?; Cophura pollinosa det CRN 1994; Promachus; Embiidina; Sphecidae; Eumenidae; Nemestrinidae; Lycidae; Meloidae spotted; Syrphidae cave Copestylus; Pyrracoridae, short winged spotted; Paracosmus; Aphoebantus 5954

5955 USA ARIZONA: Graham Co. Pinaleno Mountains, Shannon Campground, Marijilda Creek, 9000 feet 27-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5955 18 Paul

manns was the campground host, originally from north Texas, now from Green Valley, Arizona. He was very cordial and helpful. Lent me his ax. Sepsidae and Lygaeidae were abundant but not taken.

Very small patches of snow remained. Forest composed of whitebark pine, Engelmann spruce, Douglas fir, white fir. Collected up hillside from campground. Spent night of 27-28 May. Cool weather. Nemouridae, malenka photos; Capnia photos; Eucapnopsis; Sweltsa photos; Tipulidae, Yamatotipula, Limonia, Dicranota; Hemerobius; Limnephilidae; Brachycentrus; Hesperoperla; Xyelidae; Berytidae; Tephritidae; Cerambycidae; Membracidae; Tachinidae; Saldidae 5955

5956 USA ARIZONA: Graham Co. Pinaleno Mountains, Heliograph Peak and trail 28-May-1993 C. R. Nelson 5956 18 Heliograph Peak is a two mile hike from a trailhead at Shannon campground. The trail crew has not yet cleared the hundreds of tree falls. I encountered many patches of snow, some to about 3 feet deep. Still the Cyrtopogon had emerged and were perching on barkless horizontal logs. Several logs of this sort needed to be together before I saw and Cyrtopogon. The peak was a let down for hilltopping because trees went right to the top. Also many lookout buildings were present. The view was obscured! Cyrtopogon photos; Syrphidae; Xylophagidae photos. 5956

5957 USA ARIZONA: Greenlee Co. Granville Campground, Hwy 666 29-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5957 18 spent night of 28-29 May here. It was cold when I went to bed at 10pm but Jon stayed up and it got warmer. Tipulid collecting was not great. many lo moths came to light in the early morning. lo moths photos 5957

5958 USA ARIZONA: Greenlee Co. Apache Sitgreaves National Forest, Hwy 666 junction road to Juan Miller Campground 29-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5958 18 stopped on highway and picked up a female tarantula 5958

5959 USA ARIZONA: Greenlee Co. Apache Sitgreaves National Forest, Rose Peak Lookout and trail, 8700 feet 29-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5959 18 In Ponderosa pine and oak (probably Gambel's). Stratiomyidae; Phoridae swarming; Syrphidae; Oestridae Cephonomyia two colors on fire lookout tower at 11:55am; Cyrtopogon (Koenig); Lasiopogon; Promachus; Holopogon; Sphecidae; bees; Buprestidae 5959

5960 USA ARIZONA: Greenlee Co. Apache Sitgreaves National Forest; Hwy 666 15 mi S of Hannagan Meadows 29-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5960 18 Stenopogon inquinatus; Raphidiidae 5960

5961 USA ARIZONA: Greenlee Co. Apache Sitgreaves National Forest; Hannagan Creek, Hwy 666/191 4 mi NE of Hannagan Meadow, 2720 m elev. 29-May-1993 C. R. Nelson, J. K.

Gelhaus, & D. P. Koenig 5961 18 Abdedus male with eggs (later eaten in Austin by Shann Stringer's crayfish) Capnia 1 female; Sweltsa coloradensis; malenka coloradensis; Abdedus male with eggs; Limnephilidae larvae; Hemerobiidae; Copestylum; Drunella grandis photo; Tipulidae under bridge; Mycetophilidae; Dolichopodidae 5961

5962 USA NEW MEXICO: Catron Co. Pueblo Park Campground, 16 air mi S of Luna, Pueblo Creek & springs 30-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5962 18 spent night of 29-30 May. Slept cold, noon was hot. Took many photos in early morning of specimens from Heliograph and Rose Peaks. Ponderosa Pine parkland with open understory. Creek was wide open and blasted. May have Mesocapnia. Six miles west of Hwy 180. Tabanidae; Stichopogon sp. on rock in stream; Dolichopodidae on rocks; Muscidae on rocks; malenka; Blephariceridae! - Jon 5962

5963 USA TEXAS: Hudspeth Co. major sand dunes, ca. 10 mi E of El Paso near west edge of Hueco Mountains, Hwy 62/180 31-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5963 18 Spent night of 30-31 May in motel in El Paso. A very welcome bath and rest.

8:30 am, hot. 3.7 mi W of Hueco Tanks turnoff. Myrmeleontidae; Bombyliidae, tiny with purple eyes; Ammophila; Pompilidae; No robber flies seen, why? 5963

5964 USA TEXAS: Hudspeth Co. gypsum dunes along salt flat near Salt Flat, 9.5 mi S Guadalupe Mountains National Park headquarters, 1380m elev. 31-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5964 18 Efferia all white, albibarbis; Geron; bees; Buprestidae; sparse Gaillardia; bleak site; grasshopper 5964

5965 USA TEXAS: Culberson Co. Guadalupe Mountains National Park, 0.7 mi W of Visitor center 31-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5965 18 Took photos of fire aftermath to show regeneration in future. Second gulley east of last rest area west of visitors center. Shot low through the pig wire fence. Ektachrome 100HC, 125th at f22 5965

5966 USA TEXAS: Culberson Co. Guadalupe Mountains National Park, Choza Spring, Hwy 62/180, 2 mi E of headquarters 31-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5966 18 took down malaise traps; range of dates was 22-31 May 1993. Good amount of material, briefly noted Polacantha and Machimus griseus in catch. I collected a good series of Dioctria in shady areas right next to water. I caught them by sweeping Eleocharis and Carex in shady areas only. No Dioctria went into trap despite it being over their habitat! Dioctria vera det CRN 1994, new state record!; Efferia anomala; Scleropogon; Megaphorus 5966

5967 USA TEXAS: Jeff Davis Co. Limpia Spring, Davis Mountain Resort 31-May-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5967 18 Took down the malaise trap. Good material

for Jon & Dave. We passed through a rainstorm to get here. Hail had accumulated to about an inch thick in places. Rick McLaren gave us a tour of his vineyard. *Dytiscidae*; *Efferia anomala*, *albibarbis*; *Machimus griseus*. 5967

5968 USA TEXAS: Brewster Co. Big Bend National Park, Chisos Mountains, Oak Creek, elev. 4200 feet 01-Jun-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5968 18 Took down Jon's malaise trap catch. Several specimens of a lower Brachyceran were in the bottle. Later determined to be therevids: *Henicomys* (spelling?). Saw a beautiful earless lizard. *Efferia argyrosoma*; *Lycidae*; *Tetrigidae*; *Syrphidae* *Microdon*?; *Stratiomyidae* larvae; *Neavimyrme* ants 5968

5969 USA TEXAS: Brewster Co. Big Bend National Park, Santa Elena Canyon boat landing 01-Jun-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5969 18 wandered in jungle of mesquite, tamarisk, and phragmites. Couldn't get to beach to look for *Eccritosis* and *Stichopogon*. *Proctacanthella*; *Efferia* female; *Mutillidae* 5969

5970 USA TEXAS: Brewster Co. Big Bend National Park, Terlingua Abaja 02-Jun-1993 C. R. Nelson, J. K. Gelhaus, & D. P. Koenig 5970 18 spent night of 1-2 June in primitive campground. I took evening then morning photos of Santa Elena Canyon and are. Mesa de Anguila was on fire through the night. Dry area but water in Terlingua Creek, a broad, braided wash. *Stratiomyidae*; *Efferia* male; *Proctacanthella*; *Cicindela*; *Bombyliidae* 5970

5971 USA TEXAS: Travis Co. Austin, Walnut Creek junction Hwy 183 near Martin Luther King Blvd. 07-Jun-1993 C. R. Nelson & A. W. Hook 5971 18 collected fossil oysters, *Exogyra ponderosa* for some house work. Dave, Jon, and I collected some here last week (3 June?). Dave also collected a *Laphria macquarti* her by hand! *Philonicus* 5971

5972 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 10-Jun-1993 C. R. Nelson 5972 18 It rained last night. The pompilid carried its spider prey by the spinnerets and licked the coxal openings where the legs had been trimmed. It also groomed itself frequently. *Pompilidae* with prey photos; *platyhelminthes* photos, very long species, 6 inches!; slug photos 5972

5973 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 12-Jun-1993 C. R. Nelson 5973 18 I planted a Hibiscus, a lantana, crepe myrtle, and 5 elephant ears (an aroid). The elephant ears popped leaves up by 20 June! *Polacantha*; *Atomosia*; saw sphecid with membracid prey. 5973

5974 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 12-Jun-1993 C. R. Nelson 5974 18 *Polacantha gracilis*; saw and missed *Tipulogaster glabrata* 5974

5975 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 14-Jun-1993 C. R. Nelson & Forrest Stevens 5975 18 Forrest is a high school student visiting on a special scholarship for the summer. He is from Pocatello, Idaho. He will be working on a project with me regarding robber fly behavior. *Efferia aestuans* group male; Coccinellidae; saw *Diogmites angustipennis* 5975

5976 USA TEXAS: Blanco Co. Pedernales Falls State Park, highlands area before reaching park headquarters 15-Jun-1993 C. R. Nelson, A. W. Hook, J. Field 5976 18 site was near a caliche pit and power or gas line road. A disturbed site. *Megaphorus* #1; *Polacantha*; *Atomosia* (missed); *Promachus* banded; *Ascalaphidae* large with short antennae; mantispa; *Trypoxylon*; *Crabro*?; *Polistes*; *Pepsis*; *Cerambycidae* photos large *Pepsis* mimic; *Meloidae*; *Tachinidae*; *Otitidae*; *Buprestidae*; *Nemestrinidae*; *Cicadidae* 5976

5977 USA TEXAS: Blanco Co. Pedernales Falls State Park, falls area 15-Jun-1993 C. R. Nelson, A. W. Hook, J. Field 5977 18 photo: Allan W. Hook with armadillo, Jeremy Field *Efferia texana* with wasps; *Promachus bastardii*, one female with cicada; *Efferia aestuans* group, *albibarbis*; *Proctacanthus hinei* 2 females one with *Vespula* queen; *Prolepsis tristis*; *Saropogon*; *Stichopogon trifasciatus*; *Diogmites angustipennis* det CRN 1994; *Megaphorus* #2; *Ospricerus*; *Efferia armata*?; *Holopogon*; *Psilocurus* (with Hook); *Polacantha*; *Tettigoniidae*; *Stephanidae* photo; *Sphecidae*; *Trichopoda* mating pair; *Ascalaphidae* small with long antennae; *Chrysomelidae*, *Trirhabda*? defoliating *Rhus* near *virens* but with dentate leaves. 5977

5978 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 17-Jun-1993 C. R. & J. R. Nelson and A. W. Hook 5978 18 light trap run at house *Promachus*; *Efferia* 4 spp.; *Ospricerus* 5978

5979 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 18-Jun-1993 C. R. & J. R. Nelson and A. W. Hook 5979 18 sampled bedrock in river and macrophytes. took 100 animal sample *Efferia aestuans*?, *argentifrons*, *albibarbis*, *argyrosoma*, *armata*; *Promachus* 2 spp.; *Ospricerus* 3 spp.; *Diogmites* 2 spp Maybe 3; *Beameromyia*; *Stichopogon*; *Odonata* 5979

5980 USA TEXAS: Val Verde Co. Dolan Creek above junction Devils River 19-Jun-1993 C. R. & J. R. Nelson and A. W. Hook 5980 18 took 100 animal sample. *Odonata*; *Tropisternus*; *Stichopogon trifasciatus*; *Atomosia* 5980

5981 USA TEXAS: Val Verde Co. Shelf Angle Spring trib. of Dolan Creek above junction Devils River 19-Jun-1993 C. R. & J. R. Nelson and A. W. Hook 5981 18 Jason and I chased a black winged *Libellula* for a long time, unsuccessfully. The wings were all black except for the distal half of the front wings. We also missed a *Libellula* "6 spot" with white clouded

wing apices and black bases. Both were seen at the spring and along Dolan Creek.
Elmidae at source of water in moss; Naucoridae; Calamoceratidae 5981

5982 USA TEXAS: Blanco Co. Pedernales Falls State Park, campground river area 23-Jun-1993 C. R., A. L., A. J. & J. R. Nelson and A. W. Hook 5982 18 I talked to a state park summer camp for kids with Rod Rylander in charge. Al Hook helped we with questions. Jason collected robber flies and damsel flies while I worked with the kids. Stichopogon trifasciatus; Ospricerus with white wedges; Zygoptera; saw a Perlesta nymph; many Isonychia nymphs; Elmidae; Dytiscidae 5982

5983 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 24-Jun-1993 C. R. Nelson 5983 18 saw Promachus painteri in front yard. I didn't collect it. 5983

5984 USA TEXAS: Travis Co. Austin, BFL, 170m 29-Jun-1993 C. R. Nelson & NIH class 5984 18 population estimates for Pogonomermex 5984

5985 USA TEXAS: Travis Co. Austin, BFL, 170m 30-Jun-1993 C. R. Nelson & NIH class 5985 18 Plant diversity sampling 5985

5986 USA TEXAS: Travis Co. Little Barton Creek, Bee Cave, near jct Hwys 71 & 2244 01-Jul-1993 C. R. Nelson & NIH class 5986 18 stream mapping, photo of Pisauridae 5986

5987 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 07-Jul-1993 C. R. Nelson 5987 18 photos red bat with babies; saw walkingstick in yard, D. velii? 5987

5988 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 14-Jul-1993 C. R. Nelson, G. I. Baird, S. M Stringer, J. E. Gillasp 5988 18 arrived about 3 pm Efferia argyrosoma, Ospricerus rhadamanthus?, many libytheidae, Mutillidae 5988

5989 USA TEXAS: Val Verde Co. Dolan Creek & Angle Springs above jct Devils River 15-Jul-1993 C. R. Nelson, G. I. Baird, S. M Stringer, J. E. Gillasp 5989 18 ran light trap last night - many Trichoptera, dried out moths for JEG, took 100 insect sample from site above junction; fig fruits just starting to be ripe Efferia argyrosoma, Efferia albibarbis, many libytheidae, Stichopogon trifasciatus, Gerridae, Corixidae, Dytiscidae 5989

5990 USA TEXAS: Val Verde Co. Devils River, Dolan Falls, hillside above cabin 16-Jul-1993 C. R. Nelson, G. I. Baird, S. M Stringer, J. E. Gillasp 5990 18 photos Efferia argyrosoma with libellulidae prey, photos Saropogon with Scolidae prey, photos Selaginella resurrection plant, saw Texas Styra, photos lubber Acrididae 5990

5991 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 16-Jul-1993 C. R. Nelson, G. I. Baird, S. M Stringer, J. E. Gillasp 5991 18 100 insect sample for EPA rapid splash zone: Stratiomyidae, Hydroptilidae, Philopotamidae, clear orange Trichoptera, Elmidae

Lutrochus, Elmidae tiny, Baetidae 2 spp.

Blackfly flats: Simuliidae, Baetidae.

Filamentous algae: beetles, tear drop beetles, Stratiomyidae 5991

5992 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 17-Jul-1993 C. R. Nelson, G. I. Baird, S. M Stringer, J. E. Gillaspay 5992 18 ran traps night of 16-17; we then headed back to Austin without any more collecting spots Culicidae; photos Efferia argyrosoma with prey 5992

5993 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 14-Aug-1993 C. R. Nelson & family 5993 18 ran light treap night of 13-14 Aug; many kinds of Trichoptera adults in material; also Corydalidae adults still flying; Hexagenia.

C. Riley Nelson, J. Kaye Nelson, Jason Riley Nelson, Andrea J. Nelson, and Amy L. Nelson scorpion in house 5993

5994 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 14-Aug-1993 C. R. Nelson & family 5994 18 walked to Angle Spring, a big oak had fallen obscuring most of the source, not many fig fruits left, set up malaise trap by big catfish hole between two large lower pools, used cyanide but ants (Solenopsis gemminata) were raiding the jar so I converted to alcohol Odonata, Cicadidae, Efferia argyrosoma with Nymphalidae prey, Stratiomyidae 5994

5995 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 14-Aug-1993 C. R. Nelson & family 5995 18 took 100 specimen EPA sample at usual spot at riffle two big pools up from the Dolan Creek ford near shelf rock (we use shelf rock as our table). I also took 5 surber samples. I took the sample from the light trap run last night, it had many dobsonflies in it. We then walked upstream to look at the springs and set a drift net. We snorkeled in various pools and saw many bass, cichlids, minnows, and catfish. I touched one catfish in a hole whose head was as wide as my hand stretched little finger to thumb, about 7010 inches! I changed the malaise trap. I took pictures of pictographs. Odonata, one Libellulidae with black wing bases was very common 5995

5996 USA TEXAS: Val Verde Co. Devils River above Dolan Falls 15-Aug-1993 C. R. Nelson & family 5996 18 At confluence of forks above river ford, left side near table rock (used as base for sorting pan). Took usual EPA 100 sample, right side on cobble riffle I took 5 surber samples 1 ft x 1 ft x 10cm 5996

5997 USA TEXAS: Val Verde Co. Dolan Creek above Devils River, Big Rock Painting Spring 16-Aug-1993 C. R. Nelson & family 5997 18 I took down the drift net at mouth of spring 10 m upstream from rock paintings of "church" and stacked "pyramids". Set net #5995, it ran overnight and had little material but did have an adult leopard frog! Oh what a night for that

frog! The drift net had many pharate caddis adults and a few elmidae. I also sampled moss in an open run of the spring creek, it had many elmidae larvae. 5997

5998 USA TEXAS: Val Verde Co. Dolan Creek above Devils River, Big Rock Painting Spring 16-Aug-1993 C. R. Nelson & family 5998 18 I took down the malaise trap. It had a fair amount of material in the alcohol. There were many fire ants congregating on the outside of the trap. I got stung many times while taking the trap down. Odonata (caught by me & kids) 5998

5999 USA TEXAS: Val Verde Co. Devils River State Natural Area headquarters 16-Aug-1993 C. R. Nelson & family 5999 18 I talked briefly with Bill Armstrong. Saropogon with Polistes prey 5999

6000 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 21-Aug-1993 C. R. Nelson 6000 18 photos of spider mating or feeding? 6000

6001 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 21-Aug-1993 C. R. Nelson 6001 18 Syrphidae, small blue/bronze at porch light 6001

6002 USA TEXAS: Bastrop Co. Lost Pines Field Station near Buescher State Park, Stengl Ranch 03-Sep-1993 C. R. Nelson & entomology class 6002 18 Riley Nelson, Sheryl Schaeffer, Dave Cheshire, David, Greg, Daniel, Ed, Carl, Andrew, Melinda, Chico, Chris W., Karen, Iola, Camille, Cynthia & guest Kwai, Monique, Quan, Frieda Gress & son Lewis, Catherine, Chris K., Jesse Hamilton. spent night, poor light trapping; then walked periphery; home to Austin by 3:30pm Libellulidae 6002

6003 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 10-Sep-1994 C. R. Nelson 6003 18 Acrididae: Schistocerca; black Acalypterata males swarming near quail cages 6003

6004 USA TEXAS: Bastrop Co. Lost Pines Field Station near Buescher State Park, Stengl Ranch 11-Sep-1993 C. R. Nelson 6004 18 walked with Jack Neff & Beryl Simpson around the pond; the occasion was College of Natural Sciences gathering at Stengl Ranch. Libellulidae, 6 spp. one a new state record det by John Abbott, Micrathyria?; Acrididae; Cicindelidae, big at pond 6004

6005 USA TEXAS: Bastrop Co. Lost Pines Field Station near Buescher State Park, Stengl Ranch 11-Sep-1993 C. R. Nelson 6005 18 walked with Jack Neff & Beryl Simpson around the pond; the occasion was an anniversary of Stengl Ranch. Amy Nelson helped me too. I accidentally gave this collection two consecutive field numbers Odonata; Acrididae; Cicindelidae; Pompilidae 6005

6006 USA TEXAS: Travis Co. Devils River above Dolan Falls 17-Sep-1994 C. R. Nelson, S. M. Stringer, S. Thomas, entomology class 6006 18 arrived at cabin around 8 pm having left Austin at 2 pm. Ran uv light at cabin. Those in attendance were: Riley Nelson, Shann Stringer, Stephanie Thomas, David Cheshire, Chris White, Chris Kartheiser, Lola Hallock, Frieda Gress, Camille McNeely, Ken Taylor, Richard ? Ken's friend, Ed Luchsia, Carl Blesius, Karen Klohe, Monique Cortez, Jessie Hamilton, and Melinda Price. Tabanidae; Pyralidae: Petrophila; Myrmeleontidae: Vela. Photos of Lutrochus streamside; Photo Stratiomyidae larva; photo Hydrophilidae; photo Dermaptera 6006

6007 USA TEXAS: Travis Co. Dolan Creek above Devils River 18-Sep-1994 C. R. Nelson, S. M. Stringer, S. Thomas, entomology class 6007 18 overcast in morning; set malaise trap up Devils River then moved to Dolan Creek; EPA 100 sample; 5 surber samples; drift nets set; Asilidae: Efferia argyrosoma; Ospreocerus 3 spp.; wasps; bees; Odonata 6007

6008 USA TEXAS: Travis Co. Devils River, Dolan Falls 18-Sep-1994 C. R. Nelson, S. M. Stringer, S. Thomas, entomology class 6008 18 set up malaise trap near start of broken water, ca 200 yards above Dolan Falls; 5 cobble surber samples on right fork; EPA 100 sample on left fork at table shelf rock; later collected terrestrials along road between cabin and upstream old house (Shepherders House). Found localized population of small Efferia near Fish Cabin Windmill. Stratiomyidae; Cicindelidae; Tabanidae; photos Scarabaeidae; Asilidae: Efferia argyrosoma, several with prey. 6008

6009 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 19-Sep-1994 C. R. Nelson, S. M. Stringer, S. Thomas, entomology class 6009 18 took in drift nets; photos underwater; drift nets at Big Church Painting Rock Spring and springs of Penstemon Cliff Efferia argyrosoma with Coenagrionidae and Acrididae prey; Calamoceratidae: Phylloicus ornatus adults at Angle Springs and pools in Grotto Canyon; Tabanidae; Cicindelidae; Syrphidae; Stratiomyidae 6009

6010 USA TEXAS: Travis Co. Devils River above Dolan Falls 19-Sep-1994 C. R. Nelson, S. M. Stringer, S. Thomas, entomology class 6010 18 took down malaise trap Zygoptera, Stratiomyidae, Tabanidae, photos of Scarabaeidae 6010

6011 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 24-Sep-1994 C. R. Nelson & Shann Stringer 6011 18 Aeshnidae, Libellulidae, Coenagrionidae, Sphecidae 6011

6012 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 06-Oct-1994 C. R. Nelson & entomology class 6012 18 3:30-5:30pm; Sheryl Schaeffer, Camille McNeely, Peter Bohls, Chau Nyguen, Al Hook, Rogelio Sosa, Lola Hallock, Melinda Price, Dee Ann Chamberlain. High temp of the day was 93 degree F. collected in and near Helianthus

patch near Norma Fowler's plots in front by Lake Austin Centre, also in back of Firefly Meadow. prey of 3 Diogmites angustipennis: Bombus, small; Eumenidae, large; Asilidae: Polacantha females. Libellulidae; Aeshnidae to Peter Bohls 6012

6013 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 15-Oct-1993 C. R. Nelson, S. M. Stringer 6013 19 sunrise: Tricorythidae adult swarms; Baetidae adults, a few; Aeshnidae, Anax 6013

6014 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 15-Oct-1993 C. R. Nelson, S. M. Stringer 6014 19 set up two malaise traps, set up two drift nets across springs at Lower Church Rock Springs; EPA 100 sample; 5 surber samples; water temp 76 degree F Tachinidae; Tipulidae; Calamoceratidae; Sisyridae 2 spp.?, Tetrigidae; Chalcididae; Cicindelidae; Mantidae; Melyridae; Gerridae, Metrobates; Hydrophilidae, Tropisternus 6014

6015 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 16-Oct-1993 C. R. Nelson, S. M. Stringer 6015 19 Al Hook arrived yesterday afternoon with Robert Hansen and 8 St. Edwards University students. Not many Tricorythidae this morning, only two Baetidae. Al Hook and I walked to the mexican oaks; in the evening we took 15 cobble surber samples and the EPA 100 sample. Sphecidae; beetles; misc. Hymenoptera; Diogmites; Efferia 2 spp., Heteropogon 6015

6016 USA TEXAS: Val Verde Co. Dolan Creek above Devils River N 29.889985 W 100.986707 407 m 16-Oct-1993 C. R. Nelson, S. M. Stringer 6016 19 Google Earth, in 2015 photos of fish & sites; started uv light; took sample from one malaise trap 6016

6017 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 17-Oct-1993 C. R. Nelson, S. M. Stringer, A. W. Hook, R. S Hansen 6017 19 before sunrise: Ephemeroptera 6017

6018 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 17-Oct-1993 C. R. Nelson # 6018 S. M. Stringer 19 took down drift nets, one, at big spring below Church Painting Rock (Penstemon Cliff Springs) had cave amphipods. Used wire brush to scrape sponge and deposits off rocks in pool of creek near Church Painting Rock. No sisyrid larvae apparent but some beetle larvae obtained. Changed both malaise traps and refilled with antifreeze. 6018

6019 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 21-Oct-1993 C. R. Nelson & entomology class 6019 19 Watched uv light with about 10-15 students. Shann Stringer, Stephanie Thomas, and Kevin Alexander came by for a visit on their way to Dolan Falls. at night: Tipulidae: Limonia? was walking on bare shoreline mud of Town Lake; Gerridae: Metrobates extremely abundant after dark 6019

6020 USA TEXAS: Hays Onion Creek, Camp Ben McCullough near Driftwood 23-Oct-1993 C. R. Nelson & family 6020 19 Stake Camp-out. Carl Cannaday (age 14); Daniel Parker (age 14); and Ben Parker (age 13) picked through the tray to save the wet sample from the spring. Andrea Nelson & Amy Nelson helped find things in the creek. Psephenidae in clean spring (no vegetation around opening; Mayflies: Tricorythodes adults. Wet: Insonychia; Tipula; Dytiscidae; Stenonema x ; Rhagovelia; Argia 6020

6021 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 12-Nov-1993 C. R. Nelson # 6021 , S. M. Stringer, & K. D. Alexander 19 arrived at Dolan Falls; ran uv l& mercury vapor lights at night; very good success; photos of scales on emergent vegetation, a scroph? in outfall of Devils River 1883 pond. I call this pond 400 m above the falls, "Delta Pond" or something similar in my notes 6021

6022 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 13-Nov-1993 C. R. Nelson, S. M. Stringer, & K. D. Alexander 6022 19 set up malaise trap; collected terrestrials; Shann & Kevin took EPA 100 samples and 5 surber samples. Caught small asilids on rocks in the late afternoon, Backomyia? Light trapping near house wasn't very good in the early evening, got better as night progressed. photos of insects on Gutierrezia blooms; photos of aquatics; aquatic beetles collected from seep at base of stairs 6022

6023 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 13-Nov-1993 C. R. Nelson, S. M. Stringer, K. D. Alexander 6023 19 CRN worked mostly in Devils River area; others took EPA 100 samples and surber samples; later in evening set up uv light at Church Painting Rock Springs (Big Rock) saw very large indigo snake 6023

6024 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 14-Nov-1993 C. R. Nelson, S. M. Stringer, & K. D. Alexander 6024 19 bed rock surber sample, photos Mayflies & black flies in morning flight; photos at falls; photos of Tricorythodes males & females; Simuliidae, high fliers & wave skimmers, are these different species 6024

6025 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 14-Nov-1993 C. R. Nelson, S. M. Stringer, K. D. Alexander 6025 19 I fell in the pool and got my camera wet. Took down light trap from last night, many caddis. Coreidae; Lestidae, Archilestes grandis, mating pair in pool (called spotted beetle pool) in Grotto Canyon below Church Painting Rock. 6025

6026 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, pond F 04-Jan-1994 C. R. Nelson 6026 19 set up malaise trap, townses type, at edge of pond F inside the enclosure. I watched as several calliphorid flies entered the trap. The day was warm and nice. I also saw a damselfly enter the trap. I caught an aquatic lepidopteran from Cold Spring, on the other side of Town Lake. I rowed across with Nelson Guda. I checked &

changed trap on 5 Jan 1994 at 3.30 pm. I also took a picture of the trap from the far side of pond F. 6026

6027 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, pond F 10-Jan-1994 C. R. Nelson 6027 19 5-10 January, changed malaise trap contents; the lab was amazingly clean. Someone came in during the weekend. I found out later it was Kim Marone. 6027

6028 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 13-Jan-1994 C. R. Nelson, G. I. Baird, Helene Engler 6028 19 We walked the trails of BFL for about 3 hours. Helene is an additional t. a. for my 208 class. She needs to become familiar with the local flora & fauna. Libellulidae, Sympetrum 2 sp.; Collembola, 1 large 6028

6029 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 14-Jan-1994 C. R. Nelson, James A. Gillaspay 6029 19 changed malaise trap sample. Last changed 10 Jan 94. Libethyidae 6029

6030 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, pond F 17-Jan-1994 C. R. Nelson 6030 19 changed malaise trap sample. Last changed 14 Jan 94. Noctuidae, Cerambycidae, Ichneumonidae 6030

6031 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, pond F 21-Jan-1994 C. R. Nelson 6031 19 changed malaise trap sample. Last changed 17 Jan 94. 6031

6032 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 24-Jan-1994 C. R. Nelson, G. I. Baird, H. Engler, & 208 class 6032 19 pond F, changed malaise trap sample. Last changed 21 Jan 94. Walked trails of BFL in the rain. Stratiomyidae in heated, covered fish pond; adults of Euparyphus? 6032

6033 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 26-Jan-1994 C. R. Nelson, G. I. Baird, & 208 class 6033 19 walked and talked near fish ponds, Stream trail, and in Firefly Meadow consorts of Dactylopius confusus: Coccinellidae; wasp; Chamaemyiidae adult & larvae; predatory pyralid larva. 6033

6034 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 28-Jan-1994 C. R. Nelson, G. I. Baird, H. Engler, & 208 class 6034 19 Pond F malaise trap emptied. Last changed 24 Jan 94. Walked with 208 class. Very cold 35-45 degree F consorts of Dactylopius confusus: predatory pyralid larva. 6034

6035 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 31-Jan-1994 C. R. Nelson 6035 19 Pond F malaise trap emptied. Did Fire Ant Preference lab with 208 class in BFL room 114. 6035

6036 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 05-Feb-1994 C. R. Nelson # 6036 , S. M. Stringer, A. W. Hook 19 worked riffle sites above ford. EPA 100 sample; 5 cobble surber samples; qualitative sample hand picked. Air temp 80 degree F at 5:00pm 5 feet from ground, very warm, unseasonable. Morning: Simuliidae, Tricorythodes, Hetaerina americana (teneral); Chimarra texana flying (white spots seem larger) Afternoon: Simuliidae swarming; Chironomidae swarming; Baetidae swarming; Stenonema hand caught, common; Hexagenia, saw several; Asilidae: Holopogon n. sp. near canopy of oaks past Sheepherder cabin. Ran uv light night of 5-6 Feb 1994, good caddis catch. 6036

6037 USA TEXAS: Val Verde Co. Devils River, Dolan Falls, Mudhole Crossing 05-Feb-1994 C. R. Nelson # 6037 , S. M. Stringer 19 in water: Hydroptilidae; Dytiscidae, 1 unusual; Libellulidae; Coenagrionidae; crayfish; Gomphidae 6037

6038 USA TEXAS: Val Verde Co. Dolan Creek, above Devils River, Flathead Catfish Hole Tributary (from Mudhole Crossing) 05-Feb-1994 C. R. Nelson, S. M. Stringer 6038 19 In water: Coenagrionidae nymphs; Hydrophilidae; Leptoceridae; Tricorythidae 6038

6039 USA TEXAS: Val Verde Co. Dolan Creek, above Devils River 05-Feb-1994 C. R. Nelson, S. M. Stringer 6039 19 EPA 100 sample; 5 cobble surber samples; qualitative hand caught samples; all at Flat Rock site above pool above Flathead Catfish pool. Set up drift nets at Church Painting Rock Spring and at Penstemon Cliff Springs. Libellulidae in swift current; Naucoridae 6039

6040 USA TEXAS: Val Verde Co. Dolan Creek, above Devils River 06-Feb-1994 C. R. Nelson, S. M. Stringer 6040 19 took many photos of aquatics; took down drift net at Penstemon Cliff Spring; took a hand picked sample from Angle Spring. Drift net at Big Church Painting Rock Spring was empty. leeches; Nepidae, Ranatra; Aeshnidae, Anax nymph; Hydroptilidae larvae; Leptoceridae larvae; snails; Tricorythidae adults swarming. 2:30pm air temp 73 degree F, water temp 73 degree F. 6040

6041 USA TEXAS: Val Verde Co. Devils River, Dolan Falls, Mudhole Crossing 06-Feb-1994 C. R. Nelson, S. M. Stringer, A. W. Hook 6041 19 5 bedrock surber samples on sheet flow below Pavilion. Saw Chironomidae, Baetodes, Centroptilum, Petrophila; at 2:30 pm water temp 66 degree F, air temp 73 degree F. 6041

6042 USA TEXAS: Travis Austin, Brackenridge Field Laboratory, 170 m 07-Feb-1994 C. R. Nelson & 208 class 6042 19 Did nested quadrat study of Firefly Meadow; Hardpan Flat; and Juniper Forest. Emptied Pond F malaise trap on early morning of 8 Feb 1994, last changed 31 Jan 1994. 6042

6043 USA TEXAS: Travis Austin, Brackenridge Field Laboratory, 170 m 08-Feb-1994 C. R. Nelson 6043 19 Holopogon n. sp. single male, but lost the specimen in the lab 6043

6044 USA TEXAS: Travis Austin, Brackenridge Field Laboratory, 170 m 10-Feb-1994 C. R. Nelson 6044 19 walked BFL and took ice storm pictures. 6044

6045 USA TEXAS: Travis Austin, Brackenridge Field Laboratory, 170 m 12-Feb-1994 C. R. Nelson, A. W. Hook, Jason Nelson, & Danny Parker 6045 19 talked with Jim Bull. Jason & Danny found golf balls. Al caught a single male of Holopogon n. sp. in dry juniper forest near pond 7 and cart. I saw 1 female near Bush greenhouse. 6045

6046 USA TEXAS: Travis Austin, Brackenridge Field Laboratory, 170 m 16-Feb-1994 C. R. Nelson & 208 class 6046 19 Wednesday. We set up three plots in a nested quadrat to create a plant species-area curve. One plot was in Quarry Meadow. One in upland forest along Quarry trail near the Boathouse Road above wellhouse 1. The third was in the clearing by the botany greenhouse using the Boathouse Road and the edge of the forest as edges. Looked briefly for Holopogon but saw none. 16 x 16 plots with one quarter divided and subdivided, then further subdivided to yield a mixture of plot sizes. 6046

6047 USA TEXAS: Travis Austin, Brackenridge Field Laboratory, 170 m 18-Feb-1994 C. R. Nelson, G. I. Baird, H. Engler, & 208 class 6047 19 Friday: set up and finished 3 plots. one in Hackberry woods near river, second in cleared meadow on bench, third at Boathouse meadow. On 17 Feb at BFL I walked briefly and saw several Holopogon n. sp. 6047

6048 USA TEXAS: Travis Co. Austin, Bill Hughes Road 18-Feb-1994 C. R. Nelson 6048 19 saw first Tipula of season at home 6048

6049 USA TEXAS: Travis Co. Austin, Onion Creek jct William Cannon Drive 21-Feb-1994 C. R. Nelson & 208 class 6049 19 collected aquatics, students kept specimens for later identification Dee Ann Chamberlain caught a Hydroperla nymph, Sialidae one adult 6049

6050 USA TEXAS: Travis Co. Austin, Bull Creek, St. Edwards Park, 2.3 mi W of Hwy 360 on Spicewood Springs Road 23-Feb-1994 C. R. Nelson & 208 class 6050 19 collected aquatics, students kept specimens for later identification. Water temp 60 degree F in riffle below dam, took one surber below dam and one in second riffle above dam. Numerous 100 specimen samples taken. Good collecting. 6050

6051 USA TEXAS: Travis Co. Barton Creek, Uplands tract, near jct Hwys 2244 & 71 near town of Bee Cave 25-Feb-1994 C. R. Nelson & 208 class 6051 19 Met Jim Friese & Jeff Wiegel of the Texas Nature Conservancy. They took us to the newly acquired Uplands tract. This is a piece of land that is a hotbed on environmental controversy in Austin. We collected numerous 100 specimen EPA samples. 6051

6052 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 01-Mar-1994 C. R. Nelson 6052 19 I noted 2 specimens of medium-sized Buprestidae had emerged from the logs of Red bud that John Crutchfield had cut and given to me earlier. The host is *Cercis canadensis* 6052

6053 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 03-Mar-1994 C. R. Nelson 6053 19 Heather Gregory watched mating behavior of *Holopogon* n. sp. She saw 4 incomplete courtships. See her notes.

Kevin Holston & I found pupal skins of *Efferia snowi* near the experimental gardens.

I took photos of Buprestidae from log of *Cercis canadensis* 6053

6054 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 05-Mar-1994 C. R. Nelson, S. M. Stringer, G. I. Baird, & 208 class 6054 19 People present: Riley Nelson, Gary Baird, Shann Stringer, Noland Martin, Connell Dunning, Kevin Holston, Jay Stein, Jaynie Stephenson, Camille McNeely (not 208), DeeAnn Chamberlain, Lori Olsen, Kirtley Weinbroer, Nielsen Beaupre, Michael Crawford, Suzanne Osbeck, Surya Singh, Darrin Hulsey, Gary Chauvin, April Johnson, Rodney Guerra, Brian Frank, and Xavier Berni. Tipulidae, Cleridae, Pyrgotidae at house lights, Tricorythodes swarming at falls, a few *Stenonema* swarming on pond below falls; caught 5 species of fish on my fly pole in early morning: largemouth bass, smallmouth bass, headwater catfish, Redbreasted sunfish, common carp: 8-10 lbs.; photos of rock rattlesnake, photos of whipsnake 6054

6055 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 05-Mar-1994 C. R. Nelson # 6055 S. M. Stringer, G. I. Baird, & 208 class 19 EPA 100 samples with big net and triangle net (the same old net); class sampled extensively as well. We set up 3 drift nets in springs. ran light starting at dusk. 5 cobble surber samples. pools in Grotto canyon: Lestidae, *Archilestes grandis*; Dytiscidae, *Thermonectes marmoratus*; Notonectidae, *Notonecta* potholes on left bank of Dolan Creek: Fairy shrimp, Dytiscidae, Hydrophilidae 6055

6056 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 06-Mar-1994 C. R. Nelson # 6056, S. M. Stringer, G. I. Baird, & 208 class 19 emptied drift nets from 1, Lower Penstemon Cliff Spring; 2, Upper Penstemon Cliff Spring; 3, Big Church Painting Rock Spring. Each had amphipods. Lower Penstemon Cliff Spring had a cave isopod. Shann had set up light at 3, it was full of caddis, thousands, many leptoceridae. Found a rare plant: *Hesperaloe*, in bloom, few populations are known, Gary told Karen who works on them. 6056

6057 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 06-Mar-1994 C. R. Nelson, S. M. Stringer, G. I. Baird, & 208 class 6057 19 After coming down from Dolan Creek we sampled the Devils River in riffles above the ford in the afternoon. EPA 100 sample, triangle net; 5

cobble surber samples. qualitative collecting. walked and watched birds in the morning. Saw *Pyrrhuloxia*. Camille McNeely and I took a surber sample from a big *Simulium* bed, but the population wasn't amazingly large (as it usually is). 5 bedrock surber samples from sheet flow below camp, many *Baetidae* Some *Stenonema* swarming 1-3 feet off the water on big pond run above ford. also many *Tricorythodes* swarming at 8-15 feet above the water. 6057

6058 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 06-Mar-1994 C. R. Nelson 6058 19 another *Buprestidae* emerged from the red bud log. 6058

6059 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 18-Mar-1994 C. R. Nelson 6059 19 changed malaise trap, it was all wet inside the bottle. I replaced it with a new kill jar I just finished making. Spring is full blown now. The hackberry leaves are out. Bluebonnets are peaking. I saw some wine cups. 6059

6060 USA TEXAS: Travis Co. Austin, Onion Creek at William Cannon Drive 21-Mar-1994 C. R. Nelson & G. I. Baird 6060 19 plants for 208 lab inside *Sialidae*; *Ranunculus*; *Tradescantia*, abundant; *Galium*, *Veronica* in water; *Rorippa* in water; *Torilus*; much Box Elder 6060

6061 USA TEXAS: Travis Co. Barton Creek, Uplands tract, near jct Hwys 2244 and 71 in town of Bee Cave 04-Apr-1994 C. R. Nelson, G. I. Baird, & 208 class 6061 19 stream mapping; EPA habitat judging; DeeAnn Chamerlain heard a golden-cheeked warbler and then I heard it too. A first for me. I couldn't recognize it now if I tried. 6061

6062 USA TEXAS: Travis Co. Barton Creek, Uplands tract, near jct Hwys 2244 and 71 in town of Bee Cave 06-Apr-1994 C. R. Nelson, G. I. Baird, & 208 class, Camille McNeely 6062 19 mapped stream near Big Rock Pool *Libellulidae*; Camille kept *Heptageniidae* and *Hydrometridae* 6062

6063 USA TEXAS: Travis Co. Barton Creek, Upland tract, near jct Hwys 71 and 2244 08-Apr-1994 C. R. Nelson & 208 students 6063 19 stream mapping 6063

6064 USA TEXAS: Val Verde Co. Dolan Creek, above Devils River 08-Apr-1994 S. M. Stringer 6064 19 C. R. Nelson NOT present on this trip! EPA 100 samples; 5 cobble surbers; set up malaise trap and uv light trap 6064

6065 USA TEXAS: Val Verde Co. Dolan Creek, above Devils River 09-Apr-1994 C. R. Nelson, R. S. Hansen, S. M. Stringer 6065 19 sampled in runs of spring near Church Painting Rock. Took down uv light trap, light failed early, need a new battery, very meager catch. *Asilidae*: *Scleropogon texanus*; *Calamoceratidae*; *Tipulidae*: *Yamatotipula*; *Ichneumonidae*, aquatic? close to waters edge; *Veliidae*, *Microvelia* 6065

6066 USA TEXAS: Val Verde Co. Grotto Canyon, near Church Painting Rock on Dolan Creek, above Devils River 09-Apr-1994 C. R. Nelson, R. S Hansen, S. M. Stringer 6066 19 dubbed the pools in Grotto Canyon, Spotted Beetle Pools for *Thermonectes marmoratus* Lestidae, *Archilestes grandis* with black gills; Dytiscidae, *Thermonectes*; Gyrinidae, *Dineutes*; Calamoceratidae, *Phylloicus ornatus*. 6066

6067 USA TEXAS: Val Verde Co. Muddy Crossing spring tib. of Dolan Creek close to Devils River 09-Apr-1994 C. R. Nelson, R. S Hansen, S. M. Stringer 6067 19 Libellulidae: *Libellula pulchella* 2 males; saw *Libellula saturata*, now caught; also not caught a purple/magenta libellulid 6067

6068 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 09-Apr-1994 C. R. Nelson, R. S Hansen, S. M. Stringer 6068 19 set up 2 Malaise traps 1 in wet *Justicia* stands on cross stream in delta at end of upstream pond. One at base of stairs near *Bauhinia* shrub. EPA 100 sample. 5 cobble surbers. qualitative collecting in runs near *Justicia*. Found sponge but not Sisyridae. Ran uv light; caught small things at night from seeps near base of steps. sponge; Nematomorpha; Hebridae; *Belostoma* 6068

6069 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 10-Apr-1994 C. R. Nelson, R. S Hansen, S. M. Stringer 6069 19 5 bed rock surber samples with fine net backing up regular net; indeed relatively large specimens went through the 1000 μ M mesh. 2 malaise traps, 9-10 April 1994: 1 below pond above falls and another at base of steps of cabin near *Bauhinia*. cross stream pond trap caught a neat *Lasia purpurea* acroceridae 6069

6070 USA TEXAS: Val Verde Co. Dolan Creek, above Devils River 8-10 April 1994 C. R. Nelson, R. S Hansen, S. M. Stringer 6070 19 malaise trap. Took down the trap at about 2:00pm. 10 April Gomphidae; Stratiomyidae; Tipulidae; Hymenoptera; many caddis adults. 6070

6071 USA TEXAS: Val Verde Co. Leon Springs, Dolan Falls Preserve 10-Apr-1994 C. R. Nelson, R. S Hansen, S. M. Stringer 6071 19 Notonecta; Gyrinus; *Dineutes*; *Buenoa*; saw and missed *Libellula saturata* and purple/magenta libellulid 6071

6072 USA TEXAS: Val Verde Co. Dolan Creek Road, 1 mile W of Hwy 277 10-Apr-1994 C. R. Nelson, R. S Hansen 6072 19 found a gray banded kingsnake dead on the road; also saw a dark, black whipsnake 4.5-5 feet; also saw a dead coachwhip 5-5.5 feet 6072

6073 USA TEXAS: Bastrop Co. Lost Pines Biological Station, Stengl Ranch, between Buescher & Bastrop State Parks 15-16 April 1994 C. R. Nelson & 208 class 6073 19 Rained Friday night, took "Perdido" home; cool & clear on Saturday. We did two nested quadrats, one in meadow near house 256 meters squared = 90 species. In Yaupon forest approximately 30 species. Also sampled JD Creek: aquatics, see above. People present:

Riley Nelson, Helene Engler, Heather Gregory, Lori Olsen, Jay Stein, John Dailey, April Johnson, Lori Bockstanz, Jaynie Stephensen, Stephanie McCurlye, Tina Jacques, Kirtley Wienbroer, Andrew Clamann, Rod Guerra, Gary Chauvin, Dee Ann Chamberlain, Noland Martin; Connell Dunning; Darrin Hulsey Belostomatidae: Lethocerus; beetles; Corixidae; Asilidae: Laphria n. sp., Laphria macquarti, Machimus, Ceraturgus 6073

6074 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 18-Apr-1994 C. R. Nelson & 208 class 6074 19 Studied Pogonomyrmex population and lab colony of Tenebrio molitor. Gary Baird is back from his father's funeral in Washington State. 6074

6075 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 20-Apr-1994 C. R. Nelson & 208 class 6075 19 Studied Pogonomyrmex population and lab colony of Tenebrio molitor. Ant mounds sampled were near ponds 3 & 4 Libellula pulchella; red Theridiidae spider; found small possum lower jaw. 6075

6076 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 22-Apr-1994 C. R. Nelson & 208 class 6076 19 Studied Pogonomyrmex population and lab colony of Tenebrio molitor. Ant mounds sampled were near Bush greenhouse sharp turn and the other in Firefly Meadow (note while typing: mound in Firefly Meadow now appears to be dying out, Wendy Donaldson and I saw many injured and dead ants around it, a week later I saw only one living ant). It rained hard after we had marked the colonies and I believe we overestimated colony size for unknown reasons. Tenebrio sampling went well as we stood under a tree. I watched an Efferia snowi female lay eggs in a sheath of little blue stem. Kevin Holston was watching with me. 6076

6077 USA NEW JERSEY: Burlington Co. Mount Misery Brook near Lebanon State Forest, 6 km E of jct Hwys 70 & 72 24-Apr-1994 C. R. Nelson & J. K. Gelhaus 6077 19 Leuctridae: Leuctra ferruginea 2m 6f; Capniidae: Allocapnia 1f; aquatic sample: Perlidae, 2 spp. nymphs including Acroneuria lycorias; Isoperla nymphs; Trichoptera; photos of Aradidae 6077

6078 USA NEW JERSEY: Burlington Co. Wharton State Forest, Roberts Branch of Batsto River, Carranzo Road 24-Apr-1994 C. R. Nelson & J. K. Gelhaus 6078 19 photos of pitcher plant, Sarracenia purpurea with Wyeomyia mosquito larvae and Chironomidae inside; photos of Golden Club (plant) Araceae, Orontium aquaticum; Leuctridae; Tachinidae; Mutillidae 6078

6079 USA PENNSYLVANIA: Chester Co. Sawmill Spring, tributary of White Clay Creek, Stroud Water Research Center, Avondale 26-Apr-1994 C. R. Nelson, J. K. Gelhaus, D. P. Koenig, & David Funk 6079 19 wore Bernie Sweeney's boots. Odontoceridae; tried unsuccessfully for Beraeidae; Molannidae; Limnephilidae; Lepidostomatidae; Tipulidae;

Pedicia, Tipula, Pseudolimnophila (long hair tail); Cordulegastridae; adult Nemouridae, Soyedina washingtoni det C. R. Nelson 1994 6079

6080 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 29-Apr-1994 C. R. Nelson & Gary Baird 6080 19 Hermetia illucens and another species! on Agave on west boundary across stream. A surprise to find this stand of non-native Agave under the canopy. Tipulidae 6080

6081 USA TEXAS: Travis Co. Austin, Bill Hughes Road 01-May-1994 C. R. Nelson 6081 19 tick walked across my face and woke me up from my Sunday afternoon nap. 6081

6082 USA TEXAS: Travis Co. Austin, Bill Hughes Road 01-May-1994 C. R. Nelson 6082 19 Tipulidae 6082

6083 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 10-May-1994 C. R. Nelson 6083 20 Leptogaster 6083

6084 USA TENNESSEE: Marion Co. Suck Creek, 12 mi NW of Chattanooga 21-May-1994 C. R. Nelson 6084 20 4 mi from county line on Suck Creek Road; also collected from tributary on steep hillside; collected with North American Plecoptera Symposium crew Leuctra, Clioperla, Alloperla, Nemouridae, house centipede, Tipulidae 6084

6085 USA TENNESSEE: Polk Co. Goforth Creek jct Ocoee River, Hwy 64 22-May-1994 C. R. Nelson 6085 20 collected with North American Plecoptera Symposium crew Sweltsa, Haploperla, Leuctra, Tallaperla, Tipulidae, Phengodidae, Coenomyia?, Isoperla, Amphinemura 6085

6086 USA TENNESSEE: Polk Co. Big Lost Creek at Lost Creek Campground 22-May-1994 C. R. Nelson 6086 20 lunch spot with NAPS crew; a flat creek through a campground in the mountains photos Tallaperla, Sweltsa?, Nemouridae, Paraleuctra?, Nigronia, Chrysopilus thoracicus, photos Laphria scorpio?, Cultus to Bill Stark, Acroneuria, photo Papilio gathering on mud spot 6086

6087 USA ARKANSAS: Pulaski Co. Little Rock 23-May-1994 C. R. Nelson, K. D. Alexander, J. Abbott 6087 20 at new homesite of Darrell Stewart, Ken Stewarts surgeon son; Ken & Francene were also with us as we returned to Texas from 4NAPS photos Laphria saffrana, Laphria flavicollis 6087

6088 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 26-May-1994 C. R. Nelson 6088 20 also present: A. W. Hook; Kevin Holston; Kathy Gould; Oswaldo Hernandez; set up malaise trap near outfall of upstream pond on middle crossing channel; ran two light traps near falls Libellulidae at light; Polacantha; tooth of ungulate fossil in cobble of flood plain between River & Creek near creek crossing 6088

6089 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 26-May-1994 C. R. Nelson
6089 20 water temp 25 degree C Green Libellulidae *Erythemis simplicicollis*; *Archilestes*
grandis; *Nemotelus* on *Ratibida*; *Cantharidae* on *Ratibida*; *Efferia albibarbis*; *Efferia* near
zonata; *Efferia argentifrons*; *Promachus painteri*; *Promachus* near *bastardii*; pretty
cockroach; *Apiomerus* 6089

6090 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 27-May-1994 C. R. Nelson 6090
20 5 surbers; EPA 100 sample; emptied malaise trap; sorted and packed UV light trapped
material 6090

6091 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 27-May-1994 C. R. Nelson
6091 20 5 surbers; EPA 100 sample; emptied malaise trap; set up UV light trap and two
drift nets on spring heads near Penstemon Cliff photos *Clematis*; photos scenics 6091

6092 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 28-May-1994 C. R. Nelson
6092 20 light trap was tipped over by an animal in the night; emptied malaise trap
dragonflies; photos *Calamoceratidae*; *Asilidae*; killdeer babies 6092

6093 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 28-May-1994 C. R. Nelson 6093
20 emptied malaise trap; walked for terrestrials dragonflies; damselflies 6093

6094 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 29-May-1994 C. R. Nelson
6094 20 emptied malaise trap; emptied UV light trap; emptied drift nets at Penstemon Cliff
Spring; sampled aquatics near spring head photos *Calamoceratidae* larvae 6094

6095 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 29-May-1994 C. R. Nelson 6095
20 emptied malaise trap dark gomphid 6095

6096 USA TEXAS: Travis Austin, Brackenridge Field Laboratory, 170 m 01-Jun-1994 C. R.
Nelson 6096 20 emptied malaise trap, see log book for dates 6096

6097 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 10-Jun-1994 C. R. Nelson &
family 6097 20 set up 5 malaise traps; terrestrial collecting; also present: Kaye Nelson;
Jason Nelson; Andrea Nelson; Amy Nelson; David Parker; Jera Parker; Ben Parker; Daniel
Parker; Maegan Parker; arrived 9:30 pm 9 June 1994 after a monstrous rainstorm in Sonora
Odonata; *Asilidae*; *Efferia argyrosoma*; *Efferia argentifrons*; *Diogmites*; *Ospricerus*
latipennis; *Ospricerus abdominalis*; *Ospricerus galadae*; ants in column; *Solenopsis*?;
Baetidae males swarming 6097

6098 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 11-Jun-1994 C. R. Nelson
& family 6098 20 set up UV light on night of 10th; pupfish pools 37 degrees C; Creek 27
degrees C; 5 surbers; terrestrial collecting; photos underwater *Schistocerca* on *Ptelea*;
photos *Efferia albibarbis* mating 6098

6099 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 11-Jun-1994 C. R. Nelson & family 6099 20 pupfish pools 35 degrees C; checked in on malaise traps; EPA 100 samples; 5 surber samples; 5 bedrock surber samples terrestrials; saw *Microstylum morosum*? in trap 6099

6100 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 12-Jun-1994 C. R. Nelson # 6100 and family 20 ran UV light last night; emptied 5 malaise traps: 1-Dry Meadow; 2-Dry lower river road; 3-Shelf Canyon drop off; 4-Shelf Canyon near River; 5-between braids of Devils River. Total mileage for trip Austin-Sonora-Del Rio- Austin: 591.2; paid John \$59.12 6100

6101 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 13-Jun-1994 C. R. Nelson 6101 20 Curculionidae & Formicidae alates on windows of my car full of cedar elm logs 6101

6102 USA TEXAS: Travis Co. Austin, Bill Hughes Road 14-Jun-1994 C. R. Nelson 6102 20 lice from Amy Nelson's head 6102

6103 USA TEXAS: Bastrop Co. Lost Pines Scout Reservation; Lake Bastrop 19-25 June 1994 C. R. Nelson & scouts 6103 20 Mutillidae; Tiphiidae; *Efferia albibarbis*; *Atomosia*; Trichoptera at lights 6103

6104 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 29-Jun-1994 C. R. Nelson 6104 20 emptied malaise trap: very poor specimens, alcohol dried up, last changed 14 June 1994 6104

6105 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 30-Jun-1994 C. R. Nelson 6105 20 did *Pogonomyrmex* population lab with NIH class; on 1 July we did vegetation lab *Mallophora faulx*; *Promachus* n. sp. in deep forest mating but only caught female; sesiid moth, vespid mimic 6105

6106 USA TEXAS: Travis Co. Barton Creek, Uplands tract, Bee Cave near jct Hwy 71 & 2244 06-Jul-1994 C. R. Nelson & NIH class 6106 20 Number of Taxa in EPA sample: 26; EPT 6; also James Gillaspie and Donald Feener went with us. I had to hitch a ride to Bee Cave to call the Nature Conservancy for the combination to the gate when Barton Creek Property people locked us in EPA sample: *Corydalus* 1; Libellulidae 16; *Corbicula* 1; snail #1 19; snail #2 5; Gomphidae 1; Hydroptilidae 2; *Argia* 4; Hydracarina red #1 1; Hydracarina #2 12; *Lutrochus* 2; *Cheumatopsyche* 2; *Ambrysus* 2; *Simulium* 1; *Laccophilus* 2; Hydrophilidae larva 1; Leptoceridae 1; Cernotina 1; Leptohyphes 1; Baetidae #1 2; Chironomidae #1 1; Chironomidae #2 pupa 1; Limoniinae 1; Elmidae b1 5; Elmidae b2 1; Mite #3 1 6106

6107 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 08-Jul-1994 C. R. Nelson 6107 20 emptied malaise trap; treated area immediately around trap (approx. 50

sq. ft.) with Amdro to control fire ants; saw Nutria in pond within 3 ft. of trap; ducks on pond
6107

6108 USA TEXAS: Blanco Co. Pedernales River, Pedernales Falls State Park, trammel crossing 11-Jul-1994 C. R. Nelson & NIH group 6108 20 6 EPA 100 samples; 6 surber riffle samples; Steve Ziser of ACC went as well as students in Ecology group: Alicia Bos, Tony Budgewater, Joe Ayala, Angelica Alonso, Charles Nwandwo, Cheryl Crane, and t. a. Bill Allen Libellulidae: *Libellula lydia*?; Calopterygidae: *Hetaerina titya*; Gomphidae; Corduliidae; Coenagrionidae; Cicadidae; Efferia; Buprestidae 6108

6109 USA TEXAS: Blanco Co. spring below falls overlook, Pedernales Falls State Park 12-Jul-1994 C. R. Nelson & NIH group 6109 20 6 EPA 100 samples; 6 surber riffle samples; Steve Ziser of ACC went as well as students in Ecology group: Alicia Bos, Tony Budgewater, Joe Ayala, Angelica Alonso, Charles Nwandwo, Cheryl Crane, and t. a. Bill Allen photos *Eccritosisa zamon* mating; Odonata 6109

6110 USA TEXAS: Blanco Co. Pedernales River, falls area, Pedernales Falls State Park 12-Jul-1994 C. R. Nelson & NIH group 6110 20 6 EPA 100 samples; several surber bedrock falls samples in and out of blackfly beds; Steve Ziser of ACC went as well as students in Ecology group: Alicia Bos, Tony Budgewater, Joe Ayala, Angelica Alonso, Charles Nwandwo, Cheryl Crane, and t. a. Bill Allen 6110

6111 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 8-15 July 1994 C. R. Nelson 6111 20 emptied malaise trap 6111

6112 USA TEXAS: Val Verde Co. Devils River at Dolan Falls 15-17 July 1994 C. R. Nelson & S. M. Stringer 6112 20 EPA 100 sample; malaise trap; 5 surbers in cobble; 5 surbers in bedrock; UV light; also walked to polymorphic oaks; it rained 2.25 inches the night of 14-15 July; got stuck in Dolan Creek in truck, called Bill Armstrong for help and he pulled us out; also present: Ken Taylor, Don Feener, Shann Stringer, and Jason Nelson photos mantis & cicada; photos mating mealy bugs; photos quayil buprestid; photos *Pheidole titanis*, termite specialist; *Hydrophilus triangularis* in ephemeral pools 6112

6113 USA TEXAS: Val Verde Co. Dolan Creek, above Devils River 15-17 July 1994 C. R. Nelson & S. M. Stringer 6113 20 EPA 100 sample, 5 surbers on cobble; UV light; malaise trap; Video Hi 8 using Don Feener's camera; 556 miles roundtrip to Austin. Jason caught dragonflies; 6113

6114.1 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, Town Lake 22-Jul-1994 C. R. Nelson 6114.1 20 collected with Sharon Jasper and Randy Gibson

Rheumobates, Hexagenia males, Haliplidae: Peltodytes litoralis, Peltodytes festivus, Peltodytes sexmaculatus (dets by Sharon Jasper; Macromia exuvium, Baetidae 6114.1

6114.2 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, Cold Spring on Town Lake 22-Jul-1994 C. R. Nelson 6114.2 20 collected with Sharon Jasper and Randy Gibson Yamatotipula, darters, Gambusia, Fundulus?, ghost shrimp 6114.2

6114.3 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, pond F 22-Jul-1994 C. R. Nelson 6114.3 20 collected with Sharon Jasper and Randy Gibson Cybister larva, Belostoma, Tropisternus, "Agabus", Noteridae: Suphisellus bicolor (Say), det Sharon Jasper); Nepidae: Ranatra & Curicta, Callibaetis, Hydrophilus triangularis, Aeshna nymphs, Notonecta, Plea! 6114.3

6115 USA TEXAS: Travis Co. Walnut Creek jct Hwy 183 near MLK Blvd 28-Jul-1994 C. R. Nelson, A. W. Hook 6115 20 found comics in sleeves near creek, for Jason Efferia albibarbis, Promachus, Pompilidae, Sphecidae: Gorytes, Trypoxylon, Bombyliidae, Eumenidae, Tetrigidae, Tachinidae, Libellula, Somatochlora, Elateridae: eyed elater a pet for Amy 6115

6116 USA TEXAS: Val Verde Devils River, Dolan Falls 4-7 Aug 1994 C. R. Nelson # 6116 R. S Hansen, A. W. Hook, Oswaldo Hernandez, Sharon Jasper, Randy Gibson 20 set up two malaise traps on Shelf Canyon and in delta above falls; ran UV light on surber riffle; 5 Aug - EPA 100 and 5 cobble surbers; 6 Aug - bedrock surbers near falls, photographed sites, photos Corydalus & egg Masses on sycamore (Platanus occidentalis) phorid at mouth of mound of Pheidole titanis, the termite specialist; sponge 6116

6117 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 4-6 Aug 1994 C. R. Nelson # 6117 R. S Hansen, A. W. Hook, Oswaldo Hernandez, Sharon Jasper, Randy Gibson 20 EPA 100 and 5 cobble surbers; malaise trap; site photo vouchers numbered Left to Right; night of 5-6 Aug UV light at Penstemon Cliff Springs clam shrimp in drying pothole on left bank looking upstream; loaded with daphnia; some fairy shrimp 6117

6118 USA TEXAS: Val Verde Devils River, Dolan Creek 05-Aug-1994 C. R. Nelson, R. S Hansen, 6118 20 Stream mapping of site; many number; water temp 28 degree C 6118

6119 USA TEXAS: Val Verde Dolan Creek above Devils River 06-Aug-1994 C. R. Nelson, R. S Hansen, A. W. Hook, Oswaldo Hernandez, Sharon Jasper, Randy Gibson 6119 20 photos of site; 5 surbers & EPA 100 sample; see #6117; Stream mapping of site; water temp 26 degree C Hydroscaphidae in algal mats; Hemiptera in algal mats 6119

6120 USA TEXAS: Val Verde Devils River above Dolan Falls, Mud Crossing Spring 07-Aug-1994 C. R. Nelson # 6120 , R. S Hansen, A. W. Hook, Oswaldo Hernandez, Sharon Jasper,

Randy Gibson 20 This site is first wet crossing on main road upstream from confluence of Dolan Creek & Devils River; End of trip mileage: 556.6 miles, Paid John 8 Aug 1994
Nepidae: Curicta; Haliplidae; Dytiscidae; Libellulidae; red leech 6120

6121 CANADA Ontario Niagara-on-the-Lake 19-Aug-1994 C. R. Nelson, J. K. Gelhaus, Pyotr Oosterbroek 6121 20 Nephrotoma, Pompilidae, Cerambycidae 6121

6122 CANADA Ontario Niagara Falls 19-Aug-1994 C. R. Nelson, J. K. Gelhaus, Pyotr Oosterbroek 6122 20 Rhinophoridae, Hydropsychidae, Scarabaeidae- Popilla japonica 6122

6123 CANADA Ontario Lambton Pinery Provincial Park, Lake Huron, Ausable River 20-Aug-1994 C. R. Nelson & Rob Cannings & Third International Congress of Dipterology group 6123 20 Peleciniidae, Proctacanthus milbertii, Holopogon, Promachus, Cicindelidae, Eumenidae, Megachilidae, Sphecidae, Tipulidae 6123

6124 CANADA Ontario Lambton Pinery Provincial Park, Lake Huron, beach 20-Aug-1994 C. R. Nelson & Rob Cannings & Third International Congress of Dipterology group 6124 20 Proctacanthus milbertii, Cicindela, Muscidae? 6124

6125 CANADA Ontario Lambton Pinery Provincial Park, bog area on south end 20-Aug-1994 C. R. Nelson & Rob Cannings & Third International Congress of Dipterology group 6125 20 rain hit hard and we went to the visitor's center to dry out; Jeff Skevington sp? works there; I identified some robber flies for them Holcocephala abdominalis extremely abundant, photos!; swept from sedges & Potentilla? 6125

6126 USA TEXAS: Nueces Co. Padre Island, ocean beach 03-Sep-1994 C. R. Nelson & family 6126 20 pulled round insect nets through water as plankton drags; found a strange fish bone pointed on one end; still haven't figured out what it is; stayed in motel with Parkers, Friskes, and Pearces Laphystia; Diogmites, cicada, bee & flower: a purple nyctag?; caught pipefish; many coquina clams; little silver fish on edge of beach as waves were totally expended 6126

6127 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 09-Sep-1994 C. R. Nelson 6127 20 emptied malaise trap; last changed by Ken Taylor 2 Sep 1994; sorted Devils River material all day 6127

6128 USA TEXAS: Blanco Co. Pedernales Falls State Park, campground 09-Sep-1994 C. R. Nelson & scouts 6128 20 Peter Joyce & Kevin Whiting were other scout leaders, scouts were: Jason Nelson, Daniel Parker, Jared Pearce, John Pearce, J. R. Rosa, Nick Kriese uv light: scarabs, Berothidae, Asilidae Polacantha female with prey, Otitidae, Notonectidae Buena, Corixidae, Erythridae?, Hydrophilidae Berosus, small burrowing Hemiptera 6128

6129 USA TEXAS: Blanco Co. Pedernales Falls State Park, trammel crossing 10-Sep-1994 C. R. Nelson & scouts 6129 20 Peter Joyce & Kevin Whiting were other scout leaders, scouts were: Jason Nelson, Daniel Parker, Jared Pearce, John Pearce, J. R. Rosa, Nick Kriese Asilidae: *Proleptis tristis*, *Promachus painteri*, *Holopogon* or *Hadrokolos*; Pompilidae, Anthophoridae: *Centris*; Eumenidae; Bombyliidae 6129

6130 USA TEXAS: Blanco Co. Pedernales Falls State Park, falls beach 10-Sep-1994 C. R. Nelson & scouts 6130 20 Peter Joyce & Kevin Whiting were other scout leaders, scouts were: Jason Nelson, Daniel Parker, Jared Pearce, John Pearce, J. R. Rosa, Nick Kriese Asilidae: *Eccritosis zamon*, including a mating pair, *Stichopogon trifasciatus*; Bombyliidae: *Toxophora*, *Neodiplocampta*, Genus 3; Mutillidae 6130

6131 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 16-Sep-1994 C. R. Nelson 6131 20 emptied malaise trap, last changed 9 Sep 94 photos *Hadrokolos texanus*; saw *Diogmites angustipennis*, collected *Apis* as prey of females; saw *Promachus painteri*; saw *Polacantha gracilis*; Eumenidae; Gomphidae, mating pair 6131

6132 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 22-Sep-1994 C. R. Nelson & entomology class 6132 20 *Brachypremna* 2 females; Syrphidae: *Palpada*?; photos of *Hyla* green tree frog; photos of greenish brown little snake, probably a rough green snake; saw *Nerodia watersnake*; saw *Acris crepitans* 6132

6132.1 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 23-Sep-1994 C. R. Nelson 6132.1 20 *Cerambycidae* on "Japanese elm" out front of BFL 6132.1

6132.2 USA TEXAS: Sutton Co. Sonora 23-Sep-1994 C. R. Nelson & entomology class 6132.2 20 *Cicindelidae*: *Megacephala* 6132.2

6133 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 23-25 September 1994 C. R. Nelson & entomology class 6133 20 arrived 10:30pm on 23rd; collected terrestrials most of day; set up three malaise traps: 2 on Devils River, 1 on Dolan Creek; 5 cobble surbers, 5 bedrock surbers, EPA 100 sample; dived in falls on 25th & saw a monster striped bass; people: Al Hook, Robert Hansen, Becky Hansen, Camille McNeely, Kevin Holston, Connell Dunning, Monica Swartz, Darrell ?, Shannon Kenny, Michael Grammer, Duncan Wright, Cheryl Kobza, Ken Casey, Lori Olsen, John Dailey, Bryan Elvebak, Hannah Gould, Rodney Guerra, Noland Martin, Deborah Molnar, Tammi Spackman, Jennifer Sokolovic, Robin Waugaman, Wendy Donaldson (T. A.), and Jaynie Stephensen *Efferia argyrosoma* abundant; *Chlorion*; *Cicindela* 2 spp.; Pompilidae; Odonata; Tipulidae; *Spongilla* fly larvae: *Sisyridae* probably *Climaciachapini*

Gastropoda: Ancyliidae: Ferrissia, freshwater limpet. photo voucher for Provo River
Invertebrate Identification Guide (CD) 6133

6134 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 24-25 September 1994 C. R. Nelson & entomology class 6134 20 set up malaise trap on site; walked and talked during the afternoon; Robert & Camille took 5 surbers, EPA 100 sample; I ran a uv light at Penstemon Cliff Springs but an animal tipped it over during the night; I recovered some of the specimens from the moss. Left for home 1:30 pm on 25th. Zoology truck mileage 558.5 6134

6135 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 28-Sep-1994 C. R. Nelson 6135 20 Proctacanthella cacopiloga 1 male; photos of all the following: Chelinidea on Opuntia lindheimeri, Phrrhocoridae on little bluestem, Scolidae on Eysenhardtia, damselies: Telobasis salva mating 6135

6136 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 07-Oct-1994 C. R. Nelson 6136 20 photos of Pistachia chinensis with Bostrichidae 6136

6137 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 12-Oct-1994 C. R. Nelson 6137 20 emptied malaise trap of Pond F, last changed 30 Sep 1994; set up two more malaise traps in Firefly Meadow; see handwritten notes for map of placement; saw a doe white-tail and two fawns near the main BFL building in the morning (8:00am) as I walked to change the pond F malaise trap saw first Panorpa of season; photos of tufted caterpillar (an arctiid) on matelea reticulata; photos Eumenidae mating; Bombyliidae- one hovering and searching above a small woodpile, looking for host nest? 6137

6138 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 13-Oct-1994 C. R. Nelson 6138 20 collected with Entomology students at night, one uv light near lake and another near pond F. Students: Miroslava, Safeer, Rob?, Kevin Holston, Robin Waugaman, Jill Wall, Glenn Clingenpeel pond F: Callibaetis, Chironomidae male 6138

6139 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, pond F 14-Oct-1994 C. R. Nelson 6139 20 emptied pond F malaise trap; last changed 12 October 6139

6140 USA TEXAS: Hays Co. Dripping Springs 14-Oct-1994 C. R. Nelson & family 6140 20 Cebrionidae came to lights: Scaptolenus sp. det CRN 19 Oct 1994, photos taken 6140

6141 USA TEXAS: Travis Co. Lake Travis spring of 1994 as caterpillar James E. Gillaspay, CRN # for photo 6141 20 photos Saturniidae, Hemileuca nevadensis? 6141

6142 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 21-Oct-1994 C. R. Nelson 6142 20 used same malaise traps as #6137: started at 1:30pm and stopped at 4:30pm; emptied pond F malaise trap, last changed 14 Oct 1994; saw Mallophora

belzubel = leschenaulti; took prey from Diogmites angustipennis, 1 f with Vespula; saw Heteropogon s. sp. black; saw Polacantha; saw Panorpa nuptialis 6142

6143 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 23-Oct-1994 C. R. Nelson
6143 20 photo Culicidae, full of blood on arm of Kaye Nelson 6143

6144 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 28-Oct-1994 C. R. Nelson 6144 20 emptied malaise trap; last emptied 21 Oct 1994, Odonates galore 6144

6145 USA TEXAS: Bastrop Co. Lost Pines Biological Station, Stengl Ranch 29-Oct-1994 C. R. Nelson & family 6145 20 Pompilidae; Panorpa nuptialis female; photos of Saturniidae caterpillar (polyphemus?) pupated 20 Oct 1994; photos of pupa taken 16 Nov 1994; 28 pupae of Tachinidae emerged & apparent on 1 Dec 1994; 3 adult Tachinidae by 27 Dec 1994; photos: dissected dead moth pupa 12 Jan 1995 & dead tachinids 6145

6146 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, Pond F 31-Oct-1994 C. R. Nelson 6146 20 changed the malaise trap on pond F for repairs, did not empty jar saw several Panorpa nuptialis 6146

6147 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, Pond F 04-Nov-1994 C. R. Nelson 6147 21 took photo of diapausing caterpillar prepupa taken from cocoon on malaise trap, 16 Nov 1994 photos earwigs & Sphingid caterpillar (purple) photos of pupa in leaves 16 Nov 1994, later it emerged and beat itself up (March 1995) no adult photos taken yet; 6147

6147 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev. 04-Nov-1994 C. R. Nelson 6147 21 emptied malaise trap, last changed 28 Oct 1994 photos: sphingid caterpillar, on 16 Nov 1994 photos of pupa in leaves; also photos of diapause caterpillar, prepupa; photos of earwigs Dermaptera 6147

6148 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 4-6 November 1994 C. R. Nelson # 6148 , R. S. Hansen, Oswaldo Hernandez, A. W. Hook 20 ran UV light at surber site the night 4-5 Nov, good catch despite the passage of a cold front and a hail storm; 5 Nov took 5 surbers on riffle, 5 becrock surbers, EPA 100 samples; 6 Nov 1994: walked up along west side of Devils River collecting terrestrials and in ephemeral pools photos (in delta): Sisyridae larva, Chimarra larva, Gomphidae larva, Isonychia larva, Naucoridae (Ambrysus lunatus) adult, Argia? nymphs. 6 Nov: photos clam shrimp & fairy shrimp in ephemeral pools; Heteropogon phoenicurus, Sphecidae, Cerambycidae on Gutierrezia, Eumenidae, Coreidae, Buprestidae, Polacantha, Efferia bicaudata?, Odonata, Stratiomyidae, Saturniidae: Hemileuca? also 6 Nov photos: took Nematocera larvae alive from small

pothole above falls: Culicidae, Chironomidae? (No), Ceratopogonidae (yes, reared to adults in lab) 6148

6148 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 4-6 Nov 1994 C. R. Nelson # , R. S. Hansen, Oswaldo Hernandez, A.W. Hook 6148 21 5 surbers on riffle; 5 bedrock surbers; EPA 100 samples; ran UV light at surber site night of 4-5 Nov good catch despite the passage of a cold front and a hail storm 6 Nov: walked up along west side of Devils River collecting terrestrials and in ephemeral pools: photos of clam shrimp Conchostraca and fairy shrimp; Heteropogon phoenicurus; Sphecidae; Cerambycidae; Eumenidae; Coreidae; Buprestidae; Polacantha; Efferia bicaudata?; Odonata; Stratiomyidae; Saturniidae: Hemileuca?; photos Nematocera larvae alive from small pothole above falls: Culicidae, Chironomidae, Ceratopogonidae, reared in lab; general photos in delta: Sisyridae, Chimarra Philopotamidae; Gomphidae; Isonychia nymph; Naucoridae: Ambrysus lunatus; Argia? nymphs 6148

6149 USA TEXAS: Val Verde Co. Dolan Creek, above Devils River 4-6 Nov 1994 C. R. Nelson # , R. S. Hansen, Oswaldo Hernandez, A.W. Hook 6149 21 ran 2 uv lights, one at Dolan surber & EPA site, one at Penstemon Cliff Springs, good catch despite cold front; 5 surbers, EPA 100; collected and walked in stream with David McNeely & Tom Robinson of UT Brownsville, David is Camille's dad, she works in my lab. temperatures before sunrise on Dolan Creek: air 10 C, water 20 C, later at 11:00am water 21 C Odonata, photos of fish: Dionda argentea, Gambusia affinis, Ictalurus lupus, Cyprinodon eximius; also photos of fairy shrimp 6149

6150 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev. 11-Nov-1994 C. R. Nelson 6150 21 emptied malaise trap 6150

6151 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev., pond F 17-Nov-1994 C. R. Nelson #, entomology class 6151 21 also collected in fish pond overflow and pond D, but I didn't keep anything from these areas; collected with: Wendy Donaldson, Al Hook, Kristen Penny, Joe Rowland, Ivan Chien, Glen Clingenpeel, Lori Olsen, Connell Dunning, Robin Waugamann, Deborah Molnar, Kevin Holston, and Shannon Kelly; also saw Heather McClain and other Heather Gerridae, 2 genera; Notonecta, Buenoa, Pleidae, Dytiscidae, Tropisternus 6151

6152 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev., pond F 18-Nov-1994 C. R. Nelson # 6152 21 emptied malaise trap, still much material, last emptied 11 Nov 1994, I replaced the "new" malaise trap with the repaired "old" malaise trap on Wednesday. I did not empty the trap on Wednesday 6152

6153 USA TEXAS: Williamson Co. trib. of North San Gabriel River at Tejas Camp of the U. S. Army Corps of Engineers 19-Nov-1994 C. R. Nelson # 6153 21 Leuctridae nymph in two tribs. on upstream from bridge one downstream from bridge, both coming from the north; also a vine inflated with pods 6153

6154 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev., pond F 25-Nov-1994 C. R. Nelson # 6154 21 emptied malaise trap, last emptied 18 Nov 1994 6154

6155 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev., pond F 02-Dec-1994 C. R. Nelson # 6155 21 emptied malaise trap, last emptied 25 Nov 1994 6155

6156 USA TEXAS: Val Verde Co. Devils River above Dolan Falls 2-4 Dec 1994 C. R. Nelson # , G. Easley 6156 21 arrived 4pm on 2 Dec and quickly set up 2 malaise traps and 3 light traps (2 on Dolan Creek); 3 Dec 5 surbers above ford, 1 EPA 100 above ford; 5 bedrock surbers below ford; water temp 20 C (Dolan and springs were 23 C); took in 1 pint at light trap; 4 Dec photos of Collembola on ephemeral pools up Devils River. malaise trap had good yield; 554 miles round trip, need to pay John caught adult Brechmorhoga mendax, saw Hetaerina american; Argia sp. Symptetrum sp.; Clam & fairy shrimp still abundant; Odonata; Ichneumonids on ground, photo Heteropogon phoenicurus with prey 6156

6157 USA TEXAS: Val Verde Co. Dolan Creek, above Devils River 2-4 Dec 1994 C. R. Nelson # , G. Easley 6157 21 2 Dec: set up 2 lights, 1 at surber site and another at Penstemon Cliff Springs, took 1 pinte from each in the morning; 3 Dec: 5 surbers, 1 EPA 100 sample, temp 23 C, Devils River was 20 C, Penstemon Cliff Spring was 23 C Hetaerina american adults, Sympetrum & Brechmorhoga mendax. ephemeral pools: Dytiscidae, Culicidae, fairy shrimp. Penstemon Cliff springs: Trichoptera cases, Calamoceratidae, crayfish, Plethodontidae: Eurycea! took home video and photos shot 5 Dec 1994 in Austin. Spotted Beetle Pool in Grotto Canyon: Hydrophilidae, Lestidae, Notonectidae: Buenoa and Notonecta 6157

6158 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev., pond F 09-Dec-1994 C. R. Nelson # 6158 21 emptied malaise trap, last emptied 2 Dec 1994 good catch in trap; many moths and a couple damselflies 6158

6159 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev., pond F 16-Dec-1994 C. R. Nelson #, Jon K. Gelhaus 6159 21 emptied malaise trap, last emptied 9 Dec 1994 searched for Tipulidae larvae with Jon, we found many in red oak leaves; also found on shelf of stream trail in thin leaf litter on rocks; photos: beetles in shelf fungus, photos: Nematocera in punky wood, Anisopodidae? yes! reared Olbiogaster emerged 10 Feb 1995; Tabanidae larva Chrysops? in litter on stream trail 6159

6160 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev., pond F 17-Dec-1994 C. R. Nelson #, Jon K. Gelhaus 6160 21 1: found Tipulidae larvae along Boathouse Road in leaves on edge of pavement, abundant; 2: photos 20 Dec 95: fly larvae, Mycetophilidae on and under bark of giant dead oak on mucous threads; 3: Tipulidae larvae under leaves by small pond near enclosure 5 near small Atta nest; 4: litter from hole in Firefly Meadow, trying for Mycetophilidae larvae and pupae, nothing reared out 6160

6161 USA TEXAS: Blanco Co. Pedernales Falls State Park 17-Dec-1994 C. R. Nelson # and J. K. Gelhaus 6161 21 1: on sandy beach under huisache tree below falls, Tipulidae larvae, Asilidae? larva small, photographed 20 Dec 1994; 2: under live oak seedling on falls trail: tipulidae larvae; 3: under post oak, Tipulidae larvae; 4: under Texas persimmon, Tipulidae larvae; 5: under mesquite, Tipulidae larvae; 6: under hackberry, Tipulidae larvae 6161

6162 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev., Boathouse Road 20-Dec-1994 C. R. Nelson # 6162 21 photos: Tipulidae larvae on Boathouse Road in armadillo diggings, pupated by 7 Jan 1995, 3 adults alive, emerged prior to 12 Jan 1995, teneral but preserved anyway, photos 12 Jan 1995 6162

6163 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev., Pond F 27-Dec-1994 C. R. Nelson # 6163 21 emptied malaise trap, last changed 16 Dec 1994, saw Larry Gilbert on the Boathouse Road, moth from malaise trap caterpillar emerged, see #6147 6163

6164 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev., Pond F 31-Dec-1994 C. R. Nelson #, A. J. Nelsons, J. R. Nelson 6164 21 emptied malaise trap, set up another trap on the stream, hope floods don't get it. 6164

6165 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev., Pond F 06-Jan-1995 C. R. Nelson #, A. W. Hook 6165 21 emptied malaise trap at pond F and stream 6165

6166 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m elev., Pond F 07-Jan-1995 C. R. Nelson #, J. R. Nelson, D. & B. Parker 6166 21 sampled aquatic insects in pond F Pleidae; Aeshnidae 6166

6166.1 USA TEXAS: Travis Co. Austin, jct Toulouse and Comberg Drives 01-Jan-1995 C. R. Nelson 6166.1 21 large larvae in logs of Platanus occidentalis, reared in lab, emerged during summer Cerambycidae 6166.1

6166.2 USA TEXAS: Travis Co. Austin, junction of Toulouse Dr. and Comberg Dr. 01-Jan-1995 C. R. Nelson # 6166.2 21 large Cerambycidae larvae in sycamore logs at home of Barry Woods; they emerged later, in midsummer, many large brown specimens 6166.2

6167 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 13-Jan-1995 C. R. Nelson # 6167 21 emptied malaise traps at pond F and stream; A huge storm passed through yesterday evening. The stream was high when I got to the trap in the morning, but had receded. The trap was unharmed, to my amazement, because I had straddled the stream with it. 6167

6168 USA TEXAS: Val Verde Co. Devils River, Bakers Crossing, about 16 mi N of Comstock on Hwy 163 13-Jan-1995 C. R. Nelson # 6168 Shann Stringer, Gregg W. Easley, L. Ramakrishnan (Ramki), Darrin Hulsey 21 2 EPA 11 samples taken, clam w/o *Corydalus*, other in two vials; 5 surbers; photos of site, silty, warm day 60-70 F. collected on riffle between old downstream bridge and new upstream bridge, got permission from Les Hughey (sp.?) who runs the Bakers Crossing campground. A nice isolated spot. dominants: *Chimarra*, *Corydalus*, *Baetidae*, also *Naucoridae*, *Atopsyche*, *Hydropsychidae*, *Chironomidae*, flying: adult *Baetidae*, *Chironomidae*, and *Hydroptilidae* 6168

6169 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 14-15 Jan 1995 C. R. Nelson # 6169 Shann Stringer, Gregg W. Easley, L. Ramakrishnan (Ramki), Darrin Hulsey 21 New, a change!: 5 EPA 100 samples by 4 different people = 20 samples taken and 5 surbers taken all from same riffle!, 5 bedrock surbers; set up two malaise, one in delta other on Shelf Flat Rock; 11:00 am air 25 C, water 18 C. Shann picked a log on the surber riffle; Shann caught a few Mayflies and black flies on the river near dusk; 2 light traps, one on surber riffle on at foot of stairs. Left malaise trap at Shelf Rock in the charge of Wendy Connally, the new preserve manager. 7:00 pm near full moon at 55 degrees above horizon, moonlit photos taken of Dolan Falls (not very good, see data in written notes). 15 Jan: Riley walked in canyon behind house, then photos of streams; Gregg took down light traps, good amount. Wendy Connally agreed to empty the malaise trap across Shelfrock Canyon near their house. I left a box of Mason jars and alcohol for them. *Tricorythidae* flying in morning, *Chironomidae* flying, *Chimarra texana* flying, 7 butterfly species flying 6169

6170 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 14-15 Jan 1995 C. R. Nelson # 6170 Shann Stringer, Gregg W. Easley, L. Ramakrishnan (Ramki), Darrin Hulsey 21 All quantitative samples taken from surber riffle!: 2 EPA 100 samples by CRN and 5 surbers taken by Shann, 1 EPA 100 sample by Darrin all from same riffle!; 4:00 pm creek 22 C. set up UV lights: 1 at Penstemon Cliff Spring, 1 at surber site above Big Catfish Hole. 15 Jan: Gregg took down the traps; Penstemon Cliff Spring temp: 70 F. 660 miles total on trip, longer due to side trip to Bakers Crossing, paid 66.90 18 Jan 1995 6170

6171 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 20-Jan-1995 C. R. Nelson #, A. W. Hook 6171 21 emptied malaise traps at pond F and stream; small amount of material, last changed 13 Jan 1995 6171

6172 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 23-Jan-1995 C. R. Nelson #, 6172 Gary I. Baird, Gad Perry, and 208 class 21 walked: fish ponds, Firefly Meadow, stream trail, and along lake 6172

6173 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 25-Jan-1995 C. R. Nelson # 6173 Gary I. Baird, Gad Perry, and 208 class 21 walked: fish ponds, Firefly Meadow, stream trail, and along lake, same basic walk as 6172 stopped at rotting pecan stump on the floodplain and collected Anisopodidae: Olbiogaster larvae, also Tipula (Lunatipula) adult 3 spot in wing, 1 male, first of the season 6173

6174 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 25-Jan-1995 C. R. Nelson # 6174 21 Tipula (Lunatipula) adult 3 spot in wing, 1 male, first of the season 6174

6175 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 27-Jan-1995 C. R. Nelson # 6175 Gary I. Baird, Gad Perry, and 208 class 21 emptied malaise traps at pond F and stream photos Veliidae around Callibaetis, excellent photo of Microvelia 6175

6176 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, Town Lake 31-Jan-1995 C. R. Nelson # 6176 Gary I. Baird, Gad Perry, and 208 class 21 aquatic sampling near boat ramp Sialidae, Coenagrionidae, Hirudinea 6176

6176.1 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, fish tank cement seeps 31-Jan-1995 C. R. Nelson # 6176.1 Gary I. Baird, Gad Perry, and 208 class 21 Stratiomyidae and Tipulidae: "Limonia" 6176.1

6177 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 02-Feb-1995 C. R. Nelson #, Rodney Guerra, Hannah Gould 6177 Gary I. Baird, Gad Perry, and 208 class 21 gathered more Anisopodidae in rotten pecan stump.

Bob Blum died this morning. I speak at his funeral tomorrow. Tipulidae 1 male and 1 female 6177

6178 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 03-Feb-1995 C. R. Nelson #, Rodney Guerra 6178 Gary I. Baird, Gad Perry, and 208 class 21 emptied malaise traps from pond F and stream 6178

6179 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 04-Feb-1995 C. R. Nelson #, & Field Entomology class 6179 Kelsey ?, Holly?, Mary Smith, Robert Hansen, Eric Harris, Dan Hardy, Darrin Hulsey 21 Pond F: Aeshnidae, Pleidae, Dytiscidae, Pisauridae: Dolomedes.

Town Lake: Elmidae!, on submerged log; Pleidae, Sialidae, Ephemeroptera: Hexagenia,

Stenonema x , Callibaetis, Tricorythodes; puddle in boat: Culicidae; Fish ponds: large planarian 6179

6180 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 06-Feb-1995 C. R. Nelson #, & 208 class 6180 Gary Baird & Gad Perry 21 Vegetation studies: Hackberry Forest: Michelle, Carol, John, Denicia, Duncan, Chris. Pogo Bench: Julie, Lisa, Sunny, Tom, Rene. Boathouse Meadow: Angela, Alisa, Ron, Jim, Lee Tipulidae 6180

6181 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 08-Feb-1995 C. R. Nelson #, & 208 class 6181 Gary Baird & Gad Perry 21 Species area curve, Vegetation studies: Butterfly Meadow, Insectary: Liz, Amanda, Damon, Robin, Ethan. Big Oak Forest on Quarry Trail: Brian, Andrew, Meredith, Sarah, Dan. Quarry Meadow: Robin Waugaman, Richard, Jeffrey, Marlyn, Michael, Brian Stratiomyidae larva 6181

6182 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 08-Feb-1995 C. R. Nelson #, & 208 class 6182 Gary Baird & Gad Perry 21 Vegetation studies: Firefly Meadow: Jim, Tiffany, Brian, ?. Hardpan Flat: Michael, Joy, Chris, ?. Juniper Forest: Rachel, Amy, Debbie, Alisha, ?, Anita

emptied malaise traps in stream and on pond f Schistocerca american male, appears fresh 6182

6183 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 17-Feb-1995 C. R. Nelson # 6183 21 emptied malaise traps: pond F and Stream, last emptied 10 Feb 1995 6183

6184 USA TEXAS: Travis Co. Austin, Bull Creek, St. Edwards Park, Spicewood Springs Road 18-Feb-1995 C. R. Nelson #, Field Entomology class 6184 21 emptied malaise traps: pond F and Stream, last emptied 10 Feb 1995 at 1st large riffle above reservoir: Perlesta, Chimarra larvae and adults, photos: Simulium, Gerridae: Gerris, and Baetidae molting sub to imago. In stagnant side pool: Aeshnidae: Anax, Aeshna, and Nasiaeshna pentacantha larvae! 6184

6185 USA TEXAS: Travis Co. Austin, Bull Creek, Hanks Tract Nature Area above Old Lampasas Road 18-Feb-1995 C. R. Nelson #, Field Entomology class 6185 21 emptied malaise traps: pond F and Stream, last emptied 10 Feb 1995 trib of righthand (developed side): Trichoptera: Philopotamidae, Hydrobiosidae, Calamoceratidae, photos: Odontoceridae. Baetidae, Heptageniidae: Stenonema nymphs & adult; photos: Tipulidae: Tipula (Yamatotipula) and Calopterygidae: Hetaerina.

Lefthand trib, past quaint unpainted wooden house: Gerridae, Calamoceratidae, Hydrobiosidae, Odontoceridae, Baetidae: Callibaetis, Heptageniidae: Stenonema x . 6185

6186 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 20-Feb-1995 C. R. Nelson #, & Bio 208 class 6186 21 aquatic sampling: pond F and Town Lake 6186

6187 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 22-Feb-1995 C. R. Nelson #, & Bio 208 class 6187 21 aquatic sampling: pond F: Hydrometridae by Marlyn and Nepidae by Amanda. photos of Dytiscidae: Cybister?

also Town Lake 6187

6188 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 24-Feb-1995 C. R. Nelson #, & Bio 208 class 6188 21 aquatic sampling: pond F and Town Lake.

emptied malaise traps on stream and pond F, last emptied 17 Feb 1995 6188

6188.1 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 3 March 1995? C. R. Nelson # 6188.1 21 emptied malaise traps on stream and pond F, last emptied 24 Feb 1995 6188.1

6189 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 06-Mar-1995 C. R. Nelson # & Bio 208 class 6189 Gary Baird & Gad Perry 21 point quarter transects and 10 belt transects in areas near jct of Panther & Stream trails. Leptodactylidae frog. Bees: Synhalonia belfragei on native redbud blossoms. Holopogon n. sp. on road to Fish Ponds before Garden Intersection. White tail deer left antler, 3 points & brow tine. 6189

6190 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 08-Mar-1995 C. R. Nelson # & Bio 208 class 6190 Gary Baird & Gad Perry 21 point quarter transects and 10 belt transects in areas near jct of Panther & Stream trails. same place as 6 March photos: scorpion 6190

6191 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 10-Mar-1995 C. R. Nelson # 6191 21 emptied malaise traps. last emptied 3 March 6191

6192 USA UTAH: Box Elder Co. Brigham City, 211 N 300 W N 41.5155 W 112.0198 19-Mar-1995 C. R. Nelson # 6192 21 ants on sink in house, at other times very abundant, alate found alive on living room window sill. 6192

6193 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 19-Mar-1995 C. R. Nelson # 6193 21 Pyrgotidae at porch light 6193

6194 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 10-20 March 1995 C. R. Nelson # 6194 Gary Baird & Gad Perry 21 STREAM TRAP BURNED! destroyed by vandals. still recovered insects. pond F trap OK. Emptied malaise trap. Lestidae, beetle prey of Holopogon n. sp. female 6194

6195 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 23-Mar-1995 C. R. Nelson # 6195 21 Raphidiidae male 6195

6196 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 20-24 March 1995 C. R. Nelson # 6196 Gary Baird & Gad Perry 21 emptied pond F trap, stream trap is defunct! 6196

6198 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 24-26 March 1995 C. R. Nelson # 6198 Darrin Hulsey, Gregg Easley, Dana White, Ray Sigmund, Joan Drinkwin, Mary Smith, Anne Rogers, Tiffany Ensey, Alicia Stallman, Angela Mattison, Robin Waugaman, Denicia Salinas, Allan Hook, Leslie West, Anita Chapa, Gary Baird, Lisa Moore, Debbie Cerda, Gad Perry, Kate R. Levering, Dan Hardy & son, Eric Harris & wife, John Morse. 21 25 March: 5 surbers by Darrin Hulsey, light trap at surber site by Gregg Easley. 26 March: EPA 100 by Darrin Hulsey, light trap at Springs by Gregg Easley; Saldidae on bedrock, Calamoceratidae adults on Church Painting Rock, misc. aquatics in pothole: Corixidae, Libellulidae, Berosus, "fringed" beetle larvae (=Berosus); photos of fox corpse with porcupine quills at mouth of Grotto Canyon 6198

6199 USA TEXAS: Sutton Co. Sonora 26-Mar-1995 C. R. Nelson #, A. W. Hook 6199 Darrin Hulsey, Gregg Easley, Dana White, Ray Sigmund, Joan Drinkwin, Mary Smith, Anne Rogers, Tiffany Ensey, Alicia Stallman, Angela Mattison, Robin Waugaman, Denicia Salinas, Allan Hook, Leslie West, Anita Chapa, Gary Baird, Lisa Moore, Debbie Cerda, Gad Perry, Kate R. Levering, Dan Hardy & son, Eric Harris & wife, John Morse. 21 Tipula (Lunatipula) 6199

6200 USA TEXAS: Val Verde Co. Devils River, Dolan Falls, malaise trap at first canyon of left side above Dolan Falls January March 1995 C. R. Nelson #, Wendy Connally 6200 21 Record of Wendy changing trap, in 70% ethanol:

15-23 Jan 1995

23-30 Jan 1995

31 Jan - 6 Feb 1995

6-16 Feb 1995

16-26 Feb 1995

26 Feb-7 Mar 1995

7-15 Mar 1995

15-26 Mar 1995

6200

6201 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 01-Apr-1995 C. R. Nelson # 6201 21 emptied pond F trap, last changed 24 March 1995.

See written notes for data on photos of asilid larvae from #6197 6201

6202 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 03-Apr-1995 C. R. Nelson # 6202 21 Cerambycidae adult emerged from red bud log, they stridulate in the log. Photos taken 6 April 1995. Crabro advena common in front yard. Date ? photos. 6202

6203 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 06-Apr-1995 C. R. Nelson # 6203 21 photos: Pentatomidae, Brochymena, camouflaged on elm trunk. 6203

6204 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 08-Apr-1995 C. R. Nelson # 6204 21 emptied malaise trap, last emptied 1 April 1995 6204

6205 USA TEXAS: Bastrop Co. Little Sandy Creek, N of Sayers, Road 49 14-Apr-1995 C. R. Nelson #, J. L. Neff, A. W. Hook 6205 21 photos: Proctacanthus brevipennis mating; photos: Calopteryx maculata adults mating; Hetaerina americana, Gomphidae, Aeshnidae, Coenagrionidae. photos: macromyiidae adult. Perlesta nymphs, Gompidae nymphs. 6205

6206 USA TEXAS: Bastrop Co. W of Sayers, Road 179 14-Apr-1995 C. R. Nelson #, J. L. Neff, A. W. Hook 6206 21 Proctacanthus brevipennis, Hymenoptera: Sphecidae; Gomphidae. Photos: Scarabaeidae with dung ball 6206

6207 USA TEXAS: Bastrop Co. Lost Pines Biological Station, Stengl Ranch 14-Apr-1995 C. R. Nelson #, J. L. Neff, A. W. Hook 6207 21 shrimp; Perlesta, Amphipods, all in stream.

photos: Sphecidae with cricket 6207

6208 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 14-Apr-1995 C. R. Nelson # 6208 21 emptied malaise trap, last emptied 8 April 1995.

photographed brown recluse spider caught by A. W. Hook at his house on this day. 6208

6209 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, 19-Apr-1995 C. R. Nelson # 6209 21 Atta texana queen taken from crowd of Pogonomymex barbatus who were dismembering her. Photos: Adult Arctiidae: Ecpantheria scribonia 6209

6210 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, Pond F 20-Apr-1995 C. R. Nelson #, Andrew Clamann 6210 21 morning: photos: Chaoboridae larvae and Ceratopogonidae larva, also photo Aeshnidae and Libellulidae 6210

6211 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 20-Apr-1995 C. R. Nelson #, 6211 21 Checked Greg Sword's Ptelea plants near pond 7 for Schistocerca lineata first instar nymphs. I saw none. afternoon: photos of many things on Ptelea trifoliata: Libytheidae, Papilionidae: Papilio cressphontes caterpillars, Reduviidae, Apiomerus with coccinellid prey, Cerambycidae. also on Ptelea but not photographed: Lygaeidae, Syrphidae, Stratiomyidae, 6211

6212 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 21-Apr-1995 C. R. Nelson #, 6212 21 emptied malaise trap on pond F, last emptied 14 Apr photos, on Ptelea: Papilionidae: Papilio cressphontes caterpillars, Ctenuchidae, orange and black. Photos of Cercopidae spittle. Photos, bluebonnets. 6212

6213 USA TEXAS: Travis Co. Barton Creek, Upland Tract, near Bee Cave 24-Apr-1995 C. R. Nelson #, Bio 208 class 6213 21 mapped stream segment below trammel crossing 6213

6214 USA TEXAS: Travis Co. Barton Creek, Upland Tract, near Bee Cave 26-Apr-1995 C. R. Nelson #, Bio 208 class 6214 21 mapped stream segment below trammel crossing, next 100 meters Perlesta decipiens nymphs and adults 6214

6215 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m, pond F 27-Apr-1995 C. R. Nelson #, 6215 21 emptied malaise trap on pond F, last emptied 21 Apr 6215

6216 USA TEXAS: Travis Co. Austin, Barton Creek, Uplands tract near Bee Cave 28-Apr-1995 C. R. Nelson 6216 22 mapped Plecoptera: Perlidae: Perlesta; Ephemeroptera adult; Blattaria, pretty; Fulgoridae 6216

6217 USA TEXAS: Bastrop Co. Lost Pines Biological Station, Stengl Ranch 28-29 April 1995 C. R. Nelson 6217 22 Class trip: Connell Dunning & friend Catherine visited; Gary Baird; Gad Perry; James Lowe; Amando Blanco; Liz Smith; Ethan Thompson; Debbie Cerda; Tiffany Ensey; Amy Lambert; Mark Lindsey; Michelle Halbert; Greg White; Sarretta McCaslin :& husband; Brian Nix; Leslie West; Michael Youngblood; Jennifer Chadwick & guy; Robert Hanson & woman; Erik Harris & wife; Darrin Hulsey; Anne Rogers; Ruth Stanford; Dana White & man; Jim Ohara from Canada; James Gillasp; Jason Nelson; James fell from a cliff on JD Creek; light traps on JD Creek 6217

6218 USA TEXAS: Bastrop Co. Little Sandy Creek, N of Sayers on Road 49 29-Apr-1995 C. R. Nelson 6218 22 others: Gary Baird; Darrin Hulsey; Anne Rogers; Jennifer & guy; Jim Ohara; Eric Harris & wife; Ruth Stanford; Jason Nelson 6218

6219 USA TEXAS: Travis Co. Austin, BFL, 170m 04-May-1995 C. R. Nelson & J. O'Hara
6219 22 scarabs on flowers of *Opuntia lindheimeri*; *Anthidium*?; Chrysomelidae; photos
of *Copestylus* with mottled wings, Syrphidae 6219

6220 USA UTAH: Box Elder Co. Bear River Migratory Bird Refuge, 15 mi W of Brigham City
20-May-1995 C. R. Nelson 6220 22 Saw many bird species (see written notes); The old
refuge buildings are all gone. The old stream beds are recognizable and the bridges are
restored. They have put in a couple of boardwalks and the dikes are open to travel. This
restoration has been accomplished in large part by volunteers. Cindy Marshall gave me a
break from watching my dad in the nursing home. photos: Chironomidae, swarms, and
close-ups; photo: Formicidae 6220

6221 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 29-May-1995 C. R. Nelson
6221 22 also same ecerambycid emerging from logs in BFL lab, starting 15 May 1995,
collected as larvae #6166A photos: Cerambycidae 6221

6222 USA TEXAS: Hays Co. Camp Ben McCullough, Onion Creek, Driftwood 03-Jun-1995
C. R. & J. R. Nelson & scouts 6222 22 photos of playing in the creek; creek was up due to
past week's heavy rains Perlidae: *Perlesta decipiens* 6222

6223 USA TEXAS: Travis Co. Boggy Creek, Austin, DittMar Road 03-Jun-1995 C. R. & J. R.
Nelson & scouts 6223 22 photos of boys with soft-shelled turtle, especially Jared Pearce
6223

6224 USA UTAH: Box Elder Co. Brigham City, 700 North 200 East 12-Jun-1995 C. R.
Nelson 6224 22 photos: Limnephilidae adult on glass of nursing home 6224

6225 USA UTAH: Cache Co. Dry Lake, Hwy 89 between Logan & Brigham City 12-Jun-1995
C. R. & J. R. Nelson 6225 22 later, photos in Logan at temple and at USU Dytiscidae;
photos: *Dytiscus*?; photos tadpole shrimp 6225

6226 USA UTAH: Box Elder Co. Woods Creek Duck Club, 2 mi S of Corinne, near Woods
Creek 14-Jun-1995 C. R. & J. R. Nelson 6226 22 collected on swale edges near big pond;
Jason and I shot .22s and shotgun at sticks & cans & old cattails. photos: Acroceridae,
Ogcodes rubrifemorata? spelling? 6226

6227 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 23-Jun-1995 C. R. Nelson 6227
22 composte heap: *Hermetia illucens* larvae 6227

6228 USA TEXAS: Sutton Co. 21 mi E of Sonora, I-10 rest area 26-Jun-1995 C. R & J. R.
Nelson, A. W. Hook, & G. Easley 6228 22 photos: Acrididae, very large Romaleinae on
roadway, also seen S of Sonora on Hwy 277; photos staged at BFL 6228

6229 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 26-28 June 1995 C. R. & J. R. Nelson, A. W. Hook, & G. Easley 6229 22 swam in Blue Hole on 27 Jun; also visited Mexican Oaks and set up 3 malaise traps, visited Leon Springs, saw many water scorpions- *Ranatra*, none collected; mileage 550 miles, charged \$82.50 for 4X4. Asilidae: *Saropogon* with buprestid *Acmaeodera*, *Microstylus galactodes*, *Ospriocerus abdominalis*?, *Efferia argyrosoma* with honey bee; 26 Jun Mutillidae, Cicadidae, Sphecidae, Libellulidae; Gomphidae female; photos of Vela ant lion 6229

6230 USA TEXAS: Val Verde Co. Dolan Creek potholes, dry bank, at level between Penstemon Cliff and Angle Spring 27-28 June 1995 C. R. & J. R. Nelson, A. W. Hook, & G. Easley 6230 22 pothole study: started upstream: #1 L=3m; W=0.5m; DMax x=2cm water; 7cm mud + water

more notes in handwritten book

12:15 pm saw mixed generic coupling of dragonflies, blue male *Libellula comanche* with *Brechmorhoga mendax* female, wheeled regularly; photos in lab on 29 June: *Berosus* larvae; *Berosus* adults 2 spp.; *Laccophilus* 2 spp.; Phylum Nematomorpha; *Pseudoleon superbus* nymph (reared by Andrew Clamann, actually *Libellula saturata*!), it was buried in mud and sluggish; *Nectopsyche* larvae, 2 types. Other taxa: Libellulid; Leptoceridae in potholes: *Oecetis inconspicua* reared and photographed; Saldidae; Microvelia 6230

6231 USA TEXAS: Val Verde Co. Dolan Creek potholes, dry bank, at level between Penstemon Cliff and Angle Spring; opposite big square fallen rock with Sycamore tree near Mercury pool 27-28 June 1995 C. R. & J. R. Nelson, A. W. Hook, & G. Easley 6231 22 recorded much data regarding movement of *Oecetis inconspicua* larvae as day heated up. photos: *Pseudoleon superbus*; *Oecetis*; 6231

6232 USA TEXAS: Travis Co. Austin, BFL, 170m 29-Jun-1995 C. R. Nelson, A. W. Hook, & A. Clamann 6232 22 emptied malaise trap; overcast, after rain several Odonata; Asilidae: *Promachus bastardii*, *Polacantha* with alate ant prey; small cicada; photos: Cerambycidae mimicking adult lampyridae 6232

6233 USA UTAH: Utah Co., 12 mi E of Thistle, Hwy 6/50, Wheeler Sawmill 14-Jul-1995 C. R. Nelson 6233 22 Tipulidae; photos: Chloroperlidae: *Triznaka signata*; photos: strange Asilinae male?; photos: Therevidae 6233

6234 USA UTAH: Utah Co., North Fork Provo River jct Provo River, at Wildwood 17-Jul-1995 C. R. & A. L. Nelson 6234 22 photos: *Drunella doddsi*, *Ephemerella infrequens*?, and *Rhyacophila* 6234

6235 USA UTAH: Utah Co., North Fork Provo River at Timp Lodge 17-Jul-1995 C. R. & A. L. Nelson 6235 22 Photos: *Plumiperla diversa* with eggs; *Sweltsa borealis*; *Sweltsa coloradensis*, many photos taken (after *Paraleuctra* from #6236) 6235

6236 USA UTAH: Utah Co., Left hand of South Fork of American Fork River at Altamont Campground 17-Jul-1995 C. R. & A. L. Nelson 6236 22 Photos: *Plumiperla diversa* with eggs; *Sweltsa borealis*; *Sweltsa coloradensis*, *Capnia nana*; *Paraleuctra occidentalis*; *Isoperla sobria*, and *Rhagionidae* *Symphoromyia* 6236

6237 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 25-Jul-1995 C. R. Nelson & M. E. Irwin 6237 22 Mike Irwin is from the Illinois Natural History Survey. He is a specialist in *Therevidae*. blacklight: *Tabanidae*, *Cerambycidae*, saw several *Corydalus cornutus*, *Gomphidae* at light 6237

6238 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 26-Jul-1995 C. R. Nelson & M. E. Irwin 6238 22 mileage for trip in 4X4 was 1334.1 X \$0.156 per mile equals \$200.11 to be paid by Mike Irwin *Odonata*: *Perithemis* and *Lestes*, new records for the area; *Gomphidae*; *Libellula comanche*; *Pseudoleon superbus*. *Acrididae*; *Mutillidae*; *Bombyliidae*; saw many *Efferia argyrosoma* 6238

6239 USA TEXAS: Presidio Co. Big Bend Ranch State Natural Area; Cuevas Amarillas Springs; 29d20m46s N 104d6m11s W 26-Jul-1995 C. R. Nelson, M. E. Irwin, & S. D. Gaimari 6239 22 set up 2 malaise traps below rock falls below ford; Mike & Steve set up an additional 2 traps and kept material, 26-28 July on the trap sets. *Asilidae*: *Efferia*, *Proctacanthus nearno* & prey of *libethyidae* and *Apis*; *Gelastocoridae*: *Nerthra*? saw *Anax walsinghami*; *Libellulidae* small with silver abdomen in male; *Libellula saturata*; *Archilestes grandis* 6239

6240 USA TEXAS: Presidio Co. Big Bend Ranch State Natural Area; Saucedo Headquarters 29d28m15s N 103d57m24s W 26-27 July 1995 C. R. Nelson, M. E. Irwin, & S. D. Gaimari 6240 22 set up 2 malaise traps below rock falls below ford; Mike & Steve set up an additional 2 traps and kept material, 26-28 July on the trap sets. *Cerambycidae*: *Prionus*?; aculeates on *Baccharis*; *Odonata*; *Bombyliidae* on low *Euphorbia*: *Glabellula*? or *Empidoecus* spelling? 6240

6241 USA TEXAS: Presidio Co. Big Bend Ranch State Natural Area; Cinco Tinajas; 29d28m44s N 103d58m16s W 27-Jul-1995 C. R. Nelson, M. E. Irwin, & S. D. Gaimari 6241 22 photos: *Efferia* with *Libethyidae* butterfly; *Buprestidae*, big purple and *Acmaeodera*; *Cicadidae*; *Scarabaeidae*; *Anthophoridae*; *Efferia*, good series; *Geron*; *Aphoebantus*; *Dolichopodidae*, a skater on pools; *Berytidae* on scroph? 6241

6242 USA TEXAS: Presidio Co. Big Bend Ranch State Natural Area; Cuevas Amarillas Springs; 29d20m46s N 104d6m11s W 27-Jul-1995 C. R. Nelson, M. E. Irwin, & S. D. Gaimari 6242 22 Anax walsinghami; Sympetrum; Gomphidae 2 spp. Tramea; Archilestes; Libellula sp.!; Enallagma or Argia 6242

6243 USA TEXAS: Presidio Co. Big Bend Ranch State Natural Area; falls above Cuevas Amarillas Springs; 29d20m46s N 104d6m11s W 28-Jul-1995 C. R. Nelson 6243 22 Cicada; Cicindela; Sphecidae; Asilidae: Promachus, Proctacanthus nearno, Efferia 5 spp.; Odonata 6243

6244 USA TEXAS: Brewster Co. 10 mi NE of Alpine, Hwy 67 28-Jul-1995 C. R. Nelson, M. E. Irwin, & S. D. Gaimari 6244 22 photos: lubber grasshoppers; Saropogon 6244

6245 USA TEXAS: Ward Co. Monahans Sandhills State Park; 31d38m20s N 102d49m16s W, approx. 2500 ft. 29-Jul-1995 C. R. Nelson, M. E. Irwin, & S. D. Gaimari 6245 22 photos: Cerambycidae; many other insects! 6245

6246 USA TEXAS: Travis Co. Austin, Red Bud Island below Tom Miller Dam, near BFL 30-Jul-1995 Andrew Clamann 6246 22 macromyiidae: macromia! a first for BFL also Libellulidae: Celithemis at BFL, teneral, a first! photos of both by CRN 6246

6247 COSTA RICA Heredia Province Santo Domingo de Heredia, INBio Headquarters, coffee plantation 06-Aug-1995 C. R. Nelson 6247 22 collected with Rob Cannings, Hannah Nadel, and Mark Metz Neriidae; Asilidae: Holcocephala; photos: Brentidae; Ascalaphidae to Rob; Syrphidae to Mark 6247

6248 COSTA RICA San Jose Province Cerro de la Muerte Range, Rio Savegre at San Gerardo de Dota, Finca Zacatales; 9d33mN 83d48mW, elevation 2200m 07-Aug-1995 C. R. Nelson and NADS group 6248 22 on grounds of Finca Zacatales, Cabinas Chacon, site of the North American Dipterists' Society meetings; gave most adult tipulids to Chen Young; set up malaise trap over river 8-10 August caught large caddis and Leucotrichia; in river: photos: Blepharoceridae, Hydropsychidae, Caenidae?, Ptilodactylidae? larvae; gave Suragina larva to Don Webb; photos: Anacroneuria, male extruded, came to lights; malaise trap: Trichoptera; Calliphoridae; Tabanidae: Scione; Membracidae; Stratiomyidae; Empididae; Psychodidae; Chen Young gave me some Holcocephala from 4 km N of San Gerardo de Dota road along Rio Savegre photos: weevils; Athericidae: Suragina adult and larva in river; Tabanidae: Scione; Bombus; Bibionidae black; Tipulidae; Syrphidae; Scarabaeidae 6248

6249 COSTA RICA San Jose Province Cerro de la Muerte Range, cloud forest above Rio Savegre at San Gerardo de Dota, above Finca Zacatales; 9d33mN 83d48mW, elevation 2600m 07-Aug-1995 C. R. Nelson and NADS group 6249 22 gave adult tipulidae to Chen

Young Scarabaeidae; photos: Tabanidae: Scione biting Eric Fisher; Sciaridae; Heleomyzidae; Drosophilidae? swarming around head and eyes; Syrphidae; Empididae; photos: Enicocephalidae, Thysanoptera with pointed abdomen, Coccoidea male; Cerambycidae, bronze 6249

6250 COSTA RICA San Jose Province Cerro de la Muerte Range, cloud forest above Rio Savegre at San Gerardo de Dota, along unnamed tributary creek above Finca Zacatales; 9d33mN 83d48mW, elevation 2600m 09-Aug-1995 C. R. Nelson and NADS group 6250 22 gave adult tipulidae to Chen Young photos: Lauxaniidae with pictured wings on leaf at bird droppings, weevil; Tachinidae in light gaps; in stream: photos: Anacroneuria nymphs 3 spp.?, Tipulidae larvae 6250

6251 COSTA RICA San Jose Province Cerro de la Muerte Range, cloud forest above Rio Savegre at end of road downstream from San Gerardo de Dota, on hillside 9d33mN 83d48mW, elevation 2600m 10-Aug-1995 C. R. Nelson and NADS group 6251 22 collected in the rain; manuel Zumbado killed a dog on "the end of the road on the Mountain of Death". We paid the owner \$50.

Others collecting on this side trip: Rob Cannings, Hannah Nadel, Eric Fisher, Monty Wood, manuel Zumbado, and Thomas Pape Empididae; Flatidae; photos Tachinidae, spp., Membracidae on Sechium (a curcubit), Tephritidae: Blepharoneuron on Sechium; Lauxaniidae with picture wings on Sechium; Tabanidae: Scione; Syrphidae, tiny Ocyptamus 6251

6252 COSTA RICA San Jose Province Cerro de la Muerte; summit of Hwy 2, paramo habitat, 9d34.369mN 83d45.439mW; 11092 +/- 492 feet 11-Aug-1995 C. R. Nelson and NADS group 6252 22 We stopped at the top on our way south to the Panama nian border. Bombus, 2 spp.; Tipulidae; Tephritidae: Paracantha on Cirsium thistle; Rhagionidae: Chrysopilus; Syrphidae; Tachinidae 6252

6253 COSTA RICA Puntarenas Province Las Alturas Biological Station; 20 air km NE of San Vito 11-Aug-1995 C. R. Nelson and NADS group 6253 22 arrived at dark Tipulidae; Trichoptera adult 6253

6254 COSTA RICA Puntarenas Province Las Alturas Biological Station; 20 air km NE of San Vito; Cerro Echandi trail, up to 2100m elev., to trail Marker 34 12-Aug-1995 C. R. Nelson, B. Brown, & M. Metz 6254 22 also collected from unnamed tributaries of the Rio Bellavista between trail Markers 5 and 20 Tipulidae; weevils; stingless bees; Anthophoridae; Syrphidae; Tettigoniidae; Tachinidae; Stratiomyidae, Chiomyza; Asilidae: Leptogaster;

Pelecinidae; Tenthredinidae; Conopidae: Stylogaster (photos with Eciton ants); Derbidae; photos Formicidae: Eciton 6254

6255 COSTA RICA Puntarenas Province Las Alturas Biological Station; 20 air km NE of San Vito; Cerro Chai at peak, 2100m elev. 13-Aug-1995 C. R. Nelson, S. Marshall 6255 22 collected little while searching for Thomas Pape who was lost since yesterday. This is a whole story, hopefully I wrote it down elsewhere.

When I reached the base Eric Fisher informed me that my father was dead. I slept wet, cold, exhausted, and depressed. Tabanidae; Tachinidae; Simuliidae; Enicocephalidae; Pompilidae 6255

6256 COSTA RICA Puntarenas Province Las Alturas Biological Station; 20 air km NE of San Vito; clearing at edge of forest, afternoon 14-Aug-1995 C. R. Nelson, S. Marshall 6256 22 collected little while searching for Thomas Pape who was lost since yesterday. This is a whole story, hopefully I wrote it down elsewhere.

When I reached the base Eric Fisher informed me that my father was dead. I slept wet, cold, exhausted, and depressed. photos: Chrysomelidae: big hind femora; Reduviidae with red hangydos; weevils. Stratiomyidae; Cercopidae; Ichneumonidae; Languriidae; Micropezidae; Asilidae: Diogmites menos, Ommatius, Efferia, Leptogaster; Tettigoniidae; Acrididae: Tropidacris male; Tachinidae; night bee?; Syrphidae; photos of flies and army ants: Tachinidae: Callidexia and Conopidae: Stylogaster 6256

6257 COSTA RICA Puntarenas Province Las Alturas Biological Station; 20 air km NE of San Vito; quarry, 1 km N of Rio Bellavista, morning 14-Aug-1995 C. R. Nelson 6257 22 photos: Tachinidae spp.; Coreidae black and red in bunch; Pentatomidae, green and orange; Pyrrhocoridae 2 spp; Reduviidae, Arilus wheelbugs, mating pair; Cicindelidae, blue with white dots; Eumastacidae; Formicidae: Pseudomyrmex; Ichneumonidae; Meliponinae; Syrphidae; Mycetophilidae. also Asilidae: Philonicus, Ommatius, Holcocephala, Diogmites menos; Dolichopodidae; Cerambycidae; Tanypezidae; Micropezidae; Stratiomyidae: Chiromyza; Eulaema orchid bees; Pompilidae; Ampulicidae 6257

6258 COSTA RICA Puntarenas Province Las Alturas Biological Station; 20 air km NE of San Vito; quarry, Rio Bellavista at quarry road crossing 15-Aug-1995 C. R. Nelson 6258 22 ran UV light night of 15-16 Aug and caught adults of Anacroneuria 2 spp.? among other things. in or near river: Simuliidae adults biting arms of CRN while sampling, they itched badly for a week; Perlidae: Anacroneuria nymphs & skins, 3 spp.?; Hydropsychidae; Ephemeridae: Euthyplocia nymph! photos! 6258

6259 COSTA RICA police stop 16-Aug-1995 C. R. Nelson 6259 22 saw many *Tropidacris* on wires and in trees; the nymphs are aposematic, bright yellowish green with dark stripes. Acrididae: *Tropidacris* female 6259

6260 COSTA RICA San Jose Province Cerro de la Muerte; near summit of Hwy 2, paramo habitat, at km Marker 68, bog near road 16-Aug-1995 C. R. Nelson and NADS group 6260 22 It was raining. I did not collect, but this is the place where Steve Marshall caught an *Anacroneuria* adult in a yellow pan trap on 6 August 1995. I saw puya, a bromeliad and several dragonflies which I couldn't catch. This is a good high elevation stop. 6260

6261 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 08-Sep-1995 C. R. Nelson # & Entomology class 6261 22 sampled extensively at trammel crossing Mallophora *leschenaulti*; Diogmites *angustipennis* with prey: *Promachus painteri*, *Apis mellifera* (2), Halictidae: *Agapostemon* (large), small metallic Scarabaeidae; Bombyliidae: *Toxophora*, *Paravilla*; *Polacantha grossa*; Tachinidae; Gryllidae male with hymenoptera parasite near right hind leg. I am attempting to rear it, after it emerged, 8 mm in length. On 8 Sep 1995 it burrowed into moist sand. I think it pupated on 9 Sep 1995 6261

6262 USA TEXAS: Travis Co. Austin 08-Sep-1995 D. Cannatella 6262 22 sampled extensively at trammel crossing photos: Scarabaeidae, green & gold, *Cotinus nitida* (L.) det C. R. Nelson 1995. I finally photographed this beetle on 22 Sep 1995. It has survived in a bottle on my desk all this time. It even flew when I was trying to photograph it. It died several days later. 6262

6263 USA TEXAS: Blanco Co. Pedernales Falls State Park, group camp area & nearby river 22-23 Sep 1995 C. R. Nelson # & Entomology class 6263 Karin Gastreich, Michelle Tratuwein, Meredith Worthen, Karla Nutting, Kevin Holston, Nick Wiersema, Lee Clippard, Laura Mundy, Joe Strubhar, Debbie Cerda, Jarrad Prasifka, Kirt Wienbroer, Chris Lindsey, Brian Arriaga, Christina McCain, Darrin Hulsey, Rodney Cappel, Trey matkin, Ty Lehman, Brent Allmon 22 *Eccritosisia zamon*, with Kevin Holston; *Stichopogon trifasciatus*; *Proctacanthella cacopiloga*; *Diogmites angustipennis* with prey: vespids, *Proctacanthella*, and Ichneumonidae; *Ospricerus abdominalis*; Therevidae 2 spp.; Pompilidae; Buprestidae; Embiidina; photos: Aradidae; photos: green Acrididae, not collected; Bombyliidae: *Villa*, *Geron*, photos: purple eyes; *Systoechus*; Carabidae on wet sandy beach; Symphyan; Ephydriidae on *Baccharis neglecta* flowers; Libellulidae: *Tamea lacerata*; Gomphidae; Perlidae, nymphs in river with students. 6263

6264 USA TEXAS: Blanco Co. Pedernales Falls State Park, falls area, mostly on sand 23-Sep-1995 C. R. Nelson # & Entomology class 6264 22 *Eccritosisia zamon*, including 2

mating pairs; Stichopogon trifasciatus, 2 with muscid prey; Heteropogon n. sp. on twig tips; Proctacanthella cacopiloga; Mutillidae; Stratiomyidae; Bombyliidae: Thyridanthrax? or Neodiplocampta?; Pepsis to Ty Lehman; Megachilidae on prairie clover; Sphecidae: Trypoxylon. 6264

6265 USA TEXAS: Val Verde Co. Del Rio, hospital 07-Oct-1995 C. R. Nelson # , 6265 Complete list for trip: Riley Nelson, Karin Gastreich, Brian Frank, Jarrad Prasifka, Christina McCain, Patty Ramirez, Rodney Cappel. Kevin Connally drove. 22 trip to help injured in van rollover Arctiidae 6265

6266 USA TEXAS: Val Verde Co. Dolan Creek above Devils River, potholes on dry side 08-Oct-1995 C. R. Nelson # , S. Thomas, S. Stringer 6266 Complete list for trip: Riley Nelson, Karin Gastreich, Shann Stringer, Stephanie Thomas, Courtney Turich, Nick Wiersema, Chris Lindsey, Karla Nutting, Tammy Jarocki, Brian Frank, Jarrad Prasifka, Christina McCain, Patty Ramirez, Valerie Calegari, Rodney Cappel, Kirtley Wienbroer, Joe Strubhar, Ty Lehman, Debbie Cerda, Brent Allmon, Scott Crownover, Lee Clippard, Laura Mundy, Michelle Trautwein, Sophia Sherline, Meredith Worthen, Darrin Hulsey, Tiffany Ensey, Trey matkin, Jim Costello. 30 total. Karin Gastreich's Texas DL number: 11459528 22 Shann & Stephanie took benthic samples from potholes. ! stovepipe from each of Mud Rock Pool, Chara Pool, and ET pool, these potholes are now flooded and contiguous. Also 5 other potholes nearby were stovepipe sampled. Numbered P1-P5, 1 farthest from creek and 5 nearest. Hydrophilus triangularis; Gyrinidae: Gyrinus small, Dineutes? large; Stratiomyidae: Hermetia, scoliid mimic. 6266

6267 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 08-Oct-1995 C. R. Nelson # 6267 22 lost one extension tube and case, May be up Dolan. Cicindela, Xylocopa, Efferia argyrosoma female, Eumenidae, "Epeolus" parasitic bee, Therevidae, some at mercury vapor light; photos: Tettigoniidae, large short winged green on guayil? Neobarrettia spinipes, det J. Stidham, check spellings.

New Odonata for Devils River: macrothemis imitans leucozona, det J. Abbott 1995. A good find for Texas. 6267

6268 USA TEXAS: Travis Co. Austin, University of Texas campus 12-Oct-1995 C. R. Nelson # 6268 22 photos: curculio, acorn 6268

6269 USA TEXAS: Bastrop Co. Lost Pines Scout Reservation 14-Oct-1995 C. R. Nelson 6269 22 Mutillidae: Dasymutilla electra?; Diogmites angustipennis, Tachinidae: Phasiinae 6269

6270 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 16-Oct-1995 C. R. Nelson # 6270 22 Tipulidae, Nephrotoma 6270

6271 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 18-Oct-1995 Andrew Clamann & C. R. Nelson 6271 22 Ephydriidae; Dolichopodidae; Mallophora leschenaulti; Tabanidae; Odonata: Orthemis, Erythemis simplicicollis- saw; Pantala flavescens; Anax junius; Dythemis velox; Dythemis fugax; Pachydiplax; Micrathyrina; Libellula croceipennis- saw; Libellula lydia; Tramea- saw; Lestes; Archilestes grandis; Telobasis salva; Argia 1 large; Argia 2 small; "Argia" 3 green tip. 6271

6272 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 19-Oct-1995 C. R. Nelson # 6272 22 photos: Polacantha grossa, eastern hog nosed snake

others:

Mycetophilidae in hole at Firefly Meadow

Dolichopodidae & Ephydriidae on mud near Fish Ponds

robber fly pupa under rock, asilidae 6272

6273 USA TEXAS: Travis Co. Austin, Brackenridge Field Lab, 170 m 20-Oct-1995 C. R. Nelson # 6273 and entomology students 22 photos:

Chrysomelidae, near Disonychia? on scroph with purple bonnet, similar in color to a weird Delphacidae?; Sphingidae caterpillar

others:

Heteropogon n. sp. mating pair

Mycetophilidae, Rhymosia? hole in Firefly Meadow 6273

6274 USA TEXAS: Travis Co. Austin 10-Nov-1995 C. R. Nelson # 6274 Andrew Clamann 22 photos:

Megalopygidae larva, pupated 18 Nov 1995 6274

6275 USA TEXAS: Travis Co. Lake Travis, Pace Bend LCRA Park 18-Nov-1995 C. R. Nelson # 6275 and scouts 22 Gryllotalpidae; Scarabaeidae, Phaneus on horse dung 6275

6276 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 20-Nov-1995 C. R. Nelson # 6276 22 I saw the stigmata of the fly larvae protruding from the wounds as I was swabbing them with alcohol. I thought the lumps were tumors. I was glad for both me and the rabbit that they were maggots. photos: maggots in skin wounds, 1 per wound, of domesticated rabbit, "Baby". I have been injecting the rabbit for about two weeks now for an inner ear infection of Pasteurella. 6276

6277 USA MISSOURI: MacDonald Co. Indian Creek, Anderson, Hwy 71 24-Nov-1995 C. R. Nelson # 6277 and family, also with Kelly & Rachel Wheeler family 22 *Acroneuria* abundant

Paragnetina

Phasganophora?

crayfish: *Orconectes neglectus* abundant

Madtoms

Heptageniidae: *Stenonema* x

Psephenidae: *Ectopria* and *Psephenus*

Cottus: sculpins

Oligoneuriidae: *Isonychia*

Baetidae

Ephemeridae: *Ephemera*

Athericidae: *Atherix*

Hydropsychidae

Corydalidae: *Corydalus* 6277

6278 USA ARKANSAS: Washington Co. West Fork of the White River, 4.5 mi N of Winslow, 0.5 mi N of Brentwood, rest stop 25-Nov-1995 C. R. Nelson # 6278 and family 22 photos: *Allocapnia* adults

Leuctra adults 6278

6279 USA NEVADA: Clark Co. Warm Springs, Muddy River, Mormon Pool at recreation area 18-Dec-1995 C. R. Nelson # 6279 R. W. Baumann, Wayne Mathis, and Richard Houseman 23 photos:

Limnocoris moapensis (formerly *Usingerina moapensis*)

Ambrysus sp.

others:

Stenelmus

Microcylloepus adult and larva

Hydropsychidae: *Smicridea*

Corydalidae, *Corydalus* to Baumann

Rhagovelia

Dolichopodidae

Chloropidae

Muscidae

Sepsidae

Tipulidae: Limonia (Geranomyia)

Odontoceridae: Marilia 6279

6280 USA NEVADA: Clark Co. Warm Springs, Muddy River, Mormon Pool at recreation area, a cattail pool 18-Dec-1995 C. R. Nelson # 6280 R. W. Baumann, Wayne mathis, and Richard Houseman 23 Haliplidae: Peltodytes

Berosus

Hydrophilidae #2

Ambrysus sp 2

Anax nymph

Belostoma to Baumann

photos: Coccoidea, lac insect on Pluchia, a parasitic Chalcidoidea emerging in lab through January 6280

6281 USA NEVADA: Clark Co. Blue Point Springs, S of Overton on Hwy 169 along Lake Mead 18-Dec-1995 C. R. Nelson # 6281 R. W. Baumann, Wayne mathis, and Richard Houseman 23 photos:

Wayne mathis photos:

Washingtonia palms

others:

cichlids with long fins

mollies

Dytiscidae to Baumann

Hydrophilidae to Baumann

Sympetrum

6281

6282 USA NEVADA: Clark Co. Rogers Spring, Hwy 169 S of Overton on Lake Mead 18-Dec-1995 C. R. Nelson # 6282 R. W. Baumann, Wayne mathis, and Richard Houseman 23

photos:

Leuctotrichia adults

burned palms

caddis adult #2

others:

convict cichlids

platys

mollies

Gambusia 6282

6283 USA NEVADA: Clark Co. Spring Mountains, Whiskey Springs above Cold Creek, Bonanza trailhead 20-Dec-1995 C. R. Nelson # 6283 J. K. Gelhaus, R. W. Baumann, S. M.

Clark 23 photos:

Clinocera

Dixidae to Baumann

others:

Limnephilidae, Hesperophylax

malenka nymph to Clark

Agabus or Tropisternus 6283

6284 USA NEVADA: Clark Co. Spring Mountains, ditch of Cold Creek above pond of old campground 20-Dec-1995 C. R. Nelson # 6284 J. K. Gelhaus, R. W. Baumann, S. M. Clark

23 Tipula larvae, Yamatotipula to Gelhaus

Limnephilidae: Hesperophylax

Baetis

Gerris 6284

6285 USA NEVADA: Clark Co. Spring Mountains, Willow Spring, 3 mi W of Cold Creek 20-Dec-1995 C. R. Nelson # 6285 J. K. Gelhaus, R. W. Baumann, S. M. Clark 23 photos:

Dixidae adults

Empididae Clinocera

others:

Hesperoperla pacifica nymph

malenka "murvoshi"

Chironomidae adults 6285

6286 USA NEVADA: Clark Co. Spring Mountains, Deer Creek, between Lee and Kyle Canyons 20-Dec-1995 C. R. Nelson # 6286 J. K. Gelhaus, R. W. Baumann, S. M. Clark 23

photos:

Capniidae, Capnia decepta female also kept nymphs

People in Winter stonefly Club 6286

6287 USA ARIZONA: Mohave Co. Little Jamaica Springs, Littlefield, I-15 bridge over Virgin River 21-Dec-1995 C. R. Nelson # 6287 J. K. Gelhaus, S. Marshall, Rachel Eden 23

photos:

Heteroceridae

others:

Gomphidae nymph

Elmidae

Hydrophilidae

Saldidae

Reduviidae: Eumesiinae 6287

6288 USA ARIZONA: Mohave Co. Virgin River at Little Jamaica Springs, Littlefield, I-15 bridge 21-Dec-1995 C. R. Nelson # 6288 J. K. Gelhaus, S. Marshall, Rachel Eden 23 photos:

Aphididae, giant willow aphids on *Salix exigua*

Mesocapnia frisoni 2m 1f

6288

6289 USA ARIZONA: Mohave Co. Virgin River at Virgin River Gorge Rest Area, I-15 21-Dec-1995 C. R. Nelson # 6289 J. K. Gelhaus, S. Marshall, Rachel Eden 23 photos:

Mesocapnia frisoni adults and nymphs

Taenionema nymph

Elmidae

Tabanidae

6289

6290 USA NEVADA: Clark Co. Warm Springs, Muddy River, Mormon Pool at recreation area 21-Dec-1995 C. R. Nelson # 6290 J. K. Gelhaus, S. Marshall, Rachel Eden 23 photos:

Limnocoris (Usingerina)

Stenelmis

others:

Ambrysus nymph

Hydropsychidae: Smicridea 6290

6291 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 24-Dec-1995 C. R. Nelson # 6291 23 bot fly larvae from Baby the domesticated rabbit 6291

6292 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 02-Jan-1996 C. R. Nelson # 6292 and G. I. Baird 23 Sympetrum male, saw many others

saw Mycetophilidae, Rhymosia in hole in Firefly Meadow

Solenopsis geminata

Solenopsis invicta

Atta texana

air temp about 45 degrees F 6292

6293 USA TEXAS: Travis Co. Austin, Barton Springs Pool, outfall of swimming pool 12-Jan-1996 Ozzie Hernandez, Mateo Scoggins, R. S Hansen 6293 photos in lab by C. R. Nelson 23 photos:

Stratiomyidae

Psephenus texanus adults

Helicopsyche borealis larva 6293

6294 USA TEXAS: Travis Co.? Lake Travis, Muleshoe Campground 20-Jan-1996 C. R. Nelson # 6294 and scouts 23 made rope 6294

6295 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 22-Jan-1996 C. R. Nelson # 6295 23 walked trails with Bio 208 class 6295

6296 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 24-Jan-1996 C. R. Nelson # 6296 23 walked trails with Bio 208 class photos:

Tipulidae: *Geranomyia* emerging from pupa, specimen with Christina McCain 6296

6297 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 26-Jan-1996 C. R. Nelson # 6297 23 walked trails with Bio 208 class Tephritidae: *Paracantha* female 6297

6298 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 08-Feb-1996 C. R. Nelson # 6298 and Erik Dopman 23 saw *Holopogon* n. sp. male on twig tip 6298

6298.1 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 10-Feb-1996 C. R. Nelson # 6298.1 E. G. Riley and Brian Stanfield 23 collected beetles at BFL, many litter samples taken to Texas A & M 6298.1

6299 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 12-Feb-1996 C. R. Nelson # 6299 and students 23 det as Mydidae on 21 Feb 1996 by C. R. Nelson, I then collected more, but they died. caught larvae of fly: Asilidae? no! Mydidae! in rotten stump of hackberry tree 6299

6300 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 14-Feb-1996 C. R. Nelson # 6300 and Bio 208 students 23 vegetation studies around Firefly Meadow 6300

6301 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 15-Feb-1996 C. R. Nelson # 6301 Christina McCain, Brian Frank, and Darrin Hulsey 23 Anisopodidae larvae: *Olbiogaster sackeni* 6301

6302 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 16-Feb-1996 C. R. Nelson # 6302 and Bio 208 students 23 vegetation studies in Quarry Meadow area
Holopogon n. sp. male
Hemerobiidae 6302

6303 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 21-Feb-1996 C. R. Nelson # 6303 23 the mydas fly larvae were about 1 cm long Mydidae larvae in stump of dead hackberry tree, no big prey items with them. only small isopods, anisopodid larvae, 1 medium elaterid larva 6303

6304 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, Town Lake 26-Feb-1996 C. R. Nelson # 6304 and Bio 208 students 23 EPA 100 samples in Town Lake
glass shrimp
Basiaeschna janata! a new BFL record
macrophytes down and filamentous algae up 6304

6305 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, pond F 26-Feb-1996 C. R. Nelson # 6305 and Bio 208 students 23 EPA 100 samples Nepidae
Belostomatidae
Naucoridae 6305

6306 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, Town Lake 28-Feb-1996 C. R. Nelson # 6306 and Bio 208 students 23 EPA 100 samples in Town Lake
6306

6307 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, pond F 28-Feb-1996 C. R. Nelson # 6307 and Bio 208 students 23 EPA 100 samples 6307

6308 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, Town Lake 01-Mar-1996 C. R. Nelson # 6308 and Bio 208 students 23 EPA 100 samples in Town Lake
6308

6309 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, pond F 01-Mar-1996 C. R. Nelson # 6309 and Bio 208 students 23 EPA 100 samples 6309

6310 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, 11-Mar-1996 C. R. Nelson # 6310 and Eric Dopman 23 saw many Efferia snowi
caught one Phasiinae Tachinidae 6310

6311 USA TEXAS: Travis Co. Lost Pine Biological Station, Stengl Ranch 22-Mar-1996 23-Mar-1996 C. R. Nelson # 6311 and Bio 208 class 23 photos:
pines
copperhead

other:

scarabs at blacklight 6311

6312 USA TEXAS: Travis Co. Webberville Park 30-Mar-1996 C. R. Nelson # 6312 and scouts 23 Buprestidae, larvae and adults

Xylomyidae 6312

6313 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, 01-Apr-1996 C. R. Nelson # 6313 and Bio 208 students 23 Mark and recapture of *Pogonomyrmex barbata* and population studies of *Tenebrio molitor*;

photos:

Greg Sword ate mealworms 6313

6314 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, 03-Apr-1996 C. R. Nelson # 6314 and Bio 208 students 23 photos:

Papilio cresphontes 1st instar
students

Pogonomyrmex barbatus

Bibionidae mating

others:

Rhopalidae: boxelder bugs

Cerambycidae: ant mimic

Pheidole lamia, small yellow ants, soldiers with rectangular head 6314

6315 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, 04-Apr-1996 C. R. Nelson # 6315 Brian Frank, Debbie Cerda, Rodney Guerra, and Christina McCain 23

photos:

Hippoboscidae

caterpillar on hackberry

others:

Cerambycidae

Cantharidae? tiny linear

Therevidae

Laphria flavicollis mating pair

Hemerobiidae 6315

6316 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, 08-Apr-1996 C. R. Nelson # 6316 and Bio 208 students 23 photos:

braconidae larvae? on caterpillar that ties grape leaves

others:

Erotylidae on spongy tree fungus, on dead standing cottonwood 6316

6317 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 10-Apr-1996 C. R. Nelson #

6317 23 photos:

Braconidae on aphids on cabbage in garden 6317

6318 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, 10-Apr-1996 C.

R. Nelson # 6318 and Bio 208 students 23 Chrysomelidae

Chrysididae

Sphecidae

Bombyliidae 6318

6319 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, 11-Apr-1996 C.

R. Nelson # 6319 23 Scutellaridae

Triepeolus

Pompilidae

Attini ants, Trachymyrmex?

Efferia snowi with prey: chrysomelid and Formicidae alate 6319

6320 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, 12-Apr-1996 C.

R. Nelson # 6320 23 walked near Fish Ponds with Eric Lucas, visiting from Quebec to study
spittle bugs on goldenrod photos:

snake, Coluber constrictor, yellow bellied racer;

6320

6321 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 12-Apr-1996 C. R. Nelson #

6321 23 photos:

Cerambycidae, yellow & black on inflorescence of domestic Photinia sp. 6321

6322 USA TEXAS: Bastrop Co. Lost Pines Scout Reservation, Lake Bastrop 13-Apr-1996 C.

R. Nelson # 6322 23 photos:

Buprestidae

Scarabaeidae

Asilidae: Andrenosoma in deep pine/yaupon woods, on downed pine "log" 5 cm in
diameter 6322

6323 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, 18-Apr-1996 C.

R. Nelson # 6323 John T. Polhemus 23 some of these specimens are only in the hands of
Polhemus. BFL has some in the collection. Veliidae:

Microvelia paludicola Champion
Microvelia pulchella Westwood

Gerridae
Limnoporus canaliculatus (Say)
Limnogonus hesione Kirkaldy

Hebridae
Merragata hebroides

Nepidae
Ranatra quadridentata Stal

Belostomatidae
Belostoma bakeri Montadon

Notonectidae
Notonecta indica Linnaeus
Buena

Hydrometridae
Hydrometra australis Say

Mesoveliidae
Mesovelia amoena Uhler
Mesovelia mulsanti White

Pleidae
Neoplea striola (Fieber)

Saldidae
Micracanthia humilis (Say)

Naucoridae
Pelocoris biimpressus biimpressus Montadon

also fish in Town Lake: Silversides! 6323

6324 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 20-Apr-1996 21-Apr-1996 C. R. Nelson # 6324 Riley Nelson, Jan Barber, Greg Sword, Jodie Gill 208, John Polhemus, Shann Stringer, Darrin Hulsey, Robin Waugaman, Meredith Worthen 208, Erik Dopman 208, John Botti 208, matt Bertelsen 208, Myrna Torres 208, Oriana Cruz 208, Debbie Cerda, Brian Frank, Robert Hansen, Catherine Urban 208, Bill Medaille 208, Beatrix DeWaard 208, Carlos Infante 208. 23 swim in Dolan Falls

Simuliidae

saw Acroceridae: Lasia

swim in Blue Hole:

Gerridae

Mesoveliidae

Chrysomelidae on lily pads

21 Apr: ran UV & mercury vapor lights, no bulk samples kept

20 April:

Pompilidae

Efferia argyrosoma

Efferia argentifrons

Efferia n sp. near wilcoxi

Cophura?

photos: Miridae, Lopidea

Schistocerca lineata on Ptelea

others:

Bombyliidae

Meloidae

Simuliidae

saw Acroceridae: Lasia

Gerridae

Mesoveliidae

Chrysomelidae on lily pads

6324

6325 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 20-Apr-1996 21-Apr-1996 C. R. Nelson # 6325 Riley Nelson, Jan Barber, Greg Sword, Jodie Gill 208, John Polhemus, Shann Stringer, Darrin Hulsey, Robin Waugaman, Meredith Worthen 208, Erik Dopman 208, John Botti 208, matt Bertelsen 208, Myrna Torres 208, Oriana Cruz 208, Debbie Cerda, Brian Frank, Robert Hansen, Catherine Urban 208, Bill Medaille 208, Beatrix DeWaard 208,

Carlos Infante 208. 23 Shann set up 19 multiplate samplers in the pool above the surber site.

Walked and swam with class, on bedrock side, then up to Spotted Beetle Pool, photos of students

Polhemus and Hansen went to big pools in side canyon past Wendy Connally's house. He'll send a species list, it has different aquatic Hemiptera.

P & H also walked to Leon Springs, many *Lethocerus*, I took their photos. Gyrinidae
Thermonectes marmoratus
in filamentous algae:
Hydroscapha natans
Stratiomyidae

Robin Waugaman caught a salamander in one of the springs below Penstemon Cliff, photos: *Eurycea* sp. 6325

6326 USA TEXAS: Liberty Co. Cleveland 21-Apr-1996 Laura Higgins, given to Robin Waugaman 6326 photos by C. R. Nelson 23 photos:
beetle larvae, Phengodidae? no! Lycidae. 6326

6327 USA TEXAS: Travis Co. Austin, on power pole 01-May-1996 Austin City electrical employee 6327 photos by C. R. Nelson 23 photos:
Argasidae, soft tick: probably associated with vultures that use the pole as a roost 6327

6328 USA TEXAS: Comal Co. Guadalupe River, 4th crossing below Canyon Lake 18-May-1996 C. R. Nelson # 6328 and scouts 23 also took a picture of a scorpion eating a cricket at Canyon Lake Psephenidae 6328

6329 USA TEXAS: Terrell Co. Independence Creek near jct. Pecos River, 28 mi S of Sheffield 20-May-1996 22-May-1996 C. R. Nelson # 6329 S. M. Stringer, C. D. Hulsey, A. W. Hook 23
malaise trap: 21-22 May, *Plesiomma*
pan light trap near crossing by Shann
5 surbvers from near crossing by Shann
5 EPA 100 samples by CRN
5 EPA 100 samples by Darrin Hulsey
photos:

caught a banded (numbers, top: 1481, bottom, 54616) blue grosbeak on dance patio.
photos:

Pecos/Independence confluence
beaver
Cryphocricos
Tenebrionidae with mites
three other naucorids including Limnocoris
elmidae: Macrelmis texanus
Psephenus texanus
Brechmorhoga mendax

other:
Metrobates
Corydalus
Elmidae
Baetidae
Leptohyphidae
Asilidae:
Efferia argyrosoma
Efferia albibarbis
Efferia sp. 1
Efferia sp. 2
Promachus
Proctacanthus nearno
Stichopogon trifasciatus
Plesiomma, seen and in trap

blue grosbeak 6329

6330 USA TEXAS: Terrell Co. Pecos River below jct Independence Creek 21-May-1996 22-May-1996 C. R. Nelson # 6330 S. M. Stringer, C. D. Hulsey, A. W. Hook 23 5 surbers by S M Stringer

5 EPA 100s by CRN

5 EPA 100s by Darrin Hulsey Cyprinella lutrensis males in breeding colors

Hydropsychidae: Smicridea fascietella abundant

Leptophlebiidae very common 6330

6331 USA TEXAS: Terrell Co. Pecos River at jct Independence Creek 21-May-1996 22-May-1996 C. R. Nelson # 6331 S. M. Stringer, C. D. Hulsey, A. W. Hook 23 5 surbers by S M Stringer

5 EPA 100s by CRN

5 EPA 100s by Darrin Hulsey
ran UV light pan trap on same riffle

Caution:
some of the hand made labels in vials May say 6330 photos:
Leptophlebiidae dominant!

others:
Hydropsychidae, Smicridea 6331

6332 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 22-May-1996 24-May-1996 C. R. Nelson # 6332 S. M. Stringer, C. D. Hulsey, A. W. Hook 23 24 May 1996:

5 surbers

5 each EPA 100 by CRN and Darrin Hulsey Elateridae, 2 luminescent spots on pronotum
saw Pseudoleon superbus

photos:

Tilapia

smallmouth bass

carp

6332

6333 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 22-May-1996 24-May-1996 C. R. Nelson # 6333 S. M. Stringer, C. D. Hulsey, A. W. Hook 23 23 May: retrieved 16 of 19 multiplate samplers from pool at Shelf Angle Springs put in place on 20 April #6325

24 May:

5 surbers by Shann

55 each EPA 100 by CRN and CDH 6333

6334 USA TEXAS: Val Verde Co. long spring pool in canyon opposite Blue Spring of Devils River, 1.5 mi W of river 23-May-1996 C. R. Nelson # 6334 S. M. Stringer, C. D. Hulsey, A. W. Hook 23 23 May: retrieved 16 of 19 multiplate samplers from pool at Shelf Angle Springs put in place on 20 April #6325

24 May:

5 surbers by Shann

55 each EPA 100 by CRN and CDH photos:

Naucoridae: Ambrysus pulchellus?

Gerridae: Rheumatobates

Caenidae

Heptageniidae: *Stenonema* x

Notonectidae:

Notonecta

Buenoa

Corixidae:

2 spp.

Gyrinidae:

Dineutes

Gyrinus

Lestidae: *Archilestes grandis*

Formicidae: *Myrmecocystus* pulling *Efferia* "zonata" female as booty.

others:

Dytiscidae: 4-5 species

Nepidae:

Ranatra texana

Gomphidae

Libellula "saturata"

saw purple Libellulidae, *Orthemis*?

saw *Pseudoleon superbus*

Veliidae: *Microvelia* 6334

6335 USA MONTANA: Lake Co. Station Creek, jct Hwy 35, 8.6 mi S of Flathead Lake Biol.

Station 03-Jun-1996 C. R. Nelson # 6335 Robert S Hansen & Becky Hansen 24 23 mi S of Bigfork Photos:

Peltoperlidae, *Yoraperla brevis* a & n

Chloroperlidae, *Sweltsa fidelis*? 5m 6f

Paraleuctra forcipata 1m 1f

Eucapnopsis brevicauda 1f, short wings

Lycidae

malenka flexura 5m 3 f

Paraleptophlebia

Epeorus (*Ironopsis*)

Polyxenidae millipedes

Tipulidae

6335

6336 USA MONTANA: Lake Co. Crane Creek, 5.5 mi N of Flathead Lake Biol. Station 03-Jun-1996 C. R. Nelson # 6336 Robert S Hansen & Becky Hansen 24 Sweltsa, Podmosta, Paraleuctra (with Becky)

photos: thought Megarcys, actually Setvena bradleyi 6336

6337 USA MONTANA: Flathead Co. Mamie Creek, 2 mi SE of Hungry Horse Dam on S side, Road 89a5 04-Jun-1996 C. R. Nelson # 6337 Robert S Hansen & Becky Hansen 24

photos:

Yoraperla nymphs

Setvena 3 n

Capnia nana f with long wings

others:

Sweltsa fidelis 1m 1f

Paraleuctra forcipata 1f

Parapsyche larva

Ephemerellidae

Rhyacophila

Ameletus? No, Baetidae

6337

6338 USA MONTANA: Flathead Co. Wounded Buck Creek, Road 895, W side of Hungry Horse Reservoir 04-Jun-1996 C. R. Nelson # 6338 Robert S Hansen & Becky Hansen 24

photos:

Cimbicidae

Ameletus

Sweltsa (probably fidelis) n

Calineuria, no, Doroneuria theodora n

Amphizoidae

Capnia confusa 1 f

others:

Tipulidae

Taenionema pallidum 8m 18f

Paraleuctra forcipata 8m 15f

Paraleuctra occidentalis 1m

Zapada frigida 2m

Paraperla skins

Megarcys 2n

Ameletus 6338

6339 USA MONTANA: Flathead Co. creek between Beta & Mamie Creeks, Road 895, 1 mi E of Hungry Horse Dam 04-Jun-1996 C. R. Nelson # 6339 Robert S Hansen & Becky Hansen 24 appears to be ephemeral Rhyacophila

Baetis 6339

6340 USA MONTANA: Flathead Co. Glacier National Park, Fish Creek above Fish Creek Campground above Lake MacDonald 05-Jun-1996 C. R. Nelson # 6340 Robert S Hansen & Becky Hansen 24

at science center we spoke with:

Leo Marnell and aquatic biologist in the park; Brace Hayden, the resource management specialist. They helped us pick sites to visit. photos:

Setvena bradleyi 3f 2n

scarabs

weevil, Curculionidae

others:

Megarcys watertoni 2 dried in crevice under bridge

Zapada oregonensis? 1f

Eucapnopsis brevicauda 1m long winged, 7m short winged 5 f

Paraleuctra forcipata 3m 10f

perhaps 2f are Paraleuctra occidentalis

Sweltsa fidelis 2m 1f

Capnia petila 1m 2f

Capnia sextuberculata 1m

Podmosta? yes, decepta 1m 1f

Paraperla, No!

Yoraperla brevis 2m 4f

Staphylinidae

Tipulidae

Mycetophilidae

Doroneuria theodora 1n 6340

6341 USA MONTANA: Flathead Co. Glacier National Park, The Loop, Going-to-the-Sun Road 05-Jun-1996 C. R. Nelson # 6341 Robert S Hansen & Becky Hansen 24 mountain photographs, CR Nelson's photo taken by Becky 6341

6342 USA MONTANA: Flathead Co. Glacier National Park, creek W of Packers Roost below The Loop, Going-to-the-Sun Road 05-Jun-1996 C. R. Nelson # 6342 Robert S Hansen &

Becky Hansen 24 flat "kettle" streams May be braids of MacDonald Creek *Paraleuctra*
vershina 1m
Paraleuctra forcipata 10m 8f 6342

6343 USA MONTANA: Flathead Co. Glacier National Park, MacDonald Creek at Packers
Roost below The Loop, Going-to-the-Sun Road 05-Jun-1996 C. R. Nelson # 6343 Robert S
Hansen & Becky Hansen 24 Photos:

Taenionema pallidum 9m
Megarcys 4n
Drunella 1n
Paraperla? *Sweltsa*? n
Nemouridae nymphs, *Prostoia* 3n
Doroneuria theodora 2n
Chyranda centralis 1

Lycidae
Paraleuctra vershina 1m
Eucapnopsis brevicauda 2m 6343

6344 USA MONTANA: Flathead Co. Glacier National Park, Logan Creek below Bird Woman
Falls, Going-to-the-Sun Road 05-Jun-1996 C. R. Nelson # 6344 Robert S Hansen & Becky
Hansen 24 Photos:

Taenionema pallidum 1m 1f
grizzly bear, photos are very dark
6344

6344 USA MONTANA: Flathead Co. Flathead Lake, 2 mi S of Big Fork 06-Jun-1996 C. R.
Nelson # 6344 24 Cupedidae? No, Cerambycidae 6344

6345 USA MONTANA: Flathead Co. Middle Fork Flathead River, Essex Bridge on Hwy 2 07-
Jun-1996 C. R. Nelson # 6345 Robert S Hansen and Becky Hansen 24 saw mountain goats
for first time 2 mi S of Essex on unnamed creek at a salt lick set up by the park *Eucapnopsis*
brevicauda 1f

sawfly
bees, 3 spp., patrolling sand 6345

6346 USA MONTANA: Flathead Co. unnamed creek, 0.9 mi above jct Middle Fork Flathead
River 07-Jun-1996 C. R. Nelson # 6346 Robert S Hansen and Becky Hansen 24 brown
nemouridae, *Podmosta decepta* 1m
Zapada, no, 1f of *Podmosta decepta*

Eucapnopsis brevicauda 1f

skin of *Paraperla*?

Chironomidae

Thaumaleidae? no, chironomidae

Tipulidae

Rhyacophila larva 6346

6347 USA MONTANA: Flathead Co. Bear Creek, jct Middle Fork Flathead River, Hwy 2 07-

Jun-1996 C. R. Nelson # 6347 Robert S Hansen and Becky Hansen 24 photos:

Blephariceridae, *Bibiocephala grandis* 7l 6p; *Agathon* 25l, no photos of this genus

Rhyacophila 1l

Epeorus 1n

chironomidae

Brachycentrus 1l

Pictetiella expansa n

Sweltsa?

others:

Perlodidae, several *Megarcys* 2n

Isoperla? escaped

Taenionema pacificum 3f

Taenionema pallidum 1m 2f

Doddsia occidentalis 1f

Eucapnopsis brevicauda 4f

Zapada, no!

brown Nemouridae, *Podmosta delicatula* 1m 2f

Paraleuctra occidentalis 1f

Glossosoma 1l

6347

6348 USA MONTANA: Flathead Co. Bear Creek, jct Giefer Creek, Hwy 2, 17 mi S of East

Glacier 07-Jun-1996 C. R. Nelson # 6348 Robert S Hansen, Becky Hansen 24 photos:

Pictetiella 3n

Megarcys 3n, no photos

Rhyacophila

Ameletus, 2 sizes

Ascaphus truei tadpole

Chryanda centralis 1l

Onocosmoecus unicolora 1l

Doroneuria theodora 2n
Baetis, no, small Ameletus
Taenionema pallidum 1n
Epeorus

others:

Perlomyia utahensis 1m 1f
Eucapnopsis brevicauda 1f
Taenionema pallidum 9m 12f 1n
Paraperla skin
Isoperla 1n
Sweltsa 1n
Drunella grandis 1n
Serratella 1n
Prostoia 8n
nemourid
leuctrid 6348

6349 USA MONTANA: Glacier Co. Glacier National Park, Iceberg Lake trail, streams
between trailhead and Ptarmigan Creek, about 5500 ft. 08-Jun-1996 C. R. Nelson # 6349
Robert S Hansen, Becky Hansen 24 photos:

Photos:

Capnia sextuberculata 1f
Eucapnopsis brevicauda 5m 6f, short winged
Simulium biting my arm
caddisfly adults
Rocky Mountain Bighorn Sheep
Ptarmigan Creek

others:

Mycetophilidae
Tipulidae
Paraleuctra purcellana 10m 5f
Paraleuctra rickeri 3m 1f
Visoka cataractae 1f
Soyedina potteri 1f
Chironomidae 6349

6350 USA MONTANA: Glacier Co. Glacier National Park, Iceberg Lake outfall, Iceberg Creek
08-Jun-1996 C. R. Nelson # 6350 Robert S Hansen, Becky Hansen 24

Photos:

Bolshecapnia, No! : *Capnia sextuberculata* 23m 40f

Zapada columbiana 3m 22f

others:

Chironomidae

large Anthocoridae on conifers

Paraleuctra purcellana 3m

Paraleuctra occidentalis 1m

Clinocera

other assorted things on Iceberg Lake snowfield:

Bibionidae

Ichneumonidae

beetles

Zapada haysi 1m 3f

Visoka cataractae 1m 3f 6350

6351 USA MONTANA: Glacier Co. Glacier National Park, small stream, 0.5 km above
Iceberg Lake Trailhead 08-Jun-1996 C. R. Nelson # 6351 Robert S Hansen, Becky Hansen
24 *Paraleuctra rickeri* 1m 3f

brown Nemouridae, *Zapada frigida* 1m

malenka flexura 1f

Tenthredinidae

Tipulidae

Trichoptera f 6351

6352 USA MONTANA: Glacier Co. Kiowa, Hwy 89 08-Jun-1996 C. R. Nelson # 6352 Robert
S Hansen, Becky Hansen 24 Syrphidae on window in store, black & orange 6352

6353 USA MONTANA: Glacier Co. Midvale Creek, East Glacier City 08-Jun-1996 C. R.
Nelson # 6353 Robert S Hansen, Becky Hansen 24 *Ameletus?* female 6353

6354 USA TEXAS: Blanco Co. Pedernales Falls State Park 14-Jun-1996 C. R. Nelson #
6354 Robert S Hansen, Becky Hansen 24 photos:

of river

mystery Laphriinae

others:

Proleptis tristis

Ospriocerus abdominalis

Stichopogon trifasciatus

Proctacanthella cacopiloga

Efferia "armata"

Efferia albibarbis

Promachus bastardii

missed *Efferia* "aestuans" f

Bombyliidae

Stratiomyidae

Buprestidae

Syrphidae

Gomphidae

Psilocurus 6354

6355 USA TEXAS: Val Verde Co. Seminole Canyon State Park 24-Jun-1996 C. R. Nelson # & scouts 6355 Riley Nelson, Peter Joyce, John Pearce, John Sutherland, Steven Jones, Jared Pearce, Jason Nelson, Tod Henson, Nick Kriese, Ben Kennard, Michael Hodge, Richie Kalaher, Ben McCullough, Chris Sutherland 24 start of summer camp trip for Troop 100

Buprestidae

Efferia 2 spp. kept 1 large female, left 1 small female

Pogonomyrmex 2 spp., 1 unknown with long legs

photos:

Texas horned lizard

tarantula 6355

6356 USA TEXAS: Val Verde Co. Langtry 25-Jun-1996 C. R. Nelson # & scouts 6356 Riley Nelson, Peter Joyce, John Pearce, John Sutherland, Steven Jones, Jared Pearce, Jason Nelson, Tod Henson, Nick Kriese, Ben Kennard, Michael Hodge, Richie Kalaher, Ben McCullough, Chris Sutherland 24 Embiidina male 6356

6357 USA TEXAS: Brewster Co. Big Bend National Park, Hwy 385, 10 mi S of Persimmon Gap 25-Jun-1996 C. R. Nelson # & scouts 6357 Riley Nelson, Peter Joyce, John Pearce, John Sutherland, Steven Jones, Jared Pearce, Jason Nelson, Tod Henson, Nick Kriese, Ben Kennard, Michael Hodge, Richie Kalaher, Ben McCullough, Chris Sutherland 24 photos: Acrididae: *Dracotettix*? 6357

6358 USA TEXAS: Brewster Co. Big Bend National Park, Fossil Bone Exhibit, 8 mi N of Panther Junction 25-Jun-1996 C. R. Nelson # & scouts 6358 Riley Nelson, Peter Joyce, John Pearce, John Sutherland, Steven Jones, Jared Pearce, Jason Nelson, Tod Henson, Nick Kriese, Ben Kennard, Michael Hodge, Richie Kalaher, Ben McCullough, Chris Sutherland 24 photos:

Chisos Mountains in rain; Nick Kriese cleaning shoes 6358

6359 USA TEXAS: Brewster Co. Big Bend National Park, Chisos Basin group campsite 25-28 June 1996 C. R. Nelson # & scouts 6359 Riley Nelson, Peter Joyce, John Pearce, John Sutherland, Steven Jones, Jared Pearce, Jason Nelson, Tod Henson, Nick Kriese, Ben Kennard, Michael Hodge, Richie Kalaher, Ben McCullough, Chris Sutherland 24 high winds in camp each evening and night. I had trouble keeping the tent up! Hiked to Window on the first evening 25 June:

Photos:

Sceloporus poinsettii, "Stumpy"

Pepsis wasp dragging & stinging tarantula

Group photo at Window

28 June:

Photos:

cactus wren

javelina

Buprestidae on sotol 6359

6360 USA TEXAS: Brewster Co. Big Bend National Park, Chisos Mountains, Emory Peak & Trail, up to 7835 ft. 26-Jun-1996 C. R. Nelson # & scouts 6360 Riley Nelson, Peter Joyce, John Pearce, John Sutherland, Steven Jones, Jared Pearce, Jason Nelson, Tod Henson, Nick Kriese, Ben Kennard, Michael Hodge, Richie Kalaher, Ben McCullough, Chris Sutherland 24 It rained hard in the evening and we had much wet gear. We were up late after the long hike drying out sleeping gear. Some boys didn't have dry sleeping bags to sleep in. photos:

Hippodamia convergens Masses

Hyla arenicolor, canyon tree frog

Gerrhonotus liocephalus, Texas Alligator lizard

Chrysomelidae

Cicadidae

Carabidae dragging cicada

skunks in camp

others:

Sceloporus poinsettii, crevice spiny lizard, on top of peak 6360

6361 USA TEXAS: Brewster Co. Big Bend National Park, Chisos Mountains, Cattail Falls

27-Jun-1996 C. R. Nelson # & scouts 6361 Riley Nelson, Peter Joyce, John Pearce, John Sutherland, Steven Jones, Jared Pearce, Jason Nelson, Tod Henson, Nick Kriese, Ben Kennard, Michael Hodge, Richie Kalaher, Ben McCullough, Chris Sutherland 24 photos:

mantispidae: Climaciella brunnea

scenery & people

Thamnophis cyrtosis, black necked garter snake (overexposed)

orchid

saw a palm seedling?! 6361

6362 USA TEXAS: Brewster Co. Big Bend National Park, Santa Elena Canyon, Terlingua

Creek 27-Jun-1996 C. R. Nelson # & scouts 6362 Riley Nelson, Peter Joyce, John Pearce, John Sutherland, Steven Jones, Jared Pearce, Jason Nelson, Tod Henson, Nick Kriese, Ben Kennard, Michael Hodge, Richie Kalaher, Ben McCullough, Chris Sutherland 24 scenery photos. Terlingua Creek in flood. waded flood, boys ran wild. Richie Kalaher nearly floated down the creek 6362

6363 USA TEXAS: Brewster Co. Big Bend National Park, 2-5 mi S of Sam Nail Ranch,

Castolon Road 27-Jun-1996 C. R. Nelson # & scouts 6363 Riley Nelson, Peter Joyce, John Pearce, John Sutherland, Steven Jones, Jared Pearce, Jason Nelson, Tod Henson, Nick Kriese, Ben Kennard, Michael Hodge, Richie Kalaher, Ben McCullough, Chris Sutherland 24 photos:

Crotalus scutulatus, mohave rattler. Saw a lighter one further down the road 6363

6364 USA TEXAS: Reeves Co. Balmorhea State Park, San Solomon Springs 28-Jun-1996 C.

R. Nelson # & scouts 6364 Riley Nelson, Peter Joyce, John Pearce, John Sutherland, Steven Jones, Jared Pearce, Jason Nelson, Tod Henson, Nick Kriese, Ben Kennard, Michael Hodge, Richie Kalaher, Ben McCullough, Chris Sutherland 24 couch's spadefoot toad

western black-necked garter snake

spiny softshell turtle

red eared slider

mexican tetras

comanche springs pupfish

channel catfish

green sunfish

minnow with broken black line near lateral line
gambusia, some yellow 6364

6365 USA COLORADO: Larimer Co. Rocky Mountain National Park, Endo Valley Picnic Area, Falls Creek 03-Jul-1996 C. R. Nelson # & family 6365 Nelson's and Jera, Ben, Daniel, Maegan, Desirae Parker; David & Mark mann 24 took several photos on Trail Ridge Road. While Jera Parker was driving Dee'(mann?) Anderson's van it stalled on Trail Ridge Road at 11,000 ft. The heater hose burst and a park ranger (Ken Thompson) helped us. AAA towed us to Estes Park (Bob's Chevron). I replaced the hose and we headed back to Westminster. saw Megarcys nymphs
saw Zapada adult 6365

6366 USA COLORADO: Garfield Co. Colorado River, I-70 Glenwood Canyon Rest Area 05-Jul-1996 C. R. Nelson # & family 6366 24 2 miles above No Name, 3 miles above Glenwood Springs Isoperla longiseta many
Isoperla sobria 1f
Tipulidae 6366

6367 USA UTAH: Uintah Co. Dinosaur National Monument, Green River Campground 5-6 July 1996 C. R. Nelson # & family 6367 24 stayed the night of 5-6 July. photos:
Isoperla longiseta
rainbows in sky
rabbits on the ground 6367

6368 USA UTAH: Uintah Co. Dinosaur National Monument, Swelter Shelter 06-Jul-1996 C. R. Nelson # & family 6368 24 photos:
pictographs 6368

6369 USA UTAH: Uintah Co. Dinosaur National Monument, lower visitor center 06-Jul-1996 C. R. Nelson # & family 6369 24 photos:
Membracidae, placed on Sarcobatus 6369

6370 USA UTAH: Utah Co., Provo River at mouth Provo Canyon 06-Jul-1996 C. R. Nelson # & family 6370 24 also photos at Bridal Veil Falls showing avalanche damage from last winter. It had eliminated all the buildings associated with the tram. But the tram line was still up. photos:
Isoperla longiseta? no, mormona
Isoperla fulva

others:
Trichoptera 6370

6371 USA UTAH: Utah Co., Provo, west side of Grandview Hill 08-Jul-1996 C. R. Nelson #
& R. W. Baumann & class 6371 24 Proctacanthus nearno
Proctacanthella cacopiloga
Sphecidae, all specimens to BYU collection 6371

6372 USA WYOMING: Grand Teton National Park, Jenny Lake 14-Jul-1996 C. R. Nelson #
& family 6372 24 rode boat across lake then hiked to Inspiration Poin photo: pika 6372

6373 USA WYOMING: Yellowstone National Park, Lewis River, above canyon, Lewis Falls
14-Jul-1996 C. R. Nelson # & family 6373 24 photos: of Falls saw, not collected:
Sweltsa
Kogotus?
Pteronarcys skin
malenka 6373

6374 USA WYOMING: Yellowstone National Park, West Thumb Geyser Basin 15-Jul-1996
C. R. Nelson # & family 6374 24 1. Ledge Spring
2. Collapsing Pool (unsure shot, white potholes on brown)
3. Percolating spring, flat orange
4. Ephedra Pool? toward lake
5. fumaroleopposite Twin Geyser
6. Twin Geyser (eyes & face)
7. The Abyss
most of these photos were overexposed and discarded. 6374

6374.1 USA WYOMING: Yellowstone National Park, Old Faithful 15-Jul-1996 C. R. Nelson
& family 6374.1 24 photos in Upper Geyser Basin, including many of bacterial growths.
6374.1

6374.1 USA WYOMING: Yellowstone National Park, Firehole River in Firehole Canyon at
swimming area 15-Jul-1996 C. R. Nelson # & family 6374.1 24 swimming hole. 6374.1

6375 USA WYOMING: Yellowstone National Park, Yellowstone River at Fishing Bridge 16-
Jul-1996 C. R. Nelson # & family 6375 24 after a wet night at Grant Village we dried out
some. It was overcast and misty while I photographed things on Fishing Bridge. This is the
first time I've photographed Alloperla. The green was superb. photos:

Alloperla
Isoperla?
Cultus?
Mayflies

caddisfly

Hesperophylax? 6375

6376 USA WYOMING: Yellowstone National Park, Artist Point, Grand Canyon of the Yellowstone River 16-Jul-1996 C. R. Nelson # & family 6376 24 family photos
scenics at Falls

tried to photograph a Calineuria? Hesperoperla? male, but it went out into the canyon
6376

6377 USA WYOMING: Yellowstone National Park, east slopes of Mount Washburn, LaMar Valley 17-Jul-1996 C. R. Nelson # & family 6377 24 photo of pine/spruce parkland. This is the release area for the wolves. 6377

6378 USA WYOMING: Yellowstone National Park, Tower Falls, Tower Creek, jct Yellowstone River 17-Jul-1996 C. R. Nelson # & family 6378 24 photo:
Tower Falls.

A few miles up the road near Roosevelt Lodge we saw a black bear; then we saw a coyote at Phantom Lake photos:

Pteronarcys californica m

Calineuria californica? m, might be Hesperoperla pacifica 6378

6379 USA WYOMING: Yellowstone National Park, Mammoth Hot Springs 17-Jul-1996 C. R. Nelson # & family 6379 24 photos: Minerva Terrace and Palette Springs photos: Minerva Terrace with Elk, also Palette Springs 6379

6380 USA MONTANA: Park Co. Gardiner 17-Jul-1996 C. R. Nelson # & family 6380 24 I bought three artificial flies at Richard Park's Fly Shop:
a golden stonefly \$1.90
a Brooks Stone \$1.70
an Elk Hair salmonfly \$1.90.

The Brooks Stone was tied by Mitch Minch of Gardiner. The others were probably tied in Colombia, South America photos: pronghorn antelope 6380

6381 USA WYOMING: Yellowstone National Park, 1 mi West of Canyon 17-Jul-1996 C. R. Nelson # & family 6381 24 need to see photos taken by Kaye, close ups on print film, photos taken from road and in van. As of 24 Sep 21996 Kaye's photos are lost in the mail. She is livid. photos: Bison and Elk 6381

6382 USA WYOMING: Yellowstone National Park, Inspiration Point, Grand Canyon of the Yellowstone River 17-Jul-1996 C. R. Nelson # & family 6382 24 photos: yellow wall at

Inspiration Point.

Watched *Pteronarcys californica* fly over the brink, some survived others didn't. It was an amazing sight. photos:

Pteronarcys californica on Amy Leah Nelson 6382

6383 USA WYOMING: Yellowstone National Park, Gibbon Meadows 18-Jul-1996 C. R. Nelson # & family 6383 24 ate breakfast at roadside. hurried and packed camp to race an early morning rainstorm. We made it! Then we headed to the west entrance to leave the park. photos: bison and elk in big meadow with Gibbon River 6383

6384 USA MONTANA: Quake Lake 18-Jul-1996 C. R. Nelson # & family 6384 24 photo: view of slide from 1959. I took a rock for Melanie Young, she was there with her family when the earthquake hit. 6384

6385 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 05-Aug-1996 C. R. Nelson # 6385 24 walked to Firefly Meadow and along stream trail. No robber flies. Very dry! *Callicarpa* is hurting. *Libellulidae* 6385

6386 USA TEXAS: Burnet Co. Inks Lake State Park 17-Aug-1996 C. R. Nelson # & scouts 6386 Riley Nelson, Peter Joyce, John Pearce, Ruben Salas, Jason Nelson, Tod Henson, Nick Kriese, Michael Kriese, Steve Jones, Eric Henson, Jacob Salas, Jason Salas, Joel Salas, Cody Minshew, John Pearce III, Jared Pearce, Brian Cannaday 24 jumped off cliffs, bruised foot on bottom after the 35 foot drop! no photos, no collecting; caught channel catfish & red breasted sunfish with scouts in Devils Hole 6386

6387 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 22-Aug-1996 C. R. Nelson # 6387 and John Abbott and Dan Petr 24 photos: *Libellula luctuosa* m & f *Enallagma basidens* m 6387

6388 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 06-Sep-1996 C. R. Nelson # 6388 with Aquatic Entomology Lab 24 sampled pond F and Town Lake 6388

6389 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 12-Sep-1996 C. R. Nelson # 6389 with Entomology Lab 24 walked near Fish Ponds and Firefly Meadow *Scatophagidae*, shiny 6389

6390 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 13-Sep-1996 C. R. Nelson # 6390 with Entomology Lab 24 The syrphids emerged in my lab before 20 Sep 1996, *Pseudoros clavatus*! photos: *Syrphidae* pupae, near colony of aphids on *matelea reticulata* milkweed; pupated on hackberry 6390

6391 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 18-Sep-1996 C. R. Nelson # 6391 24 photos:
Diogmites with Promachus prey
also Diogmites angustipennis with Syrphidae: Pseudoros clavatus
bug nymph
Telebasis salva wheeling
Syrphidae larvae feeding on aphids on matelea reticulata, milkweed
these larvae were similar (the same?) as those of 6390 which emerged as Pseudoros clavatus 6391

6391 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 18-Sep-1996 C. R. Nelson # 6391 24 photos:
Diogmites with Promachus prey
also Diogmites angustipennis with Syrphidae: Pseudoros clavatus
bug nymph
Telebasis salva wheeling
Syrphidae larvae feeding on aphids on matelea reticulata, milkweed
these larvae were similar (the same?) as those of 6390 which emerged as Pseudoros clavatus 6391

6392 USA TEXAS: Travis Co. Lake Travis, Turkey Bend Park 21-Sep-1996 C. R. Nelson # 6392 and scouts: Peter Joyce, Nick Kriese, Michael Kriese, Jared Pearce, John Pearce. 24 We were in a fierce storm. Four tornadoes surrounded us, we learned later. Gryllotalpidae in burrows on sandy shore. 6392

6393 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 25-Sep-1996 C. R. Nelson # 6393 the caterpillars were collected by Mark Gray and Grayson Kirkland 24 photos: Sphingidae caterpillars on Ludwigia octovalvis 6393

6394 USA TEXAS: Travis Co. Austin, Pleasant Hill Elementary School 26-Sep-1996 Amy Nelson & C. R. Nelson # 6394 24 photos: Fall armyworm caterpillars caught by; Amy Leah Nelson. photos were taken on Sonchus or Lactuca 6394

6395 USA TEXAS: Val Verde Co. Devils River, riffle above Dolan Falls 27-29 Sep 1996 C. R. Nelson # 6395 and students 24 27 Sep: arrived late, talked of conservation at night near Falls.
28 Sep: aquatics class took many EPA 100 samples from surber riffle. We also caught Sisyridae larvae. I walked some with Entomology students on Fish Camp hillside. Later in day went up Dolan Creek.
29 Sep: collected with aquatics class on "delta", then swam and collected in Blue Spring

photo: Gomphidae with Ephemeridae, Hexagenia; Hydropsyche nets

other:

Efferia argyrosoma, many with prey; Efferia small species similar to argentifrons.

Sisyridae larvae

Hydrometridae! First record! 6395

6396 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 28-Sep-1996 C. R. Nelson # 6396 and students 24 Pseudoleon superbus female, saw male.

Culicidae larvae in temporary pool; saw clam shrimp in a temporary pool on way to Blue Spring 6396

6397 USA TEXAS: Val Verde Co. Blue Springs, Devils River above Dolan Falls 29-Sep-1996

C. R. Nelson # 6397 and students 24 Coenagrionidae, magenta and skinny

Coenagrionidae, several others.

Chrysomelidae: adult Donacia on lily pads. First record!

Pyralidae? adults.: near lily pads. 6397

6398 USA ARIZONA: Pima Co. Santa Catalina Mountains, Ventana Creek in Ventana Canyon 12-Oct-1996 C. R. Nelson # 6398 24 Holopogon sapphirus?

Heteropogon near fisheri, photos

Scleropogon, photos

Cassidinae on Ambrosia?, photos

mud turtle

Thermoneustes marmoratus 6398

6399 USA ARIZONA: Pima Co. Tucson, NE, near jct Tierra & Orange Grove? 13-Oct-1996

C. R. Nelson # 6399 24 in alley near Roger Repp's house Embiidina, photos, also started a colony for at home

termites covering on fence, photos 6399

6400 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, Pond F, 170m 18-Oct-1996 C. R. Nelson # 6400 24 photos:

Mesoveliidae, Mesovelia mulsanti

Nepidae, Curicta scorpio

Pleidae, Neoplea striola

Naucoridae, Pelocoris biimpressus 6400

6401 USA TEXAS: Williamson Co. Lake Georgetown, Russell Park 19-Oct-1996 C. R.

Nelson # 6401 a few members of the entomology classes:

Wendy Hodges

Phyllis Boyd
Erik Dopman
Jesse Gevirtz
Ranjay Halder
Carlos Infante
Andrea Leach
Sunny Lin
Clarissa Reburn
Adena Rissman
Sophia Sherline
Justin Strom
Nick Wiersema 24 photos:
Gryllidae, crickets
Tridactylidae
Collected:
Hexagenia limbata male
Gyrinidae
Ephydriidae
Tetrigidae
Tipulidae, Limonia 6401

6402 USA TEXAS: Williamson Co. above Lake Georgetown, creek tributary of San Gabriel River, just above Tejas Park 19-Oct-1996 C. R. Nelson # 6402 a few members of the entomology classes:

Wendy Hodges
Phyllis Boyd
Erik Dopman
Jesse Gevirtz
Ranjay Halder
Carlos Infante
Andrea Leach
Sunny Lin
Clarissa Reburn
Adena Rissman
Sophia Sherline
Justin Strom
Nick Wiersema 24 photos:
Leuctridae, Zealeuctra adults, hitei? 6402

6402.1 USA TEXAS: Williamson Co. San Gabriel River, above Lake Georgetown just above Tejas Park 19-Oct-1996 C. R. Nelson # 6402.1 a few members of the entomology classes:

Wendy Hodges

Phyllis Boyd

Erik Dopman

Jesse Gevirtz

Ranjay Halder

Carlos Infante

Andrea Leach

Sunny Lin

Clarissa Reburn

Adena Rissman

Sophia Sherline

Justin Strom

Nick Wiersema 24 photos:

Dryopidae, Helichus

Tabanidae larva

Saldidae

Lutrochidae, Lutrochus 6402.1

6403 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 20-Oct-1996 C. R. Nelson #

6403 24 photos:

Nymphalidae, *Agraulis vanillae* caterpillar on *Passiflora foetida* 6403

6404 USA TEXAS: Bastrop Co. Little Sandy Creek, jct county road 49, 2.6 mi N of Sayersville

01-Nov-1996 C. R. Nelson # 6404 David Zippin, Debbie Cerda, Debbie Molnar, David

Millard, Kirtley Wienbroer, Patty Ramirez, Hannah Gould, Catherine Urban, Rodney Guerra,

Dennis Wood, Dorothy Penaloza, Jarrad Prasifka, Michelle Trautwein, Meredith Worthen,

Robert Atreides 25 mileages:

at Little Sandy Creek: 2844.0

at Sayers: 2846.6

at Highway: 2847.3

at 290: 2854.5 photos: Sisyridae pupa, Sisyridae larvae on sponge;

Caenis

Chironomidae

Simuliidae

Gomphidae

Calopterygidae, Calopteryx

Elmidae 6404

6405 USA TEXAS: Bastrop Co. Lost Pines Scout Reservation, Lake Bastrop 16-Nov-1996

C. R. Nelson # 6405 Scouts 25 Panorpidae: Panorpa nuptialis, common in a little bluestem meadow 6405

6406 USA TEXAS: Bastrop Co. McKinney Roughs, 8 mi W of Bastrop, iron-laden spring 23-

Nov-1996 C. R. Nelson # 6406 Debbie Cerda, Debbie Molnar, Kirtley Wienbroer, Patty Ramirez, Rodney Guerra, Dennis Woods, Dorothy Penaloza, Jarrad Prasifka, Michelle Trautwein, Nicole Leroux, Andrew Chang, Nick Wiersema, Robin Waugaman, Sharon Jasper from A & M, John Clements 25 Ptychopteridae, abundant beetles

Belostomatidae: Lethocerus 6406

6407 USA TEXAS: Bastrop Co. McKinney Roughs, 8 mi W of Bastrop, cattle tank 23-Nov-

1996 C. R. Nelson # 6407 Debbie Cerda, Debbie Molnar, Kirtley Wienbroer, Patty Ramirez, Rodney Guerra, Dennis Woods, Dorothy Penaloza, Jarrad Prasifka, Michelle Trautwein, Nicole Leroux, Andrew Chang, Nick Wiersema, Robin Waugaman, Sharon Jasper from A & M, John Clements 25 Dytiscidae

Haliplidae

Ephemeridae - Hexagenia

Caenidae

Libellulidae

Hydrochus?

Carabidae

Naucoridae: Pelocoris

Pleidae

Mesoveliidae

Chaoboridae

Callibaetis 6407

6408 USA TEXAS: Bastrop Co. Colorado River, McKinney Roughs, 8 mi W of Bastrop, 23-

Nov-1996 C. R. Nelson # 6408 Debbie Cerda, Debbie Molnar, Kirtley Wienbroer, Patty Ramirez, Rodney Guerra, Dennis Woods, Dorothy Penaloza, Jarrad Prasifka, Michelle Trautwein, Nicole Leroux, Andrew Chang, Nick Wiersema, Robin Waugaman, Sharon Jasper from A & M, John Clements 25 All North American genera of Naucoridae!

No Stenonema x !

No Baetodes! Naucoridae: Cryphocricos hungerfordi, Limnocoris, Ambrysus circumcinctus?, Ambrysus lunatus, Pelocoris biimpressus

Photos: Polymitaeridae: Tortopus, common in honey-combed rock

Elmidae

Dryopidae

Photos: Corydalidae, Corydalis cornutus

Baetidae

Leptophlebiidae

macromyidae

Gomphidae, several

Libellulidae, Brechmorhoga

Calopterygidae: Hetaerina

Coenagrionidae: several

Hydrophilidae

Leptoceridae: Nectopsyche

Helicopsychidae

Hydropsychidae

Hydrobiosidae

Pyralidae: Petrophila

Veliidae: Rhagovelia

Gerridae: Metrobates

6408

6409 USA TEXAS: Travis Co. Austin, University of Texas 27-Nov-1996 C. R. Nelson # 6409

25 Meloidae outside Painter Bldg. 6409

6410 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 21-Dec-1996 C. R. Nelson #

6410 25 Photos: Thysanura 6410

6411 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 25-Dec-1996 C. R. Nelson #

6411 and family 25 walked across floor while we were opening presents spider, male 6411

6412 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory & University of Texas

23-Jan-1997 C. R. Nelson # 6412 Pat & Dick Richardson 25 photos of dead dung beetles from lab colonies:

Onthophagus gazella

Phaneus vindex, v

Phaneus difformis, square

Canthon imitator

6412

6413 USA TEXAS: Montgomery Co. New Caney Creek, Caney Creek & US 59, tea colored sand bottom creek 4-5 January 1997 Nick A. Wiersema, photos by C. R. Nelson # 6413 25 C. R. Nelson not present when collected photo session:

Baetiscidae: *Baetisca obesa* 6413

6414 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 08-Feb-1997 C. R. Nelson #

6414 25 photos:

turtles in home tank 6414

6414.1 USA TEXAS: Travis Co. Austin, Oak Hill 08-Feb-1997 C. R. Nelson # 6414.1 Jim

Jurgens 25 pecan logs with beetle larvae: emerged in lab 1 August 1997,

Cerambycidae: *Neoclytus*? 6414.1

6415 USA TEXAS: Bastrop Co. Lost Pines Biological Station, Stengl Ranch, near Buescher

State Park 15-Feb-1997 C. R. Nelson # 6415 Bio 208: Jan Barber, Wendy Hodges, Paul

Field, Adena Rissman, Rodney Cappel, Tammi Jarrocki, & members of Gary Baird's class 25

photos:

sundews: *Drosera annua*

silverfish

Mycetophilidae larva

scorpion

collected pseudoscorpion

photos:

Cixiidae 6415

6416 USA TEXAS: Gillespie Co. Enchanted Rock State Natural Area 22-Feb-1997 C. R.

Nelson # 6416 scouts:

Peter Joyce

John Pearce

Clint Brasher

Rick Nelson

Kevin Henson

Jason Nelson

Jared Pearce

Jacob Pearce

Tod Henson

Eric Henson

Josh Eyanson

Jared Eyanson

Nick Kriese

Mike Kriese

Mike Hodge

Chris Kumbera

Ian Granado

Steve Jones

Ben Kennard

Ben McCullough 25 Johnny Cassity helped drive us. photos:
rocks at sunrise, people

Zealeuctra in sany stream at campground! 6416

6417 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 23-Feb-1997 C. R. Nelson #

6417 25 photos, in fish tank:

Farlowella

mystery snails

angelfish

mississippi map turtle 6417

6418 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 03-Mar-1997 C.
R. Nelson # 6418 Bio 208 25 vegetation studies: nested quadrat

Boathouse Meadow

Pogonomyrmex Bench

Hackberry Forest 6418

6419 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 05-Mar-1997 C.
R. Nelson # 6419 Bio 208 25 vegetation studies: nested quadrat

Butterfly Meadow

Oak Forest

Quarry Meadow 6419

6420 USA TEXAS: Travis Co. Barton Creek, Austin, near jct Lost Creek Blvd 06-Mar-1997
C. R. Nelson # 6420 Robert S Hansen 25 collected for 300 meters downstream of low water
bridge and 600 meters upstream Zealeuctra adults to Hugh Rowell in Switzerland for DNA
study

Chimarra

Empididae

beetle

ants 6420

6421 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 07-Mar-1997 C. R. Nelson # 6421 Bio 208 25 see hand written map to get exact layout of plots vegetation studies: nested quadrat

Firefly Meadow: west of central clump of trees, within 10 m of Hardpan Flats

Hardpan Flats

Juniper Forest 6421

6422 USA TEXAS: Harris Co. Houston, Hermann Park, Houston Museum of Natural Sciences 10-Mar-1997 C. R. Nelson # 6422 25 Celia Stuart, my former student in entomology from 1989, gave us a nice tour. She is in charge of insect rearing. photos: butterflies & other things in Cockrell Butterfly Center 6422

6423 USA TEXAS: Fort Bend Co. Brazos Bend State Park 11-Mar-1997 C. R. Nelson # 6423 25 Naturalist Dennis Jones helped me in the field. He needs a brown recluse spider for his "Zoo" water beetles

Hydrometridae

Odonata

Isopods 6423

6424 USA TEXAS: Fort Bend Co. Brazos Bend State Park, 40 Acre Lake walk 11-Mar-1997 C. R. Nelson # 6424 25 saw alligators

bull frogs

green tree frog

anhingas

Ibis

ducks 6424

6425 USA TEXAS: Travis Co. Barton Creek, at Bee Caves, Hill Country Preserve, downstream from Hwy 71 20-Mar-1997 C. R. Nelson # 6425 Arlesa Leopold 25 scouted sites for Lesa's recolonization study *Perlesta decipiens* nymphs, sent to Hugh Rowell for DNA studies

Muscidae

Tipulidae: *Yamatotipula*

Baetidae: *Fallceon quilleri* 6425

6426 USA TEXAS: Travis Co. intermittent tributary of Barton Creek, near bowery. at Bee Caves, Hill Country Preserve, downstream from Hwy 71 20-Mar-1997 C. R. Nelson # 6426 Arlesa Leopold 25 *Zealeuctra arnoldi* adults & nymphs, some sent to Hugh Rowell for DNA study

Hydrophilidae 6426

6427 USA TEXAS: Goliad Co. Goliad State Park, San Antonio River 22-Mar-1997 C. R. Nelson # 6427 25 camped in campground, walked La Bahia Trail with 1000 scouts & leaders Buprestidae on Clip Road 6427

6428 USA TEXAS: Travis Co. Town Lake, Austin, Brackenridge Field Laboratory, 170m 24-Mar-1997 C. R. Nelson # 6428 Bio 208 25 collected EPA 100 samples
ghost shrimp
Hexagenia
Sialis
Sialis adults flying 6428

6429 USA TEXAS: Travis Co. Pond F, Austin, Brackenridge Field Laboratory, 170m 24-Mar-1997 C. R. Nelson # 6429 Bio 208 25 collected EPA 100 samples
Anax nymphs
Ranatra
Curicta
much else!
Rana tadpoles, huge 6429

6430 USA TEXAS: Travis Co. Town Lake, Austin, Brackenridge Field Laboratory, 170m 26-Mar-1997 C. R. Nelson # 6430 Bio 208 25 collected EPA 100 samples
same stuff as Monday 6430

6431 USA TEXAS: Travis Co. Pond E, Austin, Brackenridge Field Laboratory, 170m 26-Mar-1997 C. R. Nelson # 6431 Bio 208 25 a rich pond, but not as rich as Pond F; not as much Potamogeton collected EPA 100 samples
6431

6432 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 28-Mar-1997 C. R. Nelson # 6432 25 photos: 3 toed box turtle

photos near Bush Greenhouse:
Veronica
Commelinantia
Nemophila with Buprestidae 6432

6433 USA TEXAS: Travis Co. Town Lake, Austin, Brackenridge Field Laboratory, 170m 26-Mar-1997 C. R. Nelson # 6433 Bio 208 25 collected EPA 100 samples
surface water 18 degree C
Sialis adults with Mark Meadows 6433

6434 USA TEXAS: Travis Co. Pond F, Austin, Brackenridge Field Laboratory, 170m 28-Mar-1997 C. R. Nelson # 6434 Bio 208 25 collected EPA 100 samples

photos:

Ranatra with Coenagrionidae

mating Sphingidae

class in bluebonnets

pond temp:

1 cm: 30 dC

10 cm: 29 dC

45cm: 2? dC

6434

6435 USA TEXAS: San Saba Co. Spicewood Creek, Colorado Bend State Park 29-Mar-1997 C. R. Nelson # 6435 Bio 208 25 travertine pools & grassy, crunchy riffles collected EPA 100 samples

Ambrysus, 2 spp.

Marilia

Stenonema x

Baetidae 6435

6435.1 USA TEXAS: San Saba Co. campground on Colorado River, Colorado Bend State Park 29-Mar-1997 C. R. Nelson # 6435.1 Bio 208 25 camped in general campground with many other, Polyphemus & luna moths came to blacklight Baetidae adults

photos: Luna Moth 6435.1

6436 USA TEXAS: San Saba Co. Gorman Creek, Colorado Bend State Park 29-Mar-1997 C. R. Nelson # 6436 Bio 208 25 EPA 100 samples

Baetidae

Leptoceridae

Halplidae

Tabanidae

photos:

Gorman Falls 6436

6437 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 07-Apr-1997 C. R. Nelson # 6437 Bio 208 25 Tenebrio & Pogonomyrmex lab

Scarabaeidae in flower

Therevidae

photos of students 6437

6438 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 09-Apr-1997 C. R. Nelson # 6438 Bio 208 25 Tenebrio & Pogonomyrmex lab
Heptageniidae: Stenacron? adult male 6438

6439 USA TEXAS: Travis Co. Barton Creek, Paisano Ranch 10-Apr-1997 C. R. Nelson # 6439 Arlesa Leopold & Robert S Hansen 25 put in 12 multiplate samplers:
buried 5 in riffle down 10 cm
buried 5 in pool down 10 cm
2 suspended along side of pool

Paisano Ranch is located off Hwy 290 W of Austin. It is the ranch of J. Frank Dobie, prominent Texas writer. He willed it to U. T. It is used by writers as a retreat, a place to write in seclusion saw wild turkey

Perlesta nymphs

Gerridae adults

beetle larvae, terrestrial

Efferia snowi, 1 m 1 f

6439

6440 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 14-Apr-1997 C. R. Nelson # 6440 Bio 208 25 only 7 ants total!, in 54 traps!

also in Pecan Grove near the stream we saw cliff frog, Syrrhophus warnocki and black necked garter snake tuna baits for ants

near the Boathouse 6440

6440.1 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 11-Apr-1997 C. R. Nelson # 6440.1 Bio 208 25 Tenebrio lab near boathouse 6440.1

6441 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 14-Apr-1997 C. R. Nelson # 6441 Bio 208 25 8 species in 54 traps, but no invicta!

also did this experiment on 5 August 1997, #6555, also got 8 species! tuna baits for ants

in Firefly Meadow

ants:

Forelius foetidus

Monomorium minimum

Aphaenogaster texanus

Pheidole sp.

Solenopsis texana

Crematogaster

Xx?

Pheidole #2

photos:

Caterpillars of dog face on *Eysenhardtia*

Acrididae

Papilio cressphontes egg on *Ptelea* 6441

6442 USA TEXAS: Travis Co. Austin, Parker Lane & Oltorf 16-Apr-1997 C. R. Nelson # 6442
25 flat headed snake caught while cleaning up ball field at church 6442

6443 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 17-Apr-1997 C.
R. Nelson # 6443 Celia Stuart & Lee ___ 25 caterpillars crossing road

photos:

Rodney Guerra caught a Texas Patch nosed snake in Firefly Meadow 6443

6444 USA TEXAS: Travis Co. Barton Creek, at Bee Caves, Hill Country Preserve,
downstream from Hwy 71 21-Apr-1997 C. R. Nelson # 6444 Bio 208 25 8 transects for
flow & stream mapping, start at low water crossing then every 10m downstream, see hand
drawn map in notebook photos:
students and study area 6444

6445 USA TEXAS: Travis Co. Barton Creek, at Bee Caves, Hill Country Preserve,
downstream from Hwy 71 21-Apr-1997 C. R. Nelson # 6445 Bio 208 25 took 10 more
transects, downstream from 8 transects taken on 21 April 1997 photos:
students and study area
saw *Perlesta* nymphs 6445

6445.1 USA TEXAS: Travis Co. Austin, NE corner of Hemphill & 29th, Helen M. Kirby Hall
26-Apr-1997 C. R. Nelson # 6445.1 25 chimney swifts into chimney of red brick house,
hundreds!! in the early evening chimney swifts 6445.1

6445.2 USA TEXAS: Travis Co. Austin, Guadalupe Street, Half Price Books 26-Apr-1997 C.
R. Nelson # 6445.2 25 The decorative arst library, Jewelry, 1996, edited by Lydia Darbyshire
and or Janet Swerbrick, damselfly piece ca 1898 by frenchman Rene Lalique, made of
diamonds, Chrysoprase, moonstones, enamel, & gold

photographed for use in classes 6445.2

6446 USA GEORGIA: Effingham Co. New Ebenezer Center, 5 mi NE of Rincon along Savannah River 03-May-1997 C. R. Nelson # 6446 25 at meetings of North American Dipterists' Society Leptoceridae: Mystacides?
Berothidae: Lomamyia 6446

6446.1 USA GEORGIA: Effingham Co. New Ebenezer Center, 5 mi NE of Rincon along Savannah River 04-May-1997 C. R. Nelson # 6446.1 25 at meetings of North American Dipterists' Society Laphria macquarti
photo: Ceraturgus
Ommatius
Sciaridae
Micropezidae

Leptogaster
Cerotainia in malaise trap
6446.1

6446.2 USA GEORGIA: Effingham Co. New Ebenezer Center, 5 mi NE of Rincon along Savannah River 06-May-1997 C. R. Nelson # 6446.2 25 at meetings of North American Dipterists' Society Laphria macquarti
Libellulidae
Tipulidae: Orimarga
Ceraturgus
Bombyliidae
Gyrinidae
Syrphidae: Microdon 6446.2

6447 USA GEORGIA: Chatham Co. Tybee Island, lighthouse beach 04-May-1997 C. R. Nelson # 6447 25 at meetings of North American Dipterists' Society Efferia albibarbis
Laphystia 6447

6448 USA GEORGIA: Tatnall Co. Big Hammock Wildlife management Area, Mark Phillips Road, Altamaha River, near Hwy 121, 10 mi SW of Glennville 05-May-1997 C. R. Nelson # 6448 25 at meetings of North American Dipterists' Society Geron
Efferia "aestuans"
photo: Ommatius
Therevidae, specimen to Brian Wiegmann

Cassidinae on *Serenoa repens*, a palmetto

Holopogon

Machimus

Laphria flavicollis

Laphria saffrana

Syrphidae

6448

6449 USA GEORGIA: Effingham Co. Ogeechee River, Hwy 119, 6 mi W of Guyton 06-May-1997 C. R. Nelson # 6449 Chris Maier & Lloyd Davis 25 at meetings of North American Dipterists' Society Libellulidae

Gomphidae: Gomphus minutus?

Tephritidae

Ommatius 6449

6450 USA GEORGIA: Effingham Co. clearcut, 2 mi S of Clyo 06-May-1997 C. R. Nelson # 6450 Chris Maier & Lloyd Davis 25 at meetings of North American Dipterists' Society Perithemis 6450

6451 USA GEORGIA: Effingham Co. Ebenezer Creek, Hwy 119, between Springfield & Rincon 06-May-1997 C. R. Nelson # 6451 Chris Maier & Lloyd Davis 25 at meetings of North American Dipterists' Society 6451

6452 USA GEORGIA: Johnson Co. 0.5 mi E of Kite, Hwy 57, sandhills between Emanuel Co. line and Little Ohoopie River 07-May-1997 C. R. Nelson # 6452 25 after meetings of North American Dipterists' Society; good spot, disturbed, open sand, should have been good for Proctacanthus, perhaps too early, Lloyd Davis suggested spot, he caught *Cicindela nigrifrons* here; be sure to visit pole line "road" bisecting Tom Road, parallel to Hwy worked hard to get *Efferia albibarbis* 1m 1f

Gomphus minutus.

photo of *Passiflora incarnata* 6452

6453 USA NORTH CAROLINA: Johnson Co. Wayah Bald, 5342 ft. 08-May-1997 C. R. Nelson # 6453 25 Calliphoridae

Tachinidae

photos:

"smoky" mountains

blue flowers

white "azaleas" 6453

6454 USA NORTH CAROLINA: Macon Co. left hand Jarrett Creek near headwaters, 1 air mi SW of Winespring Bald, Wayah Bald Road 08-May-1997 C. R. Nelson # 6454 25 Buckeye leaves out, other things just breaking bud. Jack-in-the-pulpit out

Walked 200 ft or so from hairpin curve to get to the stream photos:

Leuctridae 2 spp.

Megaleuctra?

Sweltsa or Isoperla

yellow Chloroperlidae

saw red backed salamanders and

Desmognathus salamanders. 6454

6455 USA NORTH CAROLINA: Macon Co. left hand Jarrett Creek jct Road 1310, near jct rd 711 08-May-1997 C. R. Nelson # 6455 25 photos of nymphs:

Tallaperla nymphs very common

Perlodidae

Perlidae

Heptageniidae

Epeorus

Ephemerellidae

Pteronarcys adult & nymphs

Peltoperlidae Tallaperla? teneral adult

Leuctridae, Leuctra nymph, short cerci

Chloroperlidae 6455

6456 USA NORTH CAROLINA: Macon Co. Scotsman Creek, trib. of Chattooga River, Road 1178 6 air miles ESE of Highlands 08-May-1997 C. R. Nelson # 6456 25 Peltoperlidae nymphs

Perlidae nymphs

Perlodidae nymphs

Glossosomatidae larvae

Pteronarcyidae nymphs 6456

6457 USA NORTH CAROLINA: Jackson Co. Whiteside Mountain, 3 air mi SW of Cashiers 09-May-1997 C. R. Nelson # 6457 25 left car 9:45am

back at car 11:05am hilltop:

Calliphoridae

Syrphidae

photos: Cyrtopogon 1m

seep near trailhead:

photos:

Nemouridae

Leuctridae, bent wings

Lampyridae

Chloroperlidae? Sweltsa 6457

6458 USA NORTH CAROLINA: Macon Co. Glen Falls, Overflow Creek, 2 mi SE of Highlands

09-May-1997 C. R. Nelson # 6458 25 left car 9:45am

back at car 11:05am falls:

Blephariceridae larvae

Ephemerellidae

Heptageniidae

Peltoperlidae

Pteronarcyidae

slightly higher on creek:

Perlidae

Pteronarcyidae

Leptophlebiidae

Peltoperlidae

some of these were preserved in 100% EtOH for DNA work, perhaps 6458

6459 USA TEXAS: Travis Co. Austin, Pleasant Hill Elementary School 13-May-1997 Amy L.

Nelson for C. R. Nelson # 6459 25 Xylophagidae? Not, Xylomyidae 6459

6460 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 14-May-1997 C.

R. Nelson # 6460 25 plant growth photos taken in Firefly Meadow (Hardpan Flats) at 3:30

pm photos: Texas rat snake

Efferia auripila 6460

6461 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 16-May-1997 C.

R. Nelson # 6461 25 plant growth photos taken in Firefly Meadow (Hardpan Flats) 6461

6462 USA TEXAS: Travis Co. Fagerquist Road, Cannaday Ranch 17-May-1997 C. R. Nelson
6462 25 Perlithemis
saw Celithemis 6462

6463 USA TEXAS: Travis Co. Barton Creek, Paisano Ranch 19-May-1997 C. R. Nelson #
6463 Arlesa Leopold 25 retrieved: 12 multiplate samplers:
buried 5 in riffle down 10 cm
buried 5 in pool down 10 cm
2 suspended along side of pool

talked with Bobby & Lee Byrd, writers staying at the ranch. She is a fellow of the English
Department. This is J. Frank Dobie's ranch. He wrote much Texana in the 1930s and 40s.
The ranch now is used as a retreat for writers. water snake 6463

6464 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 20-May-1997 C. R. Nelson #
6464 25 photos:
Amy with tiny Gulf Coast toad 6464

6465 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 27-May-1997 C.
R. Nelson # 6465 25 plant growth photos taken in Firefly Meadow (Hardpan Flats) 10:00
am 6465

6466 USA TEXAS: Comal Co. Honey Creek, tributary of Guadalupe River, SW of Spring
Branch 31-May-1997 C. R. Nelson # 6466 David Bowles

Oliver & Carol Flint

Sharon Jasper

Cheryl Barr

Sidney Tieneman? spelling

Allison Brigham

Mark Wetzel (oligochaetes)

Steve Harris

student? 25 Photos:

Xiphocentronidae tubes

Athericidae: Suragina cocinna

Bittacidae

Polycentropodidae

aquatic Lepidoptera

Hydrometridae

Halipidae

Leptogaster
Tipulidae
Polacantha
Efferia female
Psephenus texanus
caddis adults at light
Stenonema x
Leptoceridae
Calamoceratidae
Helicopsychidae
Polycentropodidae
Philopotamidae 6466

6467 USA TEXAS: Comal Co. Guadalupe River, Spring Branch Road 31-May-1997 C. R. Nelson # 6467 David Bowles
Oliver & Carol Flint
Sharon Jasper
Cheryl Barr
Sidney Tieneman? spelling
Allison Brigham
Mark Wetzel (oligochaetes)
Steve Harris
student? 25 photos: eggs on stink gourd leaf

Brechmorhoga mendax adults to Oliver Flint
Atomosia 6467

6468 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m 03-Jun-1997 C. R. Nelson # 6468 25 plant growth photos taken in Firefly Meadow (Hardpan Flats)
Proctacanthella cacopiloga 6468

6469 CANADA QUEBEC: tributary of Ashby Creek above Cromwell Lake, Univ. Montreal Biological Station 07-Jun-1997 C. R. Nelson # 6469 26 collected with group attending meetings of the North American Plecoptera Symposium Leuctra
Isoperla lata? 1m1f fuscous head
Isoperla frisoni 9m4f dark v, photos
Leptophlebia females
Paranemoura perfecta 11m2f
Corduliidae:

Leucorhina
Tetragoneura
Somatochlora
Bufo photo
Bittacomorpha clavipes photo
lady slipper orchid photo
Donacia
Lampyridae
caddis
Simuliidae
Anisopodidae 1f 6469

6470 CANADA QUEBEC: small tributary of Croche Lake, Univ. Montreal Biological Station
07-Jun-1997 C. R. Nelson # 6470 26 photos by C. R. Nelson, collected by Peter Harper
with Boris Kondratieff & R. W. Baumann *Ostrocerca prolongata* 1m 6f 6470

6471 CANADA QUEBEC: Mont Tremblant Provincial Park, Riviere du Diable, Barrage de Lac
Monroe 08-Jun-1997 C. R. Nelson # 6471 26 with NAPS group *Paragnetina media* 11ny
Paragnetina immarginata 2ny
water penny larva
Tabanus larva
Aeshnidae nymphs 6471

6472 CANADA QUEBEC: Mont Tremblant Provincial Park, Riviere du Diable, Hwy 1 bridge
08-Jun-1997 C. R. Nelson # 6472 26 also found a squirt gun here and ate lunch with Kaye
and the NAPS group *Isoperla transmarina* 6m 5f
Nemouridae:
Paranemoura perfecta 1f
Tipulidae male
6472

6473 CANADA QUEBEC: Mont Tremblant Provincial Park, Aulnes Creek, Hwy 1 08-Jun-
1997 C. R. Nelson # 6473 26 with the NAPS group *Sweltsa onkos* 15m 23f some in
70%EtOH and some in 100% EtOH
others got *Alloperla*, but not me
Sweltsa naica 1m 6473

6474 CANADA QUEBEC: Mont Sainte Anne Park, Riviere Jean Larose 09-Jun-1997 C. R.
Nelson # 6474 R. W. Baumann, & B. C. Kondratieff 26 *Taenionema atlanticum* 1m 1f
photos

Dolophilodes

Sweltsa naica 2m 2f

Nemouridae:

Nemoura trispinosa 1m

Paraleuctra by BCK & RWB, not me

Diamesa 6474

6475 CANADA QUEBEC: Mont Sainte Anne Park, tiny canopied tributary of Riviere Jean Larose 09-Jun-1997 C. R. Nelson # 6475 R. W. Baumann, & B. C. Kondratieff 26 Sweltsa onkos 3m 1f

Soyedina vallicularia 1m

Ostrocerca albidipennis 2m

Nemoura trispinosa 2m 6475

6476 CANADA QUEBEC: small stream 3 km W of Baie-St. Paul 09-Jun-1997 C. R. Nelson # 6476 R. W. Baumann, & B. C. Kondratieff 26 Podmosta macdunnoughi? 1m

Prostoia completa 2f

Soyedina vallicularia 1f

Simuliidae

Phoridae

Cicindelidae 6476

6477 CANADA QUEBEC: Riviere Remy, Hwy 138, N of Baie-St. Paul 09-Jun-1997 C. R. Nelson # 6477 R. W. Baumann, & B. C. Kondratieff 26 Baumann collected in a smaller stream: Leuctra & Soyedina Sweltsa onkos 23m 17f 2ny 2skins

Isoperla transMarina 4m 2f

Haploperla orpha 2m 3f photos of female

Pteronarcys nymph with lobed abdomen

Tipulidae

Dolophilodes

Taenionema atlanticum 1f

Helopicus? photo

6477

6478 CANADA QUEBEC: stream, Hwy 389, km #498, SW of Fermont 10-Jun-1997 C. R. Nelson # 6478 R. W. Baumann, & B. C. Kondratieff 26 open canopy stream Nemouridae:

Shipsa rotunda 1m 7f

Paracapnia angulata? 2f

Calliphoridae

Syrphidae

Caddis

Taenionema , given to RWB 6478

6479 CANADA QUEBEC: roadkill porcupine, Hwy 389, km 533 SW of Fermont 10-Jun-1997 C. R. Nelson # 6479 R. W. Baumann, & B. C. Kondratieff 26 "iron" rocks from near mine at Fermont porcupine roadkill with Calliphoridae, Silphidae went to RWB & BCK 6479

6479.1 CANADA QUEBEC: Fire Lake, SW of Fermont 10-Jun-1997 C. R. Nelson # 6479.1 R. W. Baumann, & B. C. Kondratieff 26 photos of red polluted lake, one with pussy willows coming out of it. 6479.1

6480 CANADA LABRADOR: small stream on Hwy 500 at Quebec-Labrador border 10-Jun-1997 C. R. Nelson # 6480 R. W. Baumann, & B. C. Kondratieff 26 Capnura manitoba 1m 7f Paracapnia, NO

Dixidae

Chironomidae

Formicidae

6480

6481 CANADA LABRADOR: 2nd small stream from Quebec border, Hwy 500 10-Jun-1997 C. R. Nelson # 6481 R. W. Baumann, & B. C. Kondratieff 26 Psychoglypha? 2

Hemerobiidae

Chironomidae male 6481

6482 CANADA LABRADOR: stream 1 km S of Walsh River, Hwy 500 10-Jun-1997 C. R. Nelson # 6482 R. W. Baumann, & B. C. Kondratieff 26 Capnura manitoba 4m 2f

Allocapnia minima ? NO

third capniid? Paracapnia opis? 1f

Tenthredinidae

wingless wasp 6482

6483 CANADA LABRADOR: Walsh River, Hwy 500, S of Labrador City 10-Jun-1997 C. R. Nelson # 6483 R. W. Baumann, & B. C. Kondratieff 26 Capnura manitoba 1m , photos

Allocapnia minima 3f, photos

Paracapnia opis 2m 16f, photos

Shipsa rotunda 14m 10f 5 ny

Prostoia completa, NO SPECIMENS

Taenionema nymph

Ephemerellidae
Paranemoura 2m
Empididae
Taeniopteryx with BCK
Taenionema with RWB
Podmosta macdunnoughi 2ny
caddis adults
Siphonurus?
Heptageniidae
Sweltsa 1 ny
Chironomidae
Hemerobiidae
Paraleptophlebia
Tipulidae

then began day of 11 June 1997 with scenery photos of this spot, also:

Pteronarcys dorsata 5 ny
Isogenoides frontalis 2 ny
Taeniopteryx
Paragnetina 1 ny
Isoperla 6ny
Alloperla 3 ny
Gomphidae 6483

6484 CANADA LABRADOR: medium cascading creek, 1 mi S of Labrador City, trib. of Leg Lake 11-Jun-1997 C. R. Nelson # 6484 R. W. Baumann, & B. C. Kondratieff 26 entered in field book as medium cascading creek, N of Walsh River Zapada katahdin 2f photos, 1m 5f others

Paraleuctra sara 1f photos, 5m 3f others
Capnura manitoba 2m 4f
sawflies
Chironomidae, Diamesa
Syrphidae 6484

6485 CANADA LABRADOR: stream between Wahnahnish Lake and Jean Lake, S of Wabush 11-Jun-1997 C. R. Nelson # 6485 R. W. Baumann, & B. C. Kondratieff 26 caddis adult sawfly 6485

6486 CANADA LABRADOR: boggy creek entering Elephant Head Lake, SW of Wabush 11-Jun-1997 C. R. Nelson # 6486 R. W. Baumann, & B. C. Kondratieff 26 Jazz lost in the evening

I sketched a tail on view of the Soyedina Capnura manitoba 2m 12f

Capnia "mini", NO, males of manitoba

Soyedina vallicularia 1f photo, 16m 9f others: last photos of 11 June, in evening midges, Chironomidae

Psychoglypha

Empididae

Muscamorpha 6486

6487 CANADA LABRADOR: Elephant Head Lake, SW of Wabush 11-Jun-1997 C. R. Nelson # 6487 R. W. Baumann, & B. C. Kondratieff 26 Leptophlebia

Stenonema x

Caenis? 6487

6488 CANADA LABRADOR: small stream entering Dumbell Lake at ski area, N of Labrador City 11-Jun-1997 C. R. Nelson # 6488 R. W. Baumann, & B. C. Kondratieff 26 Capnura manitoba 1m

Diamesa male

Tenthredinidae

Syrphidae

6488

6489 CANADA LABRADOR: small stream halfway to ski area at Dumbell Lake, N of Labrador City 11-Jun-1997 C. R. Nelson # 6489 R. W. Baumann, & B. C. Kondratieff 26 Sweltsa 4 ny

Zapada 6ny

Paraleuctra sara 2m 6f

Zapada katahdin 2f

Hemerobiidae

Chironomidae, Diamesa NO 6489

6490 CANADA LABRADOR: stream below Tonta Lake, SW of Labrador City 11-Jun-1997 C. R. Nelson # 6490 R. W. Baumann, & B. C. Kondratieff 26 "Leuctra" 2ny

Ephemerella ny

Eurylophella ny

Paraleptophlebia ny

Sweltsa 5 ny

Perlodidae: Isoperla 3 ny

Podmosta 24 ny

also, with other collectors:

Zapada adults

Capnia adults 6490

6491 CANADA LABRADOR: Walsh River, inlet of Long Lake 11-Jun-1997 C. R. Nelson # 6491 R. W. Baumann, & B. C. Kondratieff 26 Taenionema atlanticum 1f photos, 8m 7f 5ny

Prostoia completa 1m photos, 4m 9f

Podmosta macdunnoughi 2m 4ny

Ephemerella

Baetidae

Paraleptophlebia

Shipsa rotunda 17m 8f 5ny

Isoperla 4ny, one with chironomid as prey

Paracapnia 3ny

6491

6492 CANADA LABRADOR: small to medium river running into Moosehead Lake, Hwy 500, 7 mi E of Labrador City 12-Jun-1997 C. R. Nelson # 6492 R. W. Baumann, & B. C.

Kondratieff 26 mileage 425 suckers spawning

Pteronarcys 1ny

Phasgonophora capitata

Paragnetina 2 ny

Sweltsa 3 ny

Ephemerella

Rhyacophila

Paraleptophlebia

Stenonema x

also to others:

Podmosta

Shipsa

Isoperla lata skin

Capnura manitoba

Capnia

Paracapnia 6492

6493 CANADA LABRADOR: big outlet of Shabogamo Lake, 14 mi E of Labrador City 12-Jun-1997 C. R. Nelson # 6493 R. W. Baumann, & B. C. Kondratieff 26 mileage 433 capniids,

6 total to RWB
caddis

Isogenoides frontalis 11 ny
Pteronarcys ny
Stenonema ny
Ephemerella sm & lg
Baetidae 6493

6494 CANADA LABRADOR: big slow creek 5 mi W of Ross Bay Junction, 33 mi E of Labrador City 12-Jun-1997 C. R. Nelson # 6494 R. W. Baumann, & B. C. Kondratieff 26 mileage 451

33 mi E of Labrador City
2 mi W of Ashuanipi River Podmosta macdunnoughi 27m 23f 21 ny photos abundant
Baetisca
Ameletus NO *Siphonurus*
Sigara
Hexagenia photos

to others:
Shipsa
Taeniopteryx
Allocapnia
6494

6495 CANADA LABRADOR: Ashuanipi River at Hwy 500, 35 mi E of Labrador City 12-Jun-1997 C. R. Nelson # 6495 R. W. Baumann, & B. C. Kondratieff 26 photos of river mileage 453 *Capnia vernalis* 53m 62f, abundant
Paracapnia opis? 2f
Isogenoides 9 ny
Baetisca nymphs
Ephemerella nymphs
Sigara
Stenonema x
Leptophlebia
Apatania provalens? adults
Isoperla 1ny
6495

6496 CANADA LABRADOR: 2 merging creeks, 44 mi E of Labrador City 12-Jun-1997 C. R. Nelson # 6496 R. W. Baumann, & B. C. Kondratieff 26 mileage 462 Ephemera

Ephemerella

Podmosta 23 ny

Limnephilus larvae

Sweltsa 2 ny

Leptophlebia in side pool

Corixidae

Atherix

Tipulidae

RWB:

Paracapnia

Shipsa 6496

6497 CANADA LABRADOR: Miron River, Hwy 500, 53 mi E of Labrador City 12-Jun-1997 C. R. Nelson # 6497 R. W. Baumann, & B. C. Kondratieff 26 mileage 471 Paracapnia opis 7m 54f photos, I thought there might be two species, no, just males dimorphic for wing length Taeniopteryx nivalis? 2f photos

Apatania

Empididae

photos are end of roll 6497

6498 CANADA LABRADOR: Colville River, Hwy 500, 79 mi E of Labrador City 12-Jun-1997 C. R. Nelson # 6498 R. W. Baumann, & B. C. Kondratieff 26 mileage 497 Podmosta macdunnoughi 25 ny

Shipsa rotunda 1f, 4m nymphs, 15 f nymphs

Sweltsa

Ephemerella

Paraleptophlebia

Leptophlebia

Ameletus

Isogenoides 2 ny

Prostoia NO Shipsa rotunda 1f

Allocapnia minima 1f

Stenonema x

Heptageniidae #2

Baetidae

BCK:

Paracapnia 2spp.

Prostoia

Shipsa 6498

6499 CANADA LABRADOR: small stream entering Colville River from left, 79 mi E of Labrador City 12-Jun-1997 C. R. Nelson # 6499 R. W. Baumann, & B. C. Kondratieff 26 mileage 497 Leptophlebia

Podmosta macdunnoughi 11 ny

Sweltsa 6 ny

caddis

Leuctra 4 ny

Dixidae

Isoperla 1 ny

Nemoura 3 ny

RWB:

Nemouridae

Paranemoura

Capniidae, 2 spp. 6499

6500 CANADA LABRADOR: Sims Lake, view at Sims River, 83 mi E of Labrador City 12-Jun-1997 C. R. Nelson # 6500 R. W. Baumann, & B. C. Kondratieff 26 photos of frozen lake

mileage 501

504 at road sign for Mountain Brook Taenionema nymph to RWB

saw Ephemerella subvaria

no adults 6500

6501 CANADA LABRADOR: Raft River, Hwy 500, 116 mi E of Labrador City 12-Jun-1997 C. R. Nelson # 6501 R. W. Baumann, & B. C. Kondratieff 26 mileage 534

Welcome to Churchill Falls sign at mile 568 Paracapnia opis, short wings, 4m 7f, photo is male

Shipsa rotunda 3m 7f

Podmosta macdunnoughi 1f

Gyrinus

Cerambycidae

Gerridae

Marmot

6501

6502 CANADA LABRADOR: The Spring below cemetery of Churchill Falls 13-Jun-1997 C.

R. Nelson # 6502 R. W. Baumann, & B. C. Kondratieff 26 all to RWB:

Soyedina

Capnura manitoba

Limonia

sawflies

Heleomyzidae 6502

6503 CANADA LABRADOR: spillway of Churchill River below cemetery of Churchill Falls

13-Jun-1997 C. R. Nelson # 6503 R. W. Baumann, & B. C. Kondratieff 26 rocks: gabbro, red granite

photos of spillway & area

start mileage 578 Platypozidae? NO Phoridae, Phora 6503

6504 CANADA LABRADOR: Rapids Brook, 16 mi E of Churchill Falls 13-Jun-1997 C. R.

Nelson # 6504 R. W. Baumann, & B. C. Kondratieff 26 mileage 594 Pyncnopsyche

Isoperla 2 spp "young perlodid"

Baetisca

Siphonurus NO, Metretopodidae Siphloplecton

Caenidae

Gerridae

Limnephilus

Sweltsa 2ny

Podmosta macdunnoughi 2 ny

Shipsa rotunda 2m 1f 7 ny

Cultus? 1 ny

adults to RWB & BCK

Isoperla

Nemouridae

Paracapnia

Taeniopteryx 6504

6505 CANADA LABRADOR: Goose Brook, Hwy 500, 23 mi E of Churchill Falls 13-Jun-1997

C. R. Nelson # 6505 R. W. Baumann, & B. C. Kondratieff 26 mileage 601 Isogenoides

frontalis 1 ny
Isoperla 3 ny
Pteronarcys 3 ny
Rhyacophila
other caddis
Podmosta macdunnoughi 15m 12 f, abundant
Shipsa rotunda 15m 10f, common
Paracapnia opis 2m 3 f
small black single nemourid?? NOT FOUND
Ephemerella

in 100% EtOH:
Shipsa rotunda
Isogenoides frontalis
Ephemerella
Pteronarcys 1 ny 6505

6506 CANADA LABRADOR: West Metchin River, Hwy 500, 32 mi E of Churchill Falls 13-Jun-1997 C. R. Nelson # 6506 R. W. Baumann, & B. C. Kondratieff 26 mileage 610

apex of voyage, photo of participants

area burned by fire several years back, still desolate, bridge built in 1996 caddis
Capniidae, 2f to RWB
Shipsa 1f to RWB
Simuliidae 1f
Tenthredinidae
6506

6507 CANADA LABRADOR: Mink Brook, Hwy 500, 31 mi E of Churchill Falls 13-Jun-1997
C. R. Nelson # 6507 R. W. Baumann, & B. C. Kondratieff 26 mileage 611 Paracapnia opis
3m 2f, though 2 spp. NO
Paranemoura perfecta 2f
Pyncnopsyche adult
Elateridae
Allocapnia minima ? 2f
Chironomidae from bog 6507

6508 CANADA LABRADOR: small boggy, sphagnum stream, Hwy 500, 27 mi E of Churchill Falls 13-Jun-1997 C. R. Nelson # 6508 R. W. Baumann, & B. C. Kondratieff 26 mileage 615
Nemouridae: Nemoura 7 ny in 95% then moved to 100% EtOH after a month or so, 18 ny in 70% EtOH 6508

6509 CANADA LABRADOR: flat rock creek with falls, Hwy 500, 3 mi E of Churchill Falls 13-Jun-1997 C. R. Nelson # 6509 R. W. Baumann, & B. C. Kondratieff 26 mileage 639
Paracapnia opis 3m 4f, short wings
Podmosta macdunnoughi 1f
Anthocoridae
Chironomidae 6509

6510 CANADA LABRADOR: Valley River, Twin Falls Road, 20 mi W of Churchill Falls 13-Jun-1997 C. R. Nelson # 6510 R. W. Baumann, & B. C. Kondratieff 26 not sure if all
Paracapnia females are opis. Paracapnia opis 5m 11f
Paracapnia angulata 1m HOORAY
Shipsa rotunda 10m 2f
Prostoia NO
Psychoglypha 6510

6511 CANADA LABRADOR: Unknown River, Twin Falls Road, 10 air mi SW of Churchill Falls 13-Jun-1997 C. R. Nelson # 6511 R. W. Baumann, & B. C. Kondratieff 26 photograph
upstream & down

One Ships rotunda male is deformed Paracapnia opis 17m 7f
Shipsa rotunda 5m 4f: one male deformed
Taenionema atlanticum 1m
Prostoia? NO
Elateridae 6511

6512 CANADA QUEBEC: Riviere aux P^u©kans, S of Fermont 14-Jun-1997 C. R. Nelson # 6512 R. W. Baumann, & B. C. Kondratieff 26 Baetisca
Siphonurus NO! Siphloplecton
Dytiscus
Liodessus
Isoperla 2 spp large is lata? small is transMarina?
Caenis
Prostoia NO Podmosta macdunnoughi 3f
Leptophlebia
Culicidae

Gerridae
Gyrinus
Corixidae, 2 genera

adults to BCK & RWB:

Prostoia
Podmosta
Shipsa
Taeniopteryx
Paracapnia 6512

6513 CANADA QUEBEC: 487 km N of Baie-Comeau, 4 km N of Petite Riviere manicouagan
14-Jun-1997 C. R. Nelson # 6513 R. W. Baumann, & B. C. Kondratieff 26 photos of lichen
hillside 6513

6514 CANADA QUEBEC: Riviere Petite manicouagan, Hwy 389, km 480 14-Jun-1997 C. R.
Nelson # 6514 R. W. Baumann, & B. C. Kondratieff 26 rainy.

broad, wadeable river
mileage 882 Helopicus

Dytiscidae
Caenidae
Siphonurus

Ephemerae: Hexagenia & Ephemerella

Isoperla 2 spp. #1 large lata? 10 ny

Isoperla #2 small transMarina? 2 ny

Paracapnia opis 5m 6f

Podmosta macdunnoughi 2m 1f

Shipsa by RWB & BCK 6514

6515 CANADA QUEBEC: km 475, "tundra scene", Hwy 389, N of Baie-Comeau 14-Jun-
1997 C. R. Nelson # 6515 R. W. Baumann, & B. C. Kondratieff 26 mileage 885
photos of polygons of wetlands 6515

6516 CANADA QUEBEC: Riviere Jacqui, Hwy 389, km 456, 112 km S of Fermont 14-Jun-
1997 C. R. Nelson # 6516 R. W. Baumann, & B. C. Kondratieff 26 mileage 897 Baetisca

Isoperla #1 7 ny

Isoperla #2 1 ny

Tricorythodes? NO Caenidae

Ophiogomphus?

Siphonurus NO Siphloplecton

Stenonema x

caddis adult

Leptophlebia

Corixidae

adults to RWB & BCK:

Isoperla m & f

Podmosta macdunnoughi 8m 13f

Paracapnia 2 spp

Capnura 6516

6517 CANADA QUEBEC: Riviere Cass[√]©, Hwy 389, 435 km N of Baie-Comeau 14-Jun-1997 C. R. Nelson # 6517 R. W. Baumann, & B. C. Kondratieff 26 mileage 909

photo of river and lichen covered hillside 6517

6518 CANADA QUEBEC: small white sand boggy stream, 430 km N of Baie-Comeau 14-Jun-1997 C. R. Nelson # 6518 R. W. Baumann, & B. C. Kondratieff 26 mileage 914 lichen photos

Capnura manitoba 1f

Paranemoura

Allocapnia minima 4f

sawfly

Ichneumonidae 6518

6519 CANADA QUEBEC: Riviere Hart Jaune, 374 km N of Baie-Comeau, Hwy 389 14-Jun-1997 C. R. Nelson # 6519 R. W. Baumann, & B. C. Kondratieff 26 mileage 950

fantastic brown water river.

photos of river, including swirls all to BCK:

Capniidae

caddis

elateridae 6519

6520 CANADA QUEBEC: Riviere Le Torrent, 347 km N of Baie-Comeau, Hwy 389 14-Jun-1997 C. R. Nelson # 6520 R. W. Baumann, & B. C. Kondratieff 26 mileage 967

photos of river, ion straight torrent, white & black granite Taenionema atlanticum 6m 2f

Paraleuctra sara 10m 7f
Capnura manitoba? 1f 6520

6521 CANADA QUEBEC: Hwy 389, 307 km N of Baie-Comeau 14-Jun-1997 C. R. Nelson #
6521 R. W. Baumann, & B. C. Kondratieff 26 mileage 992

photo, Going to the Horizon 6521

6522 CANADA QUEBEC: view of Lake manicouagan (island) in spruce monoculture, 294
km N of Baie-Comeau 14-Jun-1997 C. R. Nelson # 6522 R. W. Baumann, & B. C.
Kondratieff 26 mileage 8000

photos: view of spruce & lake, 2 shots to west, 1 to east 6522

6523 CANADA QUEBEC: small peaty stream, 248 km N of Baie-Comeau, Hwy 389 14-
Jun-1997 C. R. Nelson # 6523 R. W. Baumann, & B. C. Kondratieff 26 mileage 8028

photos: of coffee stream, & beaver pond Podmosta 2 specimens
Hemerobius
all to RWB 6523

6524 CANADA QUEBEC: Riviere Quicaquestagane, 199 km N of Baie-Comeau, Hwy 389
14-Jun-1997 C. R. Nelson # 6524 R. W. Baumann, & B. C. Kondratieff 26 mileage 8057
Sweltsa naica photo voucher & 2m 2f 1ny?
Podmosta macdunnoughi 24 m 42 f
Taenionema atlanticum 1m
6524

6525 CANADA QUEBEC: Riviere Vallant, 94 km N of Baie-Comeau, Hwy 389 14-Jun-1997
C. R. Nelson # 6525 R. W. Baumann, & B. C. Kondratieff 26 mileage 8122
p k 94 Pteronarcys biloba photos
Isoperla to RWB
Conopidae to BCK
Sweltsa to RWB 6525

6526 CANADA QUEBEC: Riviere Emond, 85 km N of Baie-Comeau, Hwy 389 14-Jun-1997
C. R. Nelson # 6526 R. W. Baumann, & B. C. Kondratieff 26 mileage 8128
Sweltsa onkos 1m to RWB

Pteronarcys biloba skins

Paracapnia 2f to RWB 6526

6527 CANADA QUEBEC: Riviere Antrim, 64 km N of Baie-Comeau, Hwy 389 14-Jun-1997
C. R. Nelson # 6527 R. W. Baumann, & B. C. Kondratieff 26 mileage 8141

end of the day, end at Baie-Comeau with mileage at 8182

All these figures of "mileage" are in miles read from the odometer, not in km. If I said miles I meant miles (barring errors) and when I said km I meant kilometers. This is for all of this trip.

to RWB:

Isoperla transMarina, a few

Paracapnia 1m several f

Shipsa

to BCK:

Bombus on Ericaceae

Leptophlebia adults photos

6527

6528 CANADA QUEBEC: St. Lawrence Seaway, Hwy 138, near Riviere Berthelemy 15-Jun-1997 C. R. Nelson # 6528 R. W. Baumann, & B. C. Kondratieff 26 photo of Gaspé Peninsula across river 6528

6529 CANADA QUEBEC: view of St. Lawrence Seaway, Hwy 138, at Colombier 15-Jun-1997 C. R. Nelson # 6529 R. W. Baumann, & B. C. Kondratieff 26 2 photos, first to east along beach, second to west & forested highland 6529

6530 CANADA QUEBEC: Riviere aux Pins, Hwy 385, 2 mi N of Forestville 15-Jun-1997 C. R. Nelson # 6530 R. W. Baumann, & B. C. Kondratieff 26 Bibio photos

Leptophlebia photos 1m

Metretopodidae, Siphloplecton basale m photos

6530

6531 CANADA QUEBEC: Riviere Saguenay, ferry at Tadoussac 15-Jun-1997 C. R. Nelson # 6531 R. W. Baumann, & B. C. Kondratieff 26 rode ferry, photos of scenery, one with white whales. Some photos from Pointe Noire near Baie-St. Catherine, beluga whales and pilot whales beluga whales
pilot whale 6531

6532 CANADA QUEBEC: Riviere Sainte Anne, Hwy 138, Beauport © 15-Jun-1997 C. R. Nelson # 6532 R. W. Baumann, & B. C. Kondratieff 26 kayak course in town Isogenoides Isoperla

Sweltsa naica 3f

Sweltsa onkos 1m 1f

Chrysomelidae

Lampyridae

Empididae

Rhinophoridae?

Pteronarcys skin

Cerambycidae 6532

6533 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 20-Jun-1997 C. R. Nelson # 6533 26 photos:

Passiflora lutea? growing wild in yard 6533

6535 USA CALIFORNIA: Los Angeles Co. Los Angeles, Rancho La Brea Tar Pits 21-Jun-1997 C. R. Nelson # 6535 and family 26 There is no 6534.

photos of tar pits scenery. 6535

6536 USA CALIFORNIA: Orange Co. Balboa Pier Beach near Newport Beach 26-Jun-1997 C. R. Nelson # 6536 and family 26 Coelopidae on kelp wrack 6536

6537 USA CALIFORNIA: San Diego Co. San Diego Zoo 27-Jun-1997 C. R. Nelson # 6537 and family 26 photos:

wallaby

rock hyrax

meerkat, Suricata suricatta hahni

klipspringer, Oreotragus oreotragus

panda, 5.5 years old, zoo raised

lion tailed Macaques, Macaca silenus'

more Macaques

warthog, Phacochoerus africanus sundevallii

Masai giraffe, Giraffa camelopardalis tippelskirchi

Patagonian Mara, Dolichotis patagona

hippo

Tilapia

Okapi

giant whiteflies on *Schleffera*

Malayan tapir, *Tapirus indicus* 6537

6538 USA CALIFORNIA: Orange Co. Anaheim Hills, Santa Ana River at Imperial Highway
28-Jun-1997 C. R. Nelson # 6538 and family 26 Baetidae, m & f photos, *Camelobaetidius*
Nick Wiersema identified the species but I can't remember it right now. 6538

6539 USA CALIFORNIA: Orange Co. Anaheim Hills, 6990 Avenida de Santiago 28-Jun-1997
C. R. Nelson # 6539 and family 26 Neriidae photos 6539

6540 USA TEXAS: Travis Co. Del Valle, Falwell Lane area 04-Jul-1997 C. R. Nelson # 6540
& Jared Pearce 26 *Microstylum morosum*
Promachus hinei?

Efferia

Atomosia

Palpada

strange Fulgoroid

Coreidae

Gasteracantha spider 6540

6541 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 06-Jul-1997 C. R. Nelson #
6541 26 photos:
Monomorium pharaonis in house 6541

6542 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 07-Jul-1997 C.
R. Nelson # 6542 26 Gomphidae
Perithemis

Promachus bastardi, one f with *Onthophagus*

Triorla interrupta

Diognites angustipennis

Mydas clavatus

Efferia sp 1 f

Efferia sp 2 m

Polacantha gracilis

Proctacanthella cacopiloga

Lampria bicolor

Palpada

Cicada, 1 sm 1 lg Tibicen 6542

6543 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 09-Jul-1997 C.
R. Nelson # 6543 & Dean Warren 26 First time Dean and I collected together *Efferia*

"armata"

Promachus bastardi, seen

Diogmites angustipennis, seen

macromia 6543

6544 USA TEXAS: Nueces Co. Padre Island, Malaquite Beach 11-Jul-1997 12-Jul-1997 C.

R. Nelson # 6544 John Pearce

Riley Nelson

Jason Nelson

Jared Pearce

John Pearce

Eric Henson

Steven Jones

Mike Hodge

Nick Kriese

Ben Kennard

Brian Cannaday

Clint Cannaday 26 Got permits of Padre Island National Seashore from Darrell L. Echols,
good until 15 Sep 1997 Laphystia on wet sand of gulf beach

Acalypterate on stranded Portuguese man of War (Physalia physalis), IDed as Tethinidae
Saldidae on wet beach

Apiocera in upper dunes between beach & parking/picnicing area 6544

6544 USA TEXAS: Nueces Co. Padre Island, Malaquite Beach 11-Jul-1997 12-Jul-1997 C.

R. Nelson # 6544 John Pearce

Riley Nelson

Jason Nelson

Jared Pearce

John Pearce

Eric Henson

Steven Jones

Mike Hodge

Nick Kriese

Ben Kennard

Brian Cannaday

Clint Cannaday 26 Got permits of Padre Island National Seashore from Darrell L. Echols,
good until 15 Sep 1997

I determined in the Fall of 1998 that Malaquite Beach is actually in Kleberg Co. Laphystia on

wet sand of gulf beach

Acalypterate on stranded Portuguese man of War (*Physalia physalis*), IDed as Tethinidae

Saldidae on wet beach

Apiocera in upper dunes between beach & parking/picnicing area 6544

6545 USA TEXAS: Nueces Co. Padre Island, Bird Island Basin 12-Jul-1997 C. R. Nelson #

6545 John Pearce

Riley Nelson

Jason Nelson

Jared Pearce

John Pearce

Eric Henson

Steven Jones

Mike Hodge

Nick Kriese

Ben Kennard

Brian Cannaday

Clint Cannaday 26 Proctacanthella robusta photos

dragonfly: Aeshnidae? 6545

6546 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 15-Jul-1997 C.

R. Nelson # 6546 & Bio 208 class 26 Efferia "armata" photo

Mydas clavatus 6546

6547 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 17-Jul-1997 C.

R. Nelson # 6547 & Bio 208 class 26 vegetation quadrats in:

Firefly Meadow

Hardpan Flats

Juniper Forest photos: caterpillar tubes on agarita (*Berberis trifoliata*)

Leptogaster

Polacantha

Meromacrus

cicadas

Brachypremna

Gomphidae

Tachinidae 6547

6548 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 19-Jul-1997 C. R. Nelson #

6548 26 Cicadidae, photos nymph, adult, skin

Tipulidae, Nephrotoma photos 6548

6549 USA TEXAS: Travis Co. Bull Creek, Hanks tract, end of Old Lampasas Road, Austin
22-Jul-1997 C. R. Nelson # 6549 Lesa Leopold

Dee Ann Chamberlain

John Clement 26 Odontoceridae: Marilia

Phylloicus

Elmidae

many other caddis

Nectopsyche photos 6549

6550 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 23-Jul-1997 C.
R. Nelson # 6550 26 cicada 6550

6551 USA TEXAS: Travis Co. Austin 24-Jul-1997 C. R. Nelson # 6551 27 picture of welt on
Nioga Kriese's forearm. She laid her arm on it mid morning and immediately the sharp
stinging started. After a time the touch site was 2 x 4 cm and bright red. The surrounding
skin whitened and goose bumps formed. Later her armpit lymph node swelled and became
hard. By 7:30 pm her arm was swollen and uncomfortable. Megalopyge opercularis, "asp"
photo 6551

6552 USA TEXAS: Bastrop Co. Lost Pines Biological Station, Stengl Ranch, near Buescher
State Park 26-Jul-1997 C. R. Nelson # 6552 27 Two point quarter transects perpendicular
to west bank of JD Creek near Gillaspys Bluff, 1 pqt parallel to JD Creek

Three pqt in forest near ranch house. Ran three lights 25-26 July one at Gillaspys Bluff crawl
out, one upstream at big pool, and one at the stock pond. Diogmites misellus 1 f
Proctacanthus n. sp. near longus
photos, Neoperla clymene from light at pond
photos, Psocoptera in a group 6552

6553 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 31-Jul-1997 C.
R. Nelson # 6553 27 cicadidae 2 spp.

Promachus bastardi mating pair

Promachus painteri

Diogmites angustipennis, seen not collected 6553

6554 USA TEXAS: Blanco Co. Pedernales River, Pedernales Falls State Park 01-Aug-1997
C. R. Nelson # 6554 J. R. Nelson, A. W. Hook, and Kazumitsu from Nagano, Japan 27 Fished
below falls, caught many small catfish, a few sunfish, and four soft shell turtles.

Libellulidae

Gomphidae 6554

6555 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 05-Aug-1997 C. R. Nelson # 6555 and students, BIO 208 27 Ant transects in Firefly Meadow and adjacent Juniper Forest ants:

Monomorium minimum

Forelius foetidus

Pheidole little red

Pheidole #2

Aphaenogaster texana

Solenopsis texana

Crematogaster sp.

Leptothorax sp. 6555

6556 USA TEXAS: Travis Co. Town Lake, Austin, Brackenridge Field Laboratory, 170m 07-Aug-1997 C. R. Nelson # 6556 and students, BIO 208 27 EPA 100 samples 6556

6557 USA TEXAS: Travis Co. Pond F Austin, Brackenridge Field Laboratory, 170m 07-Aug-1997 C. R. Nelson # 6557 and students, BIO 208 27 EPA 100 samples *Pelocoris* dominating

Tramea, mating pair 6557

6558 USA UTAH: Utah Co., 12 mi E of Thistle, Hwy 6/50, Wheeler Sawmill, pond 09-Aug-1997 C. R. Nelson # 6558 & Hyrum Wheeler 27 photo, hummingbirds, black chinned, rufous, also some violet throated males

Aeshna, adults & nymphs

Notonecta

Callibaetis

Gerridae

Libellulidae nymphs

Sympetrum adults

Coenagrionidae adults

Lestidae adults

Hydrophilidae

Diogmites

Machimus

Sphecidae

Stenopogon

Conopidae

fossil bird footprint from Green River Formation 6558

6559 USA UTAH: Utah Co., Soldier Creek, 12 mi E of Thistle, Hwy 6/50, Wheeler Sawmill

09-Aug-1997 C. R. Nelson # 6559 27 *Pteronarcella*

Baetidae

Atherix

Gomphidae

Tipulidae 6559

6560 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, treeholes in cedar elm 19-Aug-1997 C. R. Nelson # 6560 & E. E. Simmons 27 will attempt to rear to adults photos, Toxorhynchites

photos, Orthopodomyia, keyed using vouchers

6560

6561 USA TEXAS: Travis Co. Colorado River, Del Valle, Hornsby Bend 21-Aug-1997 C. R. Nelson # 6561 & S. M. Stringer 27 Collecting spot at islands on city property, river flowing at 960 cfs, easy access, low water, wadeable. Baetidae, Baetis & Camelobaetidius

Naucoridae:

Limnocoris lutzi abundant

Ambrysus, small uncommon

Ambysus lunatus at edges, no specimens kept

saw *Corydalus*

saw rocks with *Tortopus* tunnels

Elmidae, 4 spp. (emend. 2 spp.)

Polycentropodidae, (emend. NO!)

Hydropsychidae, not kept

photos, *Argia moesta*, Masses laying eggs, some pairs underwater

photos, water treatment pool, plants

Triorla interrupta 1m 1f

m with green cricket

Calopteryx!, new county record

Hetaerina americana & *titeya*

Argia moesta vouchers

Isonychia

Nectopsyche

Tricorythodes

Petrophila 6561

6562 USA TEXAS: Nueces Co. Corpus Christi, Flour Bluff area, South Padre Island Drive
31-Aug-1997 C. R. Nelson # 6562 27 Collecting spot at islands on city property, river
flowing at 960 cfs, easy access, low water, wadeable. photo, Reduviidae, orange & black
photo, Dolichopodidae
photo, beetle pupae, Coccinellidae
photo, oak gall
photo, spiders & aphids on oak leaf
photo, Tabanidae
Proctacanthella
Cicadidae 6562

6563 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, Pond F 05-Sep-
1997 C. R. Nelson # 6563 & aquatic entomology class 27 class qualitative sampling
Libellulidae, adults 6563

6564 USA TEXAS: Travis Co. Town Lake, Austin, Brackenridge Field Laboratory, 170m, 05-
Sep-1997 C. R. Nelson # 6564 & aquatic entomology class 27 class qualitative sampling
Hexagenia
Sialis 6564

6565 USA TEXAS: Blanco Co. Pedernales Falls State Park, trammel crossing 5-6 Sep 1997
C. R. Nelson # 6565 & aquatic entomology class 27 class qualitative sampling UV lights:
photos, Neoperla clymene females
many Ephemeroptera
Berosus
Lutrochus
Ceutophilus, with flashlight
photos, strange purple, mobile beetle larvae 6565

6565 USA TEXAS: Blanco Co. Pedernales Falls State Park, trammel crossing 06-Sep-1997
C. R. Nelson # 6565 & aquatic entomology class 27 class qualitative sampling Efferia large
Ascalaphidae
Diogmites
Proctacanthella cacopiloga
Stichopogon
Saldidae
Sisyridae
photos, Omophron
Dryopidae
Neoperla nymph to Alexis

photos, Simuliidae at Falls
saw, Hetaerina americana
saw, Heaerina titeya 6565

6566 USA TEXAS: Hays Co. Dripping Springs Horse Ranch 13-Sep-1997 C. R. Nelson #
6566 & scouts 27 Holopogon
Chrysididae
Loxosceles 6566

6567 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, 15-Sep-1997
C. R. Nelson # 6567 27 Cerambycidae, reared from pecan logs, emerging all summer from
collection CRN #6414A, 2 species? 6567

6568 USA TEXAS: Bastrop Co. stock tank, McKinney Roughs Preserve, 8 mi W of Bastrop
19-Sep-1997 C. R. Nelson # 6568 & 370C class:

Kate R. LeVering, Kate Levering

Nick Wiersema, visitor

Carrie Falcon

Kerry Killough

Collette Mellors

Amanda Blanco

James Cauthen

Erik Dopman

Alexis Emerson

Paul Field

Dustin Roden-Johnson

Justin Strom

Arwen Vaughn 27 EPA 100 samples Ceratopogonidae

Caenidae

Libellulidae

Chironomidae

Gerridae

others got:

Nepidae, Curicta & Ranatra 6568

6569 USA TEXAS: Bastrop Co. iron laden spring, McKinney Roughs Preserve, 8 mi W of
Bastrop 19-Sep-1997 C. R. Nelson # 6569 & 370C class:

Kate LeVering

Nick Wiersema, visitor

Carrie Falcon

Kerry Killough

Collette Mellors

Amanda Blanco

James Cauthen

Erik Dopman

Alexis Emerson

Paul Field

Dustin Roden-Johnson

Justin Strom

Arwen Vaughn 27 Belostomatidae, Lethocerus

Corixidae

Ptychopteridae 6569

6570 USA TEXAS: Bastrop Co. Colorado River, McKinney Roughs Preserve, 8 mi W of

Bastrop 19-Sep-1997 C. R. Nelson # 6570 & 370C class:

Kate LeVering

Nick Wiersema, visitor

Carrie Falcon

Kerry Killough

Collette Mellors

Amanda Blanco

James Cauthen

Erik Dopman

Alexis Emerson

Paul Field

Dustin Roden-Johnson

Justin Strom

Arwen Vaughn 27 We planned on blacklighting here but the river was up and no good beach was exposed to handle such a large group. Flow was about 1100 cfs, lower would be better Cryphocricos

Ambrysus

Limnocoris

Neoptera

Tortopus 6570

6571 USA TEXAS: Travis Co. National Wildflower Research Center 26-Sep-1997 C. R. Nelson # 6571 27 gave a walk and talk to a large group Lethocerus 6571

6572 USA TEXAS: Travis Co. Austin, Univ. Texas 29-Sep-1997 C. R. Nelson # 6572 27 photos, Blissus leucopterus, chinch bug, keyed using Slater & Baranowski 6572

6573 USA TEXAS: Live Oak Co. Choke Canyon State Park, Frio River spillway 04-Oct-1997 C. R. Nelson # 6573 & Entomology class

Wendy Hodges

Sarah Simmonds

Billy Simper

Erin Mitchell

Katherine Bash

Tina Mendez

Angelica Delgado

Calvin Kuo

Jason Seals

Quinn Hajost

Jessica Callabrette

Dennis Woods

Stephanie Madsen

Stephanie Chiarello

Paul Field

Scott Brandt

Katie Naus

Amy McClerran

Willie Lai 27 ran a malaise trap, only calypterates Agrilus

Scleropogon

Efferia albibarbis

Diogmites, some with prey

Heteropogon, 2 spp.

Triorla interrupta

Atomosia

Geron

Reduviidae, Ploariinae

6573

6574 USA TEXAS: Live Oak Co. Choke Canyon State Park, lake 04-Oct-1997 C. R. Nelson #
6574 & Entomology class

Wendy Hodges
Sarah Simmonds
Billy Simper
Erin Mitchell
Katherine Bash
Tina Mendez
Angelica Delgado
Calvin Kuo
Jason Seals
Quinn Hajost
Jessica Callabrette
Dennis Woods
Stephanie Madsen
Stephanie Chiarello
Paul Field
Scott Brandt
Katie Naus
Amy McClerran

Willie Lai 27 photos, Caenidae in web 6574

6575 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, 15-Oct-1997 C.
R. Nelson # 6575 27 photos, red scale on orange from store, bought at H. E. B. 6575

6576 USA TEXAS: Travis Co. Barton Creek, Uplands tract, Bee Caves near jct 2244 & 71
15-Oct-1997 C. R. Nelson # 6576 & Lesa Leopold & Ozzie Hernandez, photos 27 two sets
of transects of multiplates, 6 plates per transect, paired, 6 in riffle and 6 in pool in two
spots;

2 riffle surfers at each set, total of four surfers

flow measurements taken Heteropogon

Panorpidae, l f

Metrobates

Rheumatobates

third kind?, yes Trepobates

Halipidae

Dytiscidae

Mayfly males 6576

6577 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, Pond F 17-Oct-1997 C. R. Nelson # 6577 & Entomology class 27 Pleidae

Buena

Notonecta

Hesperocorixa

photos, Ranatra

Pelocoris

Belostoma

Mesovelia

Gerridae nymphs 6577

6578 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, Pond A & boathouse 17-Oct-1997 C. R. Nelson # 6578 & Entomology class 27 photos, Pleidae

photos, Chaoboridae

photos, honeysuckle climbing

saw, Wood ducks

photos, web worms on box elder

photos, bee on Vergesina virginiana

Sisyridae adults

photos, Tiphiidae on Verbesina virginiana

photos, Bombyliidae on same

photos, Eumesiinae (Reduviidae, Ploariinae)

photos, Chironomidae

phtos, Ceratopogonidae 6578

6579 USA TEXAS: Williamson Co. North Fork San Gabriel River, Tejas Camp, Lake Georgetown 18-Oct-1997 C. R. Nelson # 6579 & scouts:

Peter Joyce

Bob Jones

Jason Nelson

Nick Kriese

Steven Jones

Josh Eyanson

Jarred Eyanson

Ryan Bringhurst

William Jones

Joel Salas

Brett Brown

Zach Brown 27 Gyrinidae, Dineutus 6579

6580 USA TEXAS: Cameron Co. Harlingen 19-Oct-1997 C. R. Nelson # 6580 & Angela Masloff 27 on olive tree

brought to me by Angela Masloff brought me some tortoise beetles,

photos, adult and 1 pupa. on Friday 24 Oct 1997 6580

6581 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 26-Oct-1997 C. R. Nelson # 6581 27 photos, Anax junius 6581

6582 USA TEXAS: Travis Co. Austin, Ben White Blvd. 29-Oct-1997 C. R. Nelson # 6582 27 brought to me by Lora Maldonado? in the Communications department

I kept them for many months. Cinco died in April of 1998. I released Cuatro in my backyard in September 1998 Bufo valliceps, one with four legs, one with five legs,

named Cuatro & Cinco 6582

6583 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 01-Nov-1997 C. R. Nelson # 6583 27 Copestylum 6583

6584 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 05-Nov-1997 C. R. Nelson # 6584 & Katie Naus, Leila Ostovar-Kermani, Meredith Worthen 27 saw large thin skinks

young black necked garter snake

rough green snake

photos, Meredith then caught a hatchling snapping turtle in Pond 5

photos, Darrin Hulsey caught an adult eastern black necked garter snake and brought it to me. 6584

6585 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 07-Nov-1997 C. R. Nelson # 6585 & 370C class:

Kate LeVering

Adam Cohen

Amy Lambert
Justin Strom
Tamra Kim
Dustin Roden-Johnson
Paul Field
Arwen Vaughn
Erik Dopman
Amanda Blanco
Collette Mellors
Carrie Falcon
Alexis Emerson
Jason Nelson
Shann Stringer
Rodney Guerra
Kirtley Wienbroer
Scott Brandt
Dennis Woods
John Clement

Dorothy Penaloza 27 photos, Spheg digging
seep on far side of Falls:
Rheumatobates
Hydroscapha natans 6585

6586 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 08-Nov-1997 C. R. Nelson # 6586
27 sampling, 15 sets of 4 surbers in a diamond shape, 1 upstream, 2 middle, 1 down.
Working upstream from ford, every 10 or 20 meters, Kirtley Wienbroer's project, whole
class helped morning, riffle above ford:
Tricorythodes small
Tricorythodes large
photos Bairds rat snake
morning, at falls:
Tricorythodes large
Tricorythodes small
Simulium
morning, below falls:
Tricorythodes large
6586

6587 USA TEXAS: Val Verde Co. Dolan Creek, above Devils River 08-Nov-1997 C. R.

Nelson # 6587 27

water temperature: 23.5 degrees Odonata:

macromia

swam at Church Painting Rock:

smallmouth bass

gray redbreast

smallmouth buffalo

channel catfish

blue tilapia

rio grande cichlid

red ear sunfish 6587

6588 USA TEXAS: Val Verde Co. Devils River, above Dolan Falls 09-Nov-1997 C. R. Nelson

6588 Bio 370C class 27 class members took EPA 100 samples, I took 2 EPA 100 samples off the surber riffle. Search for Sisyridae, found none, but found sponge

Limnocois!! a first, in gravelly macrophyte crack on left fork near old EPA site

Sampled in slow macrophyte beds for Hydrometra, found none.

done by 11:00 am

drift net sampling continued until 2:00 pm, on the hour. 6588

6589 USA TEXAS: Val Verde Co. Blue Spring, trib. of Devils River, above Dolan Falls 09-Nov-1997 C. R. Nelson # 6589 Bio 370C class 27 cold, but fantastic swim

done by 1:30pm

left Falls at 3:05 pm

arrived Austin at 8:40pm, minor stops in Sonora & Fredricksburg photos, flathead catfish, 1.0 m in length, many other fish in pool

cichlids & sunfish hit with extensive fungus.

photos: Chrysomelidae on lily pads

photos: weevils on lily pads

Protoneuridae nymphs?, no, Coenagrionidae

photos: Pompilidae with wolf spider 6589

6590 USA TEXAS: Bastrop Co. Lost Pines Scout Reservation 22-Nov-1997 C. R. Nelson #

6590 27 Laphria male 6590

6591 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 17-Dec-1997 C. R. Nelson # 6591 27 spider walking across floor 6591

6592 USA TEXAS: Coryell Co. Leon River, Road 1829, 1 mi N of Hwy 36, about 8 mi S of Gatesville 15-Jan-1998 C. R. Nelson # 6592 E. B. Dopman, & Paul Field 27 599.4 at Leon River

598.4 mileage at Hwy 36

600.5 mileage back at 36

606.6 Gatesville

609.3 jct. 36 & 84

627.7 jct 317 & 84 in McGregor

634.2 jct 185 & 317 Crawford

635.5 Middle Bosque River Neoperla, many nymphs in 100% EtOH

Taeniopteryx, 1 nymph

Elmidae, Neoelmis?

photos, Tabanidae, Tabanus

Leptophlebiidae

photos, Oligochaete

photos, Corbicula

photos, Hydracarina

photos, Elmidae, Stenelmis

photos, Neoperla clymene

photos, Leptophlebiidae, Choroterpes

photos, Gomphidae, Erpetogomphus

photos, Palaemonetes, shrimp

photos, Elmidae, Stenelmis larva

photos, Dryopidae, Helichus

photos, big 2 Leptophlebiidae, Choroterpes

Haliplidae

Dryopidae

Empididae

Heptagenia? 1 ny

Caenis

Gomphidae

Beetles 6592

6593 USA TEXAS: McLennan Co. Middle Bosque River, Hwy 185, 1.8 mi E of Crawford 15-Jan-1998 C. R. Nelson # 6593 & E. P. Dopman 27 photos of habitat

photos of Eric Dopman

on ranch of Mr. Ira Westerfield, 254-486-2262, retired from General Tire.

646.6 Crawford (Hwy 317)

644.8 Middle Bosque River, 1.8 mi S Perlinella drymo, 5 ny in 100% EtOH, 6 ny in 70%

photos, Dytiscidae #1

photos, Dytiscidae #2

photos, Haliplidae, Peltodytes

photos, Haliplidae, Haliplidae

Hydrophilidae

Tabanidae

Leuctridae

Cerambycidae

photos, Hydroacarina

Stenonema x

6593

6594 USA TEXAS: Williamson Co. North Fork San Gabriel River, Tejas Camp, tributary near dinosaur tracks, upstream from ford 15-Jan-1998 C. R. Nelson # 6594 & E. P. Dopman 27

Mayflies

a few Zealeuctra 6594

6595 USA TEXAS: Travis Co. Austin, Taco Cabana on Wm. Cannon Drive 16-Jan-1998 C. R. Nelson # 6595 27 photos, scales on Photinia 6595

6596 USA TEXAS: Travis Co. McKinney Falls State Park, Austin, Onion Creek 16-Jan-1998

17-Jan-1998 C. R. Nelson # 6596 Peter Joyce

Don McElwee, now YM President

Chris McElwee, young son

Clint Brasher

Wendy Brasher, wife

Brady Long

John Hepworth

Natalia Hepworth, wife

Jared Pearce

John Pearce

Jason Nelson

Mike Hodge

Nick Kriese

Michael Kriese

Jared Eyanson

tag along, Ryan Bringhurst 27 warm day, walked along Onion Creek, there is a good riffle to sample near the bridge on McKinney Falls Parkway 6596

6597 USA TEXAS: Gillespie Co. Enchanted Rock State Natural Area, pool on top 19-Jan-1998 C. R. Nelson # 6597 Kaye Nelson, Jason Nelson, Andrea Nelson, and Amy Nelson 27 photos, pool on top

met, Romriell's from Dripping Springs on top of rock.

Park Superintendent is Sonny Solis:

915-247-3909 large fairy shrimp, abundant
clam shrimp 6597

6598 USA TEXAS: Gillespie Co. Enchanted Rock State Natural Area, pool halfway down, summit trail 19-Jan-1998 C. R. Nelson # 6598 Kaye Nelson, Jason Nelson, Andrea Nelson, and Amy Nelson 27 small fairy shrimp, abundant
6598

6599 USA TEXAS: Gillespie Co. Enchanted Rock State Natural Area, stream between Sandy Creek and base of rock at base of summit trail 19-Jan-1998 C. R. Nelson # 6599 Kaye Nelson, Jason Nelson, Andrea Nelson, and Amy Nelson 27 All hitei! Zealeuctra hitei, adults, some in 70% EtOH: 62 m 23 f; some in 100% EtOH: 46m 29f 6599

6600 USA TEXAS: Gillespie Co. Enchanted Rock State Natural Area, Sandy Creek below Frog Pond 19-Jan-1998 C. R. Nelson # 6600 Kaye Nelson, Jason Nelson, Andrea Nelson, and Amy Nelson 27 Amy helped me collect. Tricorythodes

Tropisternus

Stratiomyidae, 2 spp

Baetidae, 3 spp

Haliplidae

Simuliidae

Hyaella azteca

Helicopsyche

Berosus

Laccophilus?

Tabanidae

Hydroptilidae 2 spp 6600

6601 USA TEXAS: Gillespie Co. Enchanted Rock State Natural Area, Frog Pond 19-Jan-1998 C. R. Nelson # 6601 Kaye Nelson, Jason Nelson, Andrea Nelson, and Amy Nelson 27 Amy helped me collect. Callibaetis

Tropisternus lateralis

Haliplidae

Corixidae, 2 genera

Notonecta

Buenoa

Coenagrionidae

Zealeuctra nymph in pond!

Hydracarina

Daphnia

Dytiscidae, Eretes?

Empididae, dancing on surface and meeting on prey Callibaetis subimagos.

Culicidae, larva, pupa 6601

6602 USA TEXAS: Gillespie Co. Enchanted Rock State Natural Area, stream running into Frog Pond 19-Jan-1998 C. R. Nelson # 6602 Kaye Nelson, Jason Nelson, Andrea Nelson, and Amy Nelson 27 Amy helped me collect. Zealeuctra nymphs beetles, adults & larvae 6602

6603 USA TEXAS: Bastrop Co. Colorado River, McKinney Roughs Preserve, 8 mi W of Bastrop 22-Jan-1998 C. R. Nelson # 6603, Debbie Cerda, & John Clements 27 cfs at Bastrop was 866 at 10:05 am, we collected around 12:30pm and the water rose about 3 inches while we were on an island riffle; it was running 940 cfs at 8:07 am on 23 January 1998, these data are available at the LCRA website Neoperla, about 100 in 100% EtOH

Dryopidae

Stenelmis

Stenonema x

Baetidae

Tortopus

Corbicula, live for home tank 6603

6604 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 26-Jan-1998 C. R. Nelson # 6604 & BIO 208 27 Monday scarab on Atta mound deer antler in Presentation Meadow 6604

6605 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 28-Jan-1998 C. R. Nelson # 6605 & BIO 208 27 wednesday, walked with my class, Hillis walked transects for deer with his class, sighted 29, 12 bucks

photos taken of class members 6605

6606 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 30-Jan-1998 C.
R. Nelson # 6606 & BIO 208 27 photos taken of class members

Al Hook walked with us. Chrysomelidae, Chrysolina
6606

6607 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 09-Feb-1998 C.
R. Nelson # 6607 & BIO 208 27 Monday

Designed a performance test for mealworms on various powdered foods. 5 replicates for each food item. The results after many weeks were that wheat bran is best

Tenebrio molitor all previous reared on wheat bran:

- 1 2.63g 1G
- 2 2.82g 5W
- 3 2.60g 5C
- 4 2.63 4O
- 5 2.67 2C
- 6 2.81 3W
- 7 2.54 1O
- 8 2.53 3C
- 9 2.54 1W
- 10 2.82 2W
- 11 2.58 5O
- 12 2.90 4G
- 13 2.61 1C
- 14 2.46 3G
- 15 2.72 5G
- 16 2.65 2G
- 17 2.56 4C
- 18 2.76 3O
- 19 2.74 2O
- 20 2.68 4W

20 larvae in 90 g of substrate

W= wheat bran
C= corn meal
O= oat bran
G= garbanzo flour

(also, Fire ant food preference with BIO 208) 6607

6608 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 09-Feb-1998 C. R. Nelson # 6608 27 colonies were polygyne from Circle C Ranch, South of Austin photos: Darrin Hulsey & Ed Vargos glass queens dabbed with queen pheromone

whole abdomen in hexane vs
control hexane 6608

6609 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 11-Feb-1998 C. R. Nelson # 6609 27 flash photos of people at 7-10 feet, f16;

some much too dark, go to 8 or 5.6, Maybe even 4! 6609

6610 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 12-Feb-1998 C. R. Nelson # 6610 27 photos: Chuck & Abe Day Cake, f16, Darrin Hulsey bought it.

1998
1809

189 6610

6611 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 13-Feb-1998 C. R. Nelson # 6611 & BIO 208 27 Friday, Fire Ant preference

photos: Jeff Gipson ate a mealworm for \$9.50 6611

6612 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 17-Feb-1998 C. R. Nelson # 6612 27 Also, I stopped by LaVerne Walsh's house at 2407 Willow to check her TV antenna, she gave me a start of fern from her yard that has been growing since 1940. She got it from her mother who got it from Hamilton Pool. Tipulidae, male Lunatipula? 6612

6613 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 19-Feb-1998 C. R. Nelson # 6613 27 notes of weights from mealworm experiment. See handwritten book 6613

6614 USA TEXAS: Bastrop Co. Lost Pines Biological Station, Stengl Ranch 20-Feb-1998

21-Feb-1998 C. R. Nelson # 6614 Jan Barber

Julie Wood

Cristina Velez

Jennifer Stahl

Jason Lowe

Tina Mendez

John McVay

Tom Devitt

Mary Jakob

Angelica Delgado

Dorothy Penaloza

& boyfriend, Steve

Jeremy Connor

Maria Dahmus

Adam Talianchich

Farrah Detmer

Sharon Stanton

Quinn Hajost

Charles Pekins came on Saturday

Justin Strom

Alexis Emerson 27 20:

Belostomatidae, Lethocerus in pond

21:

slugs, species 1, black:

species 2, gray with black spots:

tick: Ixodes

photos: Ichneumonidae

photos: fungi

photos: slug eggs?

photos: termites, Reticulitermes

photos: Scolytidae, dead Pinus taeda, loblolly pine 6614

6615 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 23-Feb-1998 C.

R. Nelson # 6615 27 Pogo & Tenebrio lab, used colony on upper Pogo Bench

photos: students

photos: digital, by Rohde Hill 6615

6615 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 23-Feb-1998 C. R. Nelson # 6615 & BIO 208 27 Pogo & Tenebrio lab, used colony on upper Pogo Bench

photos: students

photos: digital, by Rohde Hill 6615

6616 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 25-Feb-1998 C. R. Nelson # 6616 & BIO 208 27 Pogo & Tenebrio lab, Beehive Meadow

photos: *Tantilla gracilis*, flathead snake

photos: *Veronica*, 2 spp.

photos: henbit

photos: *Calyptocarpus*

photos: *Anemone heterophylla*

photos: Lycosidae, *Pardosa*

photos: Cicadellidae 6616

6617 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 25-Feb-1998 C. R. Nelson # 6617 & BIO 208 27 counted Tenebrio Pogo & Tenebrio lab, on MoPac side marked *Pogonomyrmex*, it got cold and they went underground and we stopped trying the experiment.

photos: salamander: *Plethodon glutinosus* 6617

6618 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 27-Feb-1998 C. R. Nelson # 6618 27 Weighed Tenebrio again. See handwritten notes for data. 6618

6619 USA TEXAS: Travis Co. Del Valle, Pearce House 27-Feb-1998 28-Feb-1998 C. R. Nelson # 6619 27 photos: made treehouse on Onion Creek using hackberry & chinaberry logs and branches

headed hown at 5:00 pm ate dinner with Jurgens at 7:00 pm

Nick Kriese paid 5

Mike Kriese paid 5

Chris Sutherland paid 5

Peter Joyce

Jacob Pearce paid 5
Riley Nelson paid 5
John Pearce paid 5
Jared Pearce paid 5
John Hepworth

photos: scale on chinaberry, *Melia azaderach*

photos: Mallophaga, taken from a donkey, *Bovicola equi*, det C. R. Nelson, 1998, used polar bear, fox, and deer fur as the background 6619

6620 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 01-Mar-1998 C. R. Nelson # 6620 27 photos:

Dermestidae, larva, molting larva, molting to pupa, & adult on small piece of fox fur.

Anthrenus verbasci, det C. R. Nelson 1998 6620

6621 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 02-Mar-1998 C. R. Nelson # 6621 27 Vegetation studies, nested quadrat

Quarry Meadow

Oak Forest

Butterfly Meadow photos: maggots on raccoon

photos: *Pogonomyrmex* 6621

6622 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 04-Mar-1998 C. R. Nelson # 6622 27 Vegetation studies, nested quadrat

Firefly Meadow

Hard Pan Flats

Juniper Forest photos: *Odontomachus clarus* ant

photos: Tettigoniidae, *Neoconocephalus* sp.

Syrphidae, *Ocyptamus fascipennis*

6622

6622.1 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 06-Mar-1998
C. R. Nelson # 6622.1 27 Vegetation studies, nested quadrat

Boathouse Meadow

Pogo Bench

Hackberry Forest spiders 6622.1

6623 USA TEXAS: Val Verde Co. Loma Alta, Hwy 277 16-Mar-1998 C. R. Nelson # 6623
and family and Pearce family 27 We started down Dolan Creek Road at noon and couldn't
cross flash flooding creeks. The county road crew helped us cross a couple but we then hit
one that was too deep so we turned back at about 3:30pm. I tried to call Wendy & Kevin
Connally but their phone is out. We headed to a Motel 6 in Del Rio, we had a nice barbecue
all evening.

17 March 1998:

Dolan Creek road start:

41.0 start

46.7 hill sign

50.8 Whitehead turnoff

52.2 the dam the kids built

52.7 broad crossing, long water

54.8 too deep crossing, okay today

55.2 1st ranch, rock houses

58.2 Commissary

59.2 state park sign

60.0 2nd pavement

62.4 headquarters turnoff

65.6 first state gate

66.8 TNC gate

67.4 garage on hill photos: Pentatomidae, Margantia, on Phacelia congesta, confirmed 23
April 1998 6623

6624 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 17-Mar-1998 17-Mar-1998 C. R.
Nelson # 6624 and family and Pearce family 27 17:

photos: Dolan Falls

Blue Springs

Dolan Creek

18:

Dolan Falls video

17:

Erotylidae

Asilidae:

Scleropogon

Efferia

photos:

Rio Grande cooter

ribbon snake

longnose gar, cast netted by Jared Pearce

18:

Mexican oaks, *Quercus polymorpha*

photos: skink

photos: Devils River EPA site

6624

6625 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 22-Mar-1998 C. R. Nelson #

6625 27 photos: red admiral butterfly 6625

6626 USA TEXAS: Travis Co. Austin, Bull Creek, St. Edwards Park 23-Mar-1998 C. R.

Nelson # 6626 27 EPA 100 sampling immediately below dam & first riffle above dam

Basiaeschna adults 6626

6627 USA TEXAS: Travis Co. Austin, Bull Creek, St. Edwards Park 25-Mar-1998 C. R.

Nelson # 6627 & BIO 208 27 EPA 100 sampling riffle below trail crossing below dam and

2nd riffle above dam photos: tadpoles, bull frog

photos: class members 6627

6628 USA TEXAS: Travis Co. Austin, Onion Creek, jct Wm. Cannon Drive 27-Mar-1998 C.

R. Nelson # 6628 & BIO 208 27 EPA 100 sampling from below, then above bridge. photos:

Hagenius nymph

photos: students

green tree frog squeaking as it was being eaten by a ribbon snake 6628

6629 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 02-Apr-1998 C.

R. Nelson # 6629 28 Handwritten data from mealworm experiment. I dismantled experiment after weighing.

Overall results indicated that wheat bran is the best of the four diets: wheat, corn, oat, garbanzo. Garbanzo was worst.

Only wheat bran produced new recruits, in 4 of 5 cases. 6629

6630 USA TEXAS: Val Verde Co. Devils River, above Dolan Falls 03-Apr-1998 05-Apr-1998
C. R. Nelson # 6630 28 Darrin Hulsey and Robin Waugaman took 60 surber samples from
the bedrock just above the falls. 3: night at Falls:

photos:

Neavimymex

Gelastocoris oculatus

Microvelia

4: walked up Dolan Creek & Grotto Canyon early, *Pheidole titanus* from campground.

walked to Styra, past the old buildings on state property up river, photos:

Styrax

ground snake, *Sonora semiannulata*

Texas banded gecko, *Coleonyx brevis*

Crotaphytus collaris

Sceloporus merriami

fat scorpions

found shell of *Trionyx*

Leptogaster

Swam in Blue Springs, photos:

turtle & leeches: *Pseudemys concinna gorzugi*, Rio Grande Cooter.

Saw many large *Tilapia* & bass

5: Tween Peak, see 6630 6630

6631 USA TEXAS: Val Verde Co. Dolan Creek, above Devils River 05-Apr-1998 C. R. Nelson
6631 Jason Nelson, Jan Barber, Brian Van Den Heusel, Julie Wood, Bethany Gabbard,
Angelica Delgado, John McVay, Jennifer Stahl, Maria Dahmus, Adam Talianchich, Tom
Devitt, Cristina Velez, Mary Jakob, Justin Strom, Jeremy Connor, Rohde Hill, Robin
Waugaman, Darrin Hulsey. 28 early morning hike, alone, to top of Tween peak, the hill
between Dolan Creek and the Devils River nearest the confluence. Wrote in journal!

Then walked with class up Dolan Creek to Grotto Canyon, walked a few 100 yards past the

Grotto, swam in Church Rock Pool, then swam at Mercury Falls

photos: Urosaurus photos:

Dolan Creek

Devils River

ocotillo

vultures

Porleiria

Lesquerella?

Meloidae 6631

6632 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 02-Apr-1998 C.
R. Nelson # 6632 28 Walked in morninbg with Maria Dahmus, looking for green tree frogs.

Walked in afternoon with Mary Poteet, Michelle Trautwein, Clare Wuellner, and Ed Vargo.

photos:

Ceraturgus

Pentatomidae, black & red on Bumelia lanuginosa and Zanthoxylum hirsutum (but photos
on hackberry & Passiflora foetida

Efferia with beetle prey

Stratiomyidae 6632

6633 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 13-Apr-1998 C.
R. Nelson # 6633 & BIO 208 28 Ant hot dog bait transects across Juniper forest/ Firefly
Meadow ecotone. Another along Panther Trail , another in the the Garden.

BFL is beautiful and green. Spring has nearly ended, it is beginning to be hot and humid.

photos:

Large snapping turtle (carapace length, 11.5 inches)

Efferia snowi with beetle prey

Sphingidae moth

Scarabaeidae

caught male 3 toed box turtle 6633

6634 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 15-Apr-1998 C.
R. Nelson # 6634 & BIO 208 28 We ran five hot dog bait transects in and around Firefly
Meadow to catch ants. We caught many more red imported fire ants than Monday, or than

in previous years.

We walked across the bridge, looking at thinkgs for an hour or so, then capped the vial traps and returned to the lab. We saw (Tom Devitt caught) a black necked gater snake (took a bad photo). Then photos with *Anolis carolinensis* on ear or Riley Nelson & Rachel Allen. I kept no insect specimens, other than the ants.

6634

6635 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 17-Apr-1998 C. R. Nelson # 6635 & BIO 208 28 more ant transects
dragonflies

Sphecidae 6635

6635.1 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 19-Apr-1998 C. R. Nelson # 6635.1 28 *Anopheles* adult 6635.1

6636 USA TEXAS: Val Verde Co. Devils River, above Dolan Falls 23-Apr-1998 C. R. Nelson # 6636 , B. C. Kondratieff, David Leatherman, & Scott Fitzgerald 28 Austin, home, 800 Sonora, 993

16.7 gal \$19.65

Dolan Creek Road, 1038.3

Loma Alta, 1041.9

Dolan Creek Road, 1041.9

Paved hill crest, 51.3

Kids Dam Wash, 56.2

Commissary (Crawford Mitchell), 62.6

Flat tire on rental van, stopped and got help from Bill Armstrong. Couldn't fix it. Risked it by driving on the tiny donut spare.

"Scars" of 60 Surber samples taken by Darrin Hulsey & Robin Waugaman still visible

(#6630). *Efferia argyrosoma*

Hydrophilidae larvae

Efferia argentifrons

Acanthocephala

Heterostylum with *Diadasia*?

Gelechiidae, huge numbers

photos: roadrunner nest

6636

6637 USA TEXAS: Val Verde Co. Devils River, above Dolan Falls 24-Apr-1998 C. R. Nelson
6637 , B. C. Kondratieff, David Leatherman, & Scott Fitzgerald 28 photos, Largidae
molting
photos, roadrunner nest
photos, Cephonomyia

Solenopsis geminata
Efferia argentifrons
Copestylum mexicanum?
Bicyrtes
Atta texana
photos, Termitidae
Dythemis velox?
Limonia cana?
dragonflies
Attini - Trachymyrmex?
photos, Rio Grande cooters
small black ants
6637

6637.1 USA TEXAS: Val Verde Co. Devils River, above Dolan Falls 25-Apr-1998 C. R.
Nelson # 6637.1 , B. C. Kondratieff, David Leatherman, & Scott Fitzgerald 28 photos,
Diadasia bee nests
photos, more roadrunner nest
photos, Pogonomyrmex barbatus
photos, roadrunner tracks

Arenivaga with Nematomorpha: found roach upside down on road. Within 20 minutes the
worms had emerged, roach was far from water. Are these mermithids?

pill bugs

malaise trap:
Sphecidae
Apidae
Gasteruptiidae
Hemerobiidae
Lonchaeidae

Pipunculidae

Agromyzidae 6637.1

6638 USA TEXAS: Val Verde Co. Devils River, below Dolan Falls at mexican oaks & pecan grove 24-Apr-1998 C. R. Nelson # 6638 , B. C. Kondratieff, David Leatherman, & Scott Fitzgerald 28 on maps this place is near Grassy Patch Spring (no visible springs). mexican oak is *Quercus polymorpha*

Sympetrum

saw *Orthemis ferruginea*

Papilio bairdi?

Dythemis fugax?

Zygoptera

Stenonema in Pecan Grove, past oaks

Dineutus at river at oaks

Pachycondyla harpax?

Startiomyidae, several

tiny ones on *Ptelea trifoliata*

Membracidae

Braconidae

Embiidina

6638

6639 USA TEXAS: Val Verde Co. Devils River, below Dolan Falls, road to mexican oaks 24-Apr-1998 C. R. Nelson # 6639 , B. C. Kondratieff, David Leatherman, & Scott Fitzgerald 28

Efferia n. sp. tiny

Efferia argyrosoma

Efferia argentifrons

Sphecidae

Apidae

Cerambycidae

Lycidae

Buprestidae

Coreidae

Tachinidae 6639

6640 USA TEXAS: Val Verde Co. Devils River, above Dolan Falls, Blue Spring area 24-Apr-1998 C. R. Nelson # 6640 , B. C. Kondratieff, David Leatherman, & Scott Fitzgerald 28 photos, Coreidae, *Acanthocephala* males

photos, *Nerodia erythrogaster*

Stratiomys

Apidae

macromia

Libellulidae

Nymphalis antocha 6640

6641 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 24-Apr-1998 C. R. Nelson
6641 , B. C. Kondratieff, David Leatherman, & Scott Fitzgerald 28 Saldidae

Efferia albibarbis

Stichopogon trifasciatus

Curculionidae

Dolichopodidae 6641

6642 USA TEXAS: Val Verde Co. Devils River State Natural Area, 3 mi W of headquarters
25-Apr-1998 C. R. Nelson # 6642 , B. C. Kondratieff, David Leatherman, & Scott Fitzgerald
28 photos, Lycosidae, very large

Cantharidae

Mutillidae 6642

6642.1 USA TEXAS: Val Verde Co. Devils River State Natural Area, 1.3 mi E of headquarters
25-Apr-1998 C. R. Nelson # 6642.1 , B. C. Kondratieff, David Leatherman, & Scott Fitzgerald
28 Dolan, 74

Park HQ, 80.2

patch nose snake, 81.5

park boundary, 83.5

Commissary, 84.5

Kids Dam wash, 91.0

Paved Hill crest, 95.8

Dolan Creek Road turn, 101.7

Sonora, 147.2

Junction, 205.2

Fredricksburg, 264.2

Johnson City, 295.0

Y in Oak Hill, 333.5

Home, 7104 Bill Hughes Road, 340.0

photos, patch nose snake, probably Texas patch nose, check photos to see width of
vertebral stripe 6642.1

6643 USA TEXAS: Val Verde Co. Dolan Creek Road, jct Hwy 277, 3 mi N of Loma Alta 25-Apr-1998 C. R. Nelson # 6643 , B. C. Kondratieff, David Leatherman, & Scott Fitzgerald 28 group photo of people on composite flowers:

Stratiomyidae

Cantharidae

6643

6644 USA TEXAS: Travis Co. Barton Creek, uplands tract, near jct Hwy 71 & FM 2244, Bee Caves 27-Apr-1998 C. R. Nelson # 6644 & BIO 208 28 Monday, mapped segment of stream from low water crossing for 50m downstream transects every 5 m sampling points every 0.5 m measured depth, flow, temp., pH, and D.O.

flow measured on every other transect (every 10 m) using Flo-Master meter.

Lesa's flags were at a point 27 m downstream from start.

See hand drawn map in notes. 6644

6645 USA TEXAS: Travis Co. Barton Creek, uplands tract, near jct Hwy 71 & FM 2244, Bee Caves 29-Apr-1998 C. R. Nelson # 6645 & BIO 208 28 Wednesday, more mapping, starting at 50 m point. Adjusted, this segment to bearing 30 degrees using compass.

See hand drawn map. photos, water snake, *Nerodia rhombifera rhombifera*. 6645

6646 USA TEXAS: Travis Co. Barton Creek, uplands tract, near jct Hwy 71 & FM 2244, Bee Caves 01-May-1998 C. R. Nelson # 6646 & BIO 208 & Mary Poteet 28 Friday, continued stream mapping on same 30 degree baseline as Wednesday. Lesa's transect flags were at 20 m into the day's sampling.

See hand drawn map in notes.

A ferocious storm threatened, but little rain fell. Some students ran to van. Some finished the work. *Stenonema* adults 6646

6647 USA TEXAS: Travis Co. Bull Creek, St. Edwards Park, Austin 06-May-1998 C. R. Nelson # 6647 & S. M. Clark & S. A. Wells 28 blacklight:

Perlesta

Chrysomelidae

Dytiscidae

Elateridae

Tabanidae, Chrysops

heard Acris

heard Rana catesbiana

heard Rana berlandieri 6647

6648 USA TEXAS: Travis Co. Cedar Valley, Hwy 290 07-May-1998 C. R. Nelson # 6648 & S. M. Clark & S. A. Wells & A. W. Hook 28 Acmaeodera
Calliphoridae 6648

6649 USA TEXAS: Travis Co. Pedernales Falls State Park, falls area 07-May-1998 C. R. Nelson # 6649 & S. M. Clark & S. A. Wells & A. W. Hook 28 Efferia "staminea"
Heteropogon?

Scleropogon texanus

Ospriocerus galadae?

Efferia argyrosoma

Stichopogon trifasciatus

Scarabs

Nerodia rhombifera looked Hook in the eye when he splashed was face in the river. 6649

6650 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 07-May-1998 C. R. Nelson # 6650 28 Psocoptera 6650

6651 USA NEW MEXICO: Sandoval Co. Sandia Mountains, Las Huertas Creek at Las Huertas Picnic ground, 35d12'41"N 106d23'06"W, 1210 msl 12-May-1998 C. R. Nelson # 6651 & B. P. Stark & I. Sivec 28 On this trip with Ignace Sivec, he took latitude and longitude using a magellan GPS unit. Altitudes were taken with a pocket altimeter, NOT with the GPS. I think altitudes taken with the GPS units are unreliable, too variable. photos, Stenus

Isoperla fulva adults

photos, Isoperla nymphs

photos, Sweltsa hondo nymphs

Nemouridae

Biblio

Cimbex

Hemerobius

saw:

black necked garter snake, smaller dark

other garter snake, larger bland

Thamnophis cyrtopsis

photos, *Limnephilidae* larva, *Hesperophylax* det CRN 6651

6652 USA UTAH: San Juan Co. Sand Island Campground, 2 mi S of Bluff 12-May-1998 C. R. Nelson # 6652 & B. P. Stark & I. Sivec 28 viewed petroglyphs missed catching *Eremotipula* or *Lunatipula*, but present.

The days trip was from Amarillo, Texas to Albuquerque, NM to Las Huertas to Cuba to Shiprock to Teec Nos Pos to Hwy 191 to Bluff to Blanding, stayed there at Sunset Inn. It was run by Gary Guyman, he knocked out Hal Black's 4 front teeth in a high school basketball game. Late in July I asked Hal (at BYU) and he said he lost only 2 teeth. 6652

6653 USA UTAH: San Juan Co. Wilson Arch, Hwy 191 13-May-1998 C. R. Nelson # 6653 & B. P. Stark & I. Sivec 28 photos, *Muhlenbergia*, grass fairy circle & *Ephedra* 6653

6654 USA UTAH: Grand Co. 1 mi N of Crescent Junction 13-May-1998 C. R. Nelson # 6654 & B. P. Stark & I. Sivec 28 photos, bull snake 6654

6655 USA UTAH: Emery Co. San Rafael Reef, I-70 rest area, W of San Rafael River 13-May-1998 C. R. Nelson # 6655 & B. P. Stark & I. Sivec 28 photos, San Rafael Reef 6655

6656 USA UTAH: Sevier Co. Salina Creek, I-70, Exit 72, 17 mi E of Salina, 38d53'05"N 111d33'42"W, 2250 msl 13-May-1998 C. R. Nelson # 6656 & B. P. Stark & I. Sivec 28 Creek was running high and muddy. Numerous tank trucks were going in and out of the canyon at exit 72.

blue capped vials are in 100% EtOH photos, *Isogenoides* nymphs, some in 100% EtOH, det CRN

photos, *Atherix* larva det CRN, some in 100% EtOH

photos, *Drunella grandis*, det CRN,

Ephemerella inermis?

Elmidae

Isoperla

Hexatoma

Gomphidae 6656

6657 USA UTAH: Sevier Co. Salina Creek, I-70, Exit 61, 6 mi E of Salina, Gooseberry Road, 2554, 38d54'54"N 111d44'26"W, 1950 msl 13-May-1998 C. R. Nelson # 6657 & B. P. Stark & I. Sivec 28 *Isogenoides*

Ambrysus

Atherix

photos: *Thamnophis elegans vagrans*

photo: river 6657

6658 USA UTAH: Millard Co. Hwy 6/50 near Eskdale turnoff 13-May-1998 C. R. Nelson #

6658 & B. P. Stark & I. Sivec 28 photos:

Wheeler Peak

Snake Range

Crystal Peak

wisps of cloud 6658

6659 USA NEVADA: White Pine Co. Weaver Creek, about 5 mi W of Utah border Hwy 6/50,
39d05'35"N 114d14'03"W 13-May-1998 C. R. Nelson # 6659 & B. P. Stark & I. Sivec 28

Syrphidae

Bibionidae 6659

6660 USA NEVADA: Lander Co. Hwy 50, Lander/Eureka Co. line 14-May-1998 C. R.

Nelson # 6660 & B. P. Stark & I. Sivec 28 photo: view to northeast, snow covered hillside.

6660

6661 USA NEVADA: Lander Co. Hickson Summit, Hwy 50 14-May-1998 C. R. Nelson #

6661 & B. P. Stark & I. Sivec 28 photo, view of Toiyabe Range 6661

6662 USA NEVADA: Lander Co. Hwy 376, 2 mi N of Kingston, 14-May-1998 C. R. Nelson #

6662 & B. P. Stark & I. Sivec 28 photo, view to SE to Toiyabe Range, foreground with
budsage & big sage 6662

6663 USA NEVADA: Lander Co. Toiyabe Range, Kingston Creek, Kingston Campground,
above Kingston, Hwy 376, 39d 13' 29"N 117d 08' 21"W 14-May-1998 C. R. Nelson # 6663
& B. P. Stark & I. Sivec 28 started with photos of down canyon scenery

photo, Bill Stark in Kingston Creek photos, *Hesperoperla pacifica*, nymphs confirmed CRN

photos, *Pteronarcys princeps* nymphs confirmed CRN

photos, Chloroperlidae, *Sweltsa* confirmed CRN, many in 100% EtOH

Baetis

Parapsyche

photos, Tipula

Heptageniidae

Rhyacophila 6663

6664 USA NEVADA: Nye Co. Big Smoky Valley, Hwy 376, 2 mi N of jct Hwy 377, manhattan turnoff 14-May-1998 C. R. Nelson # 6664 & B. P. Stark & I. Sivec 28 photos:

Sceloporus graciosus NO! *Uta* female

Uta stansburiana male

Phrynosoma platyrhinos, horned lizard, also video taken 6664

6665 USA NEVADA: Nye Co. Tonopah 14-May-1998 C. R. Nelson # 6665 & B. P. Stark & I. Sivec 28 photos: Tonopah autos, new, old, and the mine. 6665

6666 USA NEVADA: Mineral Co. White Mountains, Boundary Peak, Hwy 6 14-May-1998 C. R. Nelson # 6666 & B. P. Stark & I. Sivec 28 photos:

Boundary Peak with Sierra Nevada, Mt. Whitney? in the background photo:

Castilleja 6666

6667 USA CALIFORNIA: Mono Co. South Sherwin Summit vista point, Hwy 395 14-May-1998 C. R. Nelson # 6667 & B. P. Stark & I. Sivec 28 photos: Rock Creek - Pine Creek, etc. drainages 6667

6668 USA CALIFORNIA: Mono Co. Sierra Nevada Range, Rock Creek, Aspen Campground, 2670 m 37 31 36 N 118 42 47 W 14-May-1998 C. R. Nelson # 6668 & B. P. Stark & I. Sivec 28 photos: Rock Creek - Pine Creek, etc. drainages photos:

Epeorus (subgenus *Ironopsis*), also *Iron*

Corydalidae, *Orohermes*

Nemouridae, *Zapada*

Pteronarcys

Drunella doddsi

Doroneuria

Yoraperla

Ephemerella

Paraleptophlebia

Parapsyche?

Nemouridae adult, *Zapada cinctipes*

Sweltsa 6668

6669 USA CALIFORNIA: Mono Co. Sierra Nevada Range, Rock Creek, Rock Creek, Toms Place, 2290 m 37 33 45 N 118 40 48 W 14-May-1998 C. R. Nelson # 6669 & B. P. Stark & I. Sivec 28 *Eucapnopsis brevicauda*, 1m 2f 6669

6670 USA CALIFORNIA: Mono Co. Hwy 395, June Lake area 15-May-1998 C. R. Nelson # 6670 & B. P. Stark & I. Sivec 28 photos: mountains above Grant Lake, Rush/Parker Creek

drainages.

photos: Mono Lake from Parker Creek 6670

6671 USA CALIFORNIA: Mono Co. Parker Creek, 2 mi W of Chin Ranch and Hwy 395, above weir & tiny reservoir in section 9, 2300 m 37 52 39 N 119 07 07 W 15-May-1998 C. R.

Nelson # 6671 & B. P. Stark & I. Sivec 28 photo: creek above weir, milky water Photos:

Doroneuria nymphs, some in 100% EtOH, photo 8th of 16 May 1998.

Skwala, 2 ny, photo 9th of 16 May 1998.

Hesperoperla, 8a!

Pteronarcys nymphs also 100%

Yoraperla nymphs also 100%

Mayflies

6671

6672 USA CALIFORNIA: Mono Co. Lee Vining Creek, Hwy 120, 3.5 mi W of Hwy 395, near Upper Lee Vining Campground, 2380 m 37 56 50 N 119 11 38 W 15-May-1998 C. R.

Nelson # 6672 & B. P. Stark & I. Sivec 28 photos: mountains & creek, end of collecting, then Mono Lake *Eucapnopsis brevicauda*

Prostoia besametsa, photo voucher, 2m, also 15 m 13 f, 1 ny

Zapada sp. *CINCTIPES*, 1 m 1 f.

Capnia scobina? male, in 70% & 100% EtOH.

Paraleuctra

nymphs:

Sweltsa

Yoraperla

Isoperla

6672

6673 USA CALIFORNIA: Mono Co. Mono Lake, Hwy 395 viewing area, 6382 ft 15-May-1998 C. R. Nelson # 6673 & B. P. Stark & I. Sivec 28 photos: Mono Lake & tufa 6673

6673.1 USA CALIFORNIA: Mono Co. Mono Lake, view from Conway Summit on Hwy 395 15-May-1998 C. R. Nelson # 6673.1 & B. P. Stark & I. Sivec 28 photos: view from Conway Summit on Hwy 395, including group shot of three collectors . . . 6673.1

6674 USA CALIFORNIA: Mono Co. Virginia Creek, 0.5 mi W of Conway Summit and Hwy 395, 2720 m 38 05 20 N 119 11 21 W 15-May-1998 C. R. Nelson # 6674 & B. P. Stark & I. Sivec 28 end visit with photos of creek & snow photos. photos:

Zapada cinctipes, 3m 5f

Prostoia besametsa, 17m 3f

Eucapnopsis brevicauda, 23m 34f

Capnia, older rumpled, then large, then small (male?) yes, *barberi* group, need scope, mono! 6674

6675 USA CALIFORNIA: El Dorado Co. South Fork American River, Strawberry, Hwy 50, 1940 m 38 47 24 N 120 09 07 W 16-May-1998 C. R. Nelson # 6675 & B. P. Stark & I. Sivec & R. Bottorff & S. W. Szczytko 28 end visit with photos of creek & snow photos. photos, *Oroperla*, NO! *Perlinodes*, photo, female 2nd of 17 May.

Oroperla nymphs, 2ny some in 100% EtOH, photogs 4th of evening.

Calineuria californica nymphs, 4 ny, photos 6th of evening.

Doroneuria Baumannii, 1 ny, no photos

Pteronarcys princeps?, nymph, photos 5th of evening, after 6th as well.

Taenionema raynorum adults, 3m 1f, photos 1st of evening 17 May.

Prostoia besametsa, 2m 6f

Eucapnopsis brevicauda, 4m 5f

Capnia elongata, 1 f, photo voucher?

Paraleuctra occidentalis 1m 1f

Zapada cinctipes, 1f

Drunella doddsi

Heptageniidae

In 100%:

Calineuria californica, 5 ny

Doroneuria Baumannii, 1 ny

Oroperla barbara, 2 ny

Perlinodes aurea, 1 ny

Skwala americana? small 1 ny 6675

6676 USA CALIFORNIA: El Dorado Co. South Fork American River, Hwy 50, turnoff to Crystal Basin, 1170 m 38 46 25 N 120 27 12 W 16-May-1998 C. R. Nelson # 6676 & B. P. Stark & I. Sivec & R. Bottorff & S. W. Szczytko 28 *Taenionema*

Perlinodes male, photo, 3rd of 17 May

Isoperla female, *marmorata*? orange, photo 6th of 17 May, last a lateral

Isoperla, gray wings, *quinquepunctata*?, photo 7th shoot of 17 May, 2

Paraleuctra *vershina* 1m

Eucapnopsis *brevicauda* 1m

Prostoia *besametsa* 6m 4f

Empis f

Mystery male Perlodidae, photo 4th of 17 May, last 2 on inner bark

Oemopteryx *vanduzeei*, 1 f, photo 8th of 17 May, plus one other m

Sweltsa *fidelis*, 1m photo 9th of 17 May shoot

Perlinodes *aurea*, 2f

6676

6677 USA CALIFORNIA: El Dorado Co. North Fork Cosumnes River, above Sweeneys Crossing, 3 mi E of Somerset 16-May-1998 C. R. Nelson # 6677 & B. P. Stark & I. Sivec & R. Bottorff & S. W. Szcytko 28 Cosumnoperla 3 nymphs OR ARE THEY ISOPERLA?, photos, 10th of 16 May 1998

Oemopteryx *vanduzeei*, 3m 7f

Nemoura *spiniloba*, 1m 8f

Pteronarcys sp. photo, 5th of 17 May, specimen to Stan Szcytko. 6677

6678 USA CALIFORNIA: El Dorado Co. North Fork Cosumnes River, above Sweeneys Crossing, 3 mi E of Somerset, 800 m 38 38 42 N 120 37 24 W 16-May-1998 C. R. Nelson # 6678 & B. P. Stark & I. Sivec & R. Bottorff & S. W. Szcytko 28 *Paraleuctra* sp. 2f

Taenionema *raynorum*

Hesperoperla adult, photos, confusion, the one adult I have is a male *Calineuria*? CALL BILL STARK, 3rd photo of evening

Calineuria *californica*, 7th photos of evening. 6678

6679 USA CALIFORNIA: El Dorado Co. Long Canyon Creek, 3 mi E of Grizzly Flat, 1660 m 38 39 02 N 120 28 20 W 16-May-1998 C. R. Nelson # 6679 & B. P. Stark & I. Sivec & R. Bottorff & S. W. Szcytko 28 *Paraleuctra* 2 spp.

Nemouridae

Kathroperla *perdita*?, 2nd photo of evening 6679

6680 USA CALIFORNIA: El Dorado Co. Bendorf Spring, North Canyon Creek, 3 mi NE of Grizzly Flat 16-May-1998 C. R. Nelson # 6680 & B. P. Stark & I. Sivec & R. Bottorff & S. W. Szcytko 28 Walked a mile to the spring in a drizzly cold rain. We had hoped to find *Susulus*, but found none. The pass to Tahoe was closed to vehicles without chains. We spent the night in Placerville at Rich's parents' house. We used their kitchen table to photograph our catch *Megaleuctra* *stigmata* f, photo 1st of evening session, brown bark, white alder, then incense cedar, *Libocedrus* *decurrens*; 1 nymph, photo 13th of night 17 May 1998.

Dytiscidae

Sialidae

Nemouridae:

Soyedina sp. 2f

Zapada frigida 1m 3f

Corydalidae, Orohermes crepusculus, photos 1 larva, 14th of night 17 May 1998

Oemopteryx vanduzeei, 6m 7f

Paraleuctra vershina 6m 14f

Eucapnopsis brevicauda 6m 2f

6680

6681 USA CALIFORNIA: Napa Co. Markley Creek, Hwy 128, 2 mi S of Lake Berryessa Dam,
140 m 38 29 38 N 122 07 29 W 17-May-1998 C. R. Nelson # 6681 & B. P. Stark & I. Sivec &
S. W. Szcytko 28 photos in field:

Baumannella alameda female

Hyla regilla, gray form

Lasiopogon

Trichoptera adults

Isoperla daults, not with CRN

Baumannella alameda in room, photos male 11th of 17 May 1998

Isoperla nymph, 1, photos 15th of 17 May 1998

Tipulidae

Baumanella 10m 6f in two vials, only one of the females had a notched subgenital plate

Callibaetis 6681

6682 USA CALIFORNIA: Napa Co. Capelle Creek, Hwy 128, Capelle Cross Road, 210 msl
38 28 02 N 122 12 50 W 17-May-1998 C. R. Nelson # 6682 & B. P. Stark & I. Sivec & S. W.
Szcytko 28 collected on property of Allen Dumont, barking dog & daschund Suwallia
pallidula? 2m 3f, also 3m 8f in 100% EtOH

Mayflies

Cyrtopogon/Dicolonus?

Calineuria 4 ny in 100% EtOH

Paraleuctra divisa? 1f

Isoperla 1m photo voucher 6682

6683 USA CALIFORNIA: Napa Co. Lake Berryessa, small stream near Oak Shores Park entrance, 140 msl 38 33 43 N 122 13 56 W 17-May-1998 C. R. Nelson # 6683 & B. P. Stark & I. Sivec & S. W. Szcytko 28 small stream on right of entrance, dry, green swale on left. Is this the type locality of *Calileuctra ephemera*?

NO, talked with Bill Shepard at the ESA meetings in Las Vegas in November Macroveliidæ
6683

6684 USA CALIFORNIA: Napa Co. small trib. of Putah Creek, 5 mi E of Pope Valley, Pope Canyon Road, above Lake Berryessa (westside), 170 msl 38 36 44 N 122 19 49 W 17-May-1998 C. R. Nelson # 6684 & B. P. Stark & I. Sivec & S. W. Szcytko 28 caddis adults, 2 gray 2 spp. 6684

6685 USA CALIFORNIA: Napa Co. tributary of Putah Creek, 3.5 mi NW of Middleton, 2.3 mi SE of Whispering Pines, 490 msl 38 46 56 N 122 41 52 W 17-May-1998 C. R. Nelson # 6685 & B. P. Stark & I. Sivec & S. W. Szcytko 28 tiny seep:

malenka depressa 1m 1f

Tipulidæ

larger flow:

Sweltsa fraterna 7m 5f 1ny

Isoperla - to Stan Szcytko

Pteronarcys, photos, 12th of night of 17 May, some with mites, next photos to 6680, specimen to Ignace

Soliperla thrya?, photos, 10 of 17 May, then to Markley Creek.

malenka depressa 1m 3f 2 ny

Sweltsa sp. 2 2 f

Mayfly males swarming 6685

6686 USA CALIFORNIA: Mendocino Co. small seep, Hwy 175, tributary of McDowell Creek, 9 mi E of Hopland, 660 msl 38 59 05 N 123 00 07 W 17-May-1998 C. R. Nelson # 6686 & B. P. Stark & I. Sivec & S. W. Szcytko 28 photos: chaparral malenka depressa 1m 5f 9ny snakeflies, Rhaphidiidæ

Tipulidæ

Cicadidæ

millipede, Diplopoda

beetles, Psephenidæ

6686

6687 USA CALIFORNIA: Mendocino Co. 3 mi W of Ukiah, Hwy 253 18-May-1998 C. R. Nelson # 6687 & B. P. Stark & I. Sivec & S. W. Szcytko 28 photos: Madrone hillside 6687

6688 USA CALIFORNIA: Mendocino Co. Boonville 18-May-1998 C. R. Nelson # 6688 & B. P. Stark & I. Sivec & S. W. Szcytko 28 photos: cut redwoods 6688

6689 USA CALIFORNIA: Mendocino Co. 3 mi W of Navarro 18-May-1998 C. R. Nelson # 6689 & B. P. Stark & I. Sivec & S. W. Szcytko 28 photos: redwoods 6689

6690 USA CALIFORNIA: Mendocino Co. Salmon Creek, S of Mendocino, Hwy 1 18-May-1998 C. R. Nelson # 6690 & B. P. Stark & I. Sivec & S. W. Szcytko 28 photos: ocean, end with bay, rocks on left 6690

6691 USA CALIFORNIA: Mendocino Co. Caspar Creek drainage 18-May-1998 C. R. Nelson # 6691 & B. P. Stark & I. Sivec & S. W. Szcytko 28 photos: small clearcut in redwoods photos: garter snake 6691

6692 USA CALIFORNIA: Mendocino Co. Caspar Creek , headwaters, below Road 500, Jackson State Forest, 180 msl 39 22 24N 123 42 27W 18-May-1998 C. R. Nelson # 6692 & B. P. Stark & I. Sivec & S. W. Szcytko 28 hiked about a mile down a steep trail to sediment traps and weirs.

photos: "stream", trees, tumble of logs lost in clearcut.

photos: orchid, Corallorhiza?

photo: our group of collectors

photos: Oxalis

photos: banana slug *Plumiperla diversa* 2m 3f

Paraleuctra divisa!? NO!,

Paraleuctra 1: "*Calileuctra*" 1f

Paraleuctra 2: plate is Eiffel Tower, 8 f

Isoperla

Sweltsa #1, 1m 13f

Sweltsa #2, = *fidelis*? 1f

Sweltsa #3, broad epiproct, 1m

It May be that 2 and 3 are the same species

Suwallia? NO, *Plumiperla*

Haploperla, NO SPECIMENS

Moselia infuscata to Stark

malenka n. sp. of *Baumann*, like those from Denning, 6m

Soyedina producta 1f

6692

6693 USA CALIFORNIA: Mendocino Co. Westport 18-May-1998 C. R. Nelson # 6693 & B. P. Stark & I. Sivec & S. W. Szcytko 28 photos: ocean 6693

6694 USA CALIFORNIA: Mendocino Co. Hardy Creek, Hwy 1, 5 mi S of Rockport, 15 msl 39 42 41N 123 47 45W 18-May-1998 C. R. Nelson # 6694 & B. P. Stark & I. Sivec & S. W. Szcytko 28 Nemouridae:
malenka? 2f to Ignace
Sweltsa? 6694

6695 USA CALIFORNIA: Mendocino Co. Drive Thru Tree Park, Leggett, seep, 330 msl 39 51 16 N 123 42 53W 18-May-1998 C. R. Nelson # 6695 & B. P. Stark & I. Sivec & S. W. Szcytko 28 Sweltsa, long pointed subgenital plate, 3f 3ny
Paraleuctra occidentalis 2f
malenka 2f 1 ny
Ephemeroptera nymphs
Corydalidae larva, Neohermes
water beetles 6695

6696 USA CALIFORNIA: Humboldt Co. Willow Creek, 0.8 mi E of Berry Summit, Hwy 299, 825 msl 40 53 56 N 123 45 54 W 19-May-1998 C. R. Nelson # 6696 & B. P. Stark & I. Sivec & S. W. Szcytko 28 drew shapes of Sweltsa epiproct and subgenital plate in notes Zapada frigida 1m
Paraleuctra vershina 2m 27f
Paraleuctra occidentalis 1f
malenka "denning kind" 5m 3f
Ostrocerca foersteri 11m 6f
Capnia excavata 2f
Paracapnia, NO SPECIMENS
Perlomyia 1f, photos taken out of sequence 20 May 1998, before Bibionidae
Sweltsa 1m 1f
Frisonia? to Ignace
Suwallia? to Stan
Eucapnopsis brevicauda 1f
Oemopteryx vanduzeei 2m
Mayfly male
Scirtidae
Bibionidae
Muscidae?
beetles 6696

6697 USA CALIFORNIA: Humboldt Co. Willow Creek, 1.7 mi E of Berry Summit, Hwy 299, 780 msl 40 54 30 N 123 45 08 W 19-May-1998 C. R. Nelson # 6697 & B. P. Stark & I. Sivec & S. W. Szcytko 28 drew shapes of Sweltsa epiproct and subgenital plate in notes malenka, 1f, from creek
caddis adult

Bill, Stan, & Nace collected seep:

Suwallia

Paraleuctra

Ostrocerca

Soyedina 6697

6698 USA CALIFORNIA: Humboldt Co. seeps of Willow Creek, 2.4 mi E of Berry Summit, Hwy 299, 720 msl 40 54 37 N 123 44 24 W 19-May-1998 C. R. Nelson # 6698 & B. P. Stark & I. Sivec & S. W. Szcytko 28 Sweltsa "tamalpa", photos: vouchers 3m also more specimens: 10m 6f, the photos were of an adult and another emerging, with rumpled wing individual.

GOOD PHOTOS

malenka NO SPECIMENS

Ostrocerca foersteri 8m 7f 6698

6699 USA CALIFORNIA: Humboldt Co. tributary of Willow Creek, 2.5 mi E of Berry Summit, Hwy 299, 695 msl 40 55 08 N 123 45 05 W 19-May-1998 C. R. Nelson # 6699 & B. P. Stark & I. Sivec & S. W. Szcytko 28 photos: site

photos: habitat creek/seep

This is the site with the debris trap being a corrugated silo with the flat top grate.

Chernokrilius misnomus, 1m, photo #4 of 20 May 1998, on horsetail

Calliperla 1m, start photos morning of 20 May, #1, also caught 1f

large black caddis, family?, photos in field

large speckled brown caddis, Limnephilidae, photos in field

Moselia infusata, 2m 1f, photos in field

large black caddis & green Chrysomelidae, photos in field. Last field photo

Paraleuctra andersoni 1f

Paraleuctra "Eiffel tower" 2f

Soyedina adult #6 of 20 May morning, NO SPECIMENS?

malenka "denning kind" 1m 3f

Sweltsa, long pointed 2f

Notochrysa!, Chrysopidae, photos taken after Big Spring session, 20 May 1998 6699

6700 USA CALIFORNIA: Humboldt Co. bigger tributary of Willow Creek, 2.7 mi E of Berry Summit, Hwy 299, 680 msl 40 54 26 N 123 93? 50 W 19-May-1998 C. R. Nelson # 6700 & B. P. Stark & I. Sivec & S. W. Szcytko 28 Debris trap was corrugated silo with elevated rebar grate.

digital photos of people & site *Moselia infuscata* 1m 6f

Soyedina NO, *Zapada oregonensis* 1f

Calliperla luctuosa 1f

Yoraperla 1m 1f

Sweltsa 1f

malenka? NO SPECIMENS

photos: wet salamander

Doroneuria nymphs NO SPECIMENS

Isopods 6700

6701 USA CALIFORNIA: Humboldt Co. Ruby Creek, Hwy 299, 3.8 mi E of Berry Summit, 6.4 mi W of Willow Creek town, 540 msl 40 54 15 N 123 43 03 W 19-May-1998 C. R. Nelson # 6701 & B. P. Stark & I. Sivec & S. W. Szcytko 28 digital photos of people around red grate of debris trap.

East Fork Willow Creek Campground is 4.5 mi E of Berry Summit and 4.7 mi W of Willow Creek town. Berry Summit to Willow Creek town is 10.2 miles. *Kathroperla* adult f, photos #7 of 20 May 1998, also one skin.

Soliperla 1m 1small ny

Soliperla 1ny, photos

Calineuria californica female, photos

Sedum, photos

Rhipiceridae

Gerridae

Elateridae

Suwallia? 1f

Yoraperla 2m 1ny

black caddis

Ascaphus truei tadpoles, see CRN #6718, photos.

Lupinus photos.

Corydalidae 6701

6702 USA CALIFORNIA: Humboldt Co. Willow Creek Town 19-May-1998 C. R. Nelson # 6702 & B. P. Stark & I. Sivec & S. W. Szcytko 28 photos: Redwood bigfoot!

Oh Mah: the perplexing zoological mystery (as it read from the sign).

Willow Creek Campground to East Fork Campground, 5.5 miles, to seep above Ruby Creek was 7.8 miles. 6702

6703 USA CALIFORNIA: Humboldt Co. tributary of Willow Creek, Hwy 299, 6.5 miles W of Willow Creek town, 610 msl 40 51 39 N 123 41 11 W 19-May-1998 C. R. Nelson # 6703 & B. P. Stark & I. Sivec & S. W. Szcytko 28 Debris trap was straight I bar grate.

Site 0.00

East Fork Campground 1.00

This site was 0.4mi above Ruby Creek *Salmoperla sylvanica* 1 ny, photos #2 of 20 May 1998, 1 nymph to CRN (then 1 more for total of 1) and 1 for Nace.

Sweltsa sp. 1f

Doroneuria nymphs, 100% EtOH

Soliperla photos, #5 20 May 1998, NO SPECIMENS.

Yoraperla NO SPECIMENS

Soyedina NO SPECIMENS

Moselia NO SPECIMENS

Blephariceridae, photos #8 2larv 1p of 20 May 1998. also 1 more larva & 2 pupae, probably *Agathon comstocki*.

Ascaphus truei adult PHOTOS

salamanders photos, 2 spp.

Dicamptodon?

Rhyacotriton? 6703

6704 USA CALIFORNIA: Humboldt Co. East Fork Willow Creek, Hwy 299, 5.5 mi W of Willow Creek town 19-May-1998 C. R. Nelson # 6704 & B. P. Stark & I. Sivec & S. W. Szcytko 28 Rained hard just after we got started collecting. Rain continued so we headed toward Redding. *Ephemerella pelosa*, zebras, many, photos #9 of 20 May 1998.

Blephariceridae, many 1 & p, *Agathon*.

Drunella doddsi?, photos #11 of 20 May 1998.

Epeorus, photos #10 of 20 May 1998. 6704

6705 USA CALIFORNIA: Siskiyou Co. Big Spring, Mt. Shasta City Park, 1120 msl 20-May-1998 C. R. Nelson # 6705 & B. P. Stark & I. Sivec & S. W. Szcytko 28 photos of Bill Stark & Stan Szcytko

photos of springs and run. *Pteronarcys princeps*, photos of nymphs and photos of 1m; 24 nymphs and 1 more m.

Sierraperla cora, photos 1m & 2ny; also 26 ny.

Moselia infuscata, photos 1f.

Yoraperla nigrisoma photos 1m, photos 1m & 1f; 4f 7;ny.

Perlodidae: *Kogotus nonus*? photos 1m, 1ny.

Formicidae: *Camponotus*, photos.

Nemouridae: *Zapada oregonensis*, photos 1m 1f; 1 additional f. Photos end with perlodid nymph.

yellow Mayfly, photo

Tipulidae, photo

flatworm, photo

Peltoperlidae nymph, photo

Ostrocerca foersteri 1f

caddis adult, *Rhyacophila*?YES 1f

Doroneuria Baumannii 1ny

Zapada columbiana 1ny

6705

6706 USA OREGON: Klamath Co. 2 mi E of Bly Pass, small stream, 1420 msl 42 22 55 N 121 22 45 W 20-May-1998 C. R. Nelson # 6706 & B. P. Stark & I. Sivec & S. W. Szczytko 28 small stream had blackfly larvae, but we found no stoneflies.

Stayed the night in Lakeview. Bibionidae, photos, male & female, session ended day. 6706

6707 USA CALIFORNIA: Modoc Co. Warner Mountains, New Pine Creek, Road 2, 1 mi E of Hwy 395, 1540 msl 41 59 06 N 120 16 51 W 21-May-1998 C. R. Nelson # 6707 & B. P. Stark & I. Sivec & S. W. Szczytko 28 END OF BOOK 28! *Prostoia besametsa* 1m 27f

Eucapnopsis brevicauda 11m 22f

Taenionema 1f

Zapada oregonensis 5m 1f

Zapada frigida 2m 2f

Isocapnia? NO

Soyedina in side seep, NO

Doroneuria Baumannii, 1 ny

Skwala? skin

malenta tina? 2m, fat cercal lobe, bifurcate subanal lobe.

Bibionidae

Syrphidae

Tipulidae

Trichoptera 6707

6708 USA CALIFORNIA: Modoc Co. Warner Mountains, Willow Creek, cross road between 9 & 30, E of Hwy 395, 1540 msl 41 52 22 N 120 18 01 W 21-May-1998 C. R. Nelson # 6708 & B. P. Stark & I. Sivec & S. W. Szcytko 29 Road 9 is Fandango Pass Road, the bridge where we sampled is 0.7 mi N of Road 30.

I field labeled the vials 6808, I have since changed them to the correct #6708 *Taenionema pallidum*, photo, 1m 1f; 7m 15f.

Eucapnopsis brevicauda 3f

Paraleuctra vershina 2m 3f.

Tipulidae

Podmosta delicatula! 1m

Soyedina - to Stan 6708

6709 USA CALIFORNIA: Modoc Co. Warner Mountains, South Fork Davis Creek, 3.2 mi E of Hwy 395 on road 45NO4, 1700 msl. 41 43 17 N 120 19 43 W 21-May-1998 C. R. Nelson # 6709 & B. P. Stark & I. Sivec & S. W. Szcytko 29 Ended with site photos.

Field labels read 6809, changed to 6709 back in lab. *Eucapnopsis brevicauda* 43m 27f

Capnia 1, glabra 22f

Capnia 2, ? 4f

Paraleuctra occidentalis mating pair and 2m 5f.

Doddsia occidentalis, photos, 1f

Zapada oregonensis 16m 13f.

Prostoia besametsa 7m 18f, 3 of f were very large and dark.

Sierraperla cora, photos, nymph; 1 more ny.

Paraperla nymph, photos.

Lara larvae, photos, abundant, 5 l photo vouchers.

Taenionema NO SPECIMENS

Doroneuria 8 ny.

Yoraperla nigrisoma 5 ny

Nemouridae, 1f, large dark. 6709

6710 USA CALIFORNIA: Modoc Co. Warner Mountains, Cedar Creek, below E side of Cedar Pass, off Hwy 299, 1850 msl 41 32 59 N 120 14 59 W 21-May-1998 C. R. Nelson # 6710 & B. P. Stark & I. Sivec & S. W. Szcytko 29 below ski area, but not in sight. *Prostoia besametsa* 1m 9f

Capnia gracilaria 5m 20f

Eucapnopsis brevicauda 11m 21f

Zapada cinctipes? 2f

Paraleuctra occidentalis 1m 4f

Bibionidae

Zapada oregonensis 2m 1f

Capnia glabra 8f 6710

6711 USA CALIFORNIA: Modoc Co. Warner Mountains, Thomas Creek at Hwy 299, Road Sheds near Cedar Pass, 2000 msl. 41 33 24 N 120 17 32 W 21-May-1998 C. R. Nelson # 6711 & B. P. Stark & I. Sivec & S. W. Szczytko 29 below ski area, but not in sight. Amphizoa *Eucapnopsis brevicauda* photo, 1m; also 21m 37f.

Capnia glabra, photo 1m.

snow crawling beetle, photo.

Taenionema pallidum photo, 1m.

Skwala 1f, photo NO SPECIMEN

Skwala americana, photo, 1m.

Skwala americana, photo, 1ny. see CRN#6718. NO, is *Perlinodes aurea*! Great!

Prostoia besametsa 1f

Sweltsa 2 ny

Capnia gracilaia 2m 7f

Visoka cataractae 1m 1f

Nemoura? 1 ny.

Prostoia besametsa 3m 12f.

Capnia glabra 2m 11f.

Taenionema pallidum 3m 3f 15ny.

Zapada oregonensis 4m 25ny.

Yoraperla nigrisoma ? 27 ny.

Sierraperla cora 3 ny.

Pteronarcella 1 ny.

Oemopteryx NO, *Taenionema* .

6711

6712 USA NEVADA: Elko Co. Ruby Mountains, Angel Lake, 12 mi S of Wells 22-May-1998 C. R. Nelson # 6712 & B. P. Stark & I. Sivec 29 photos of lake in deep snow 6712

6713 USA NEVADA: Elko Co. Ruby Mountains, Angel Creek Campground, 8 mi S of Wells, 2210 msl. 41 01 36 N 115 02 56 W 22-May-1998 C. R. Nelson # 6713 & B. P. Stark & I. Sivec 29 *Cimbex*, photo on *Mertensia* & aspen saw Lewis Woodpecker 6713

6714 USA UTAH: Salt Lake Co. Saltair, Great Salt Lake, Hwy I-15 22-May-1998 C. R. Nelson # 6714 & B. P. Stark & I. Sivec 29 Great Salt Lake photos brine shrimp, *Artemia salina* 6714

6715 USA UTAH: Utah Co., Soldier Creek, Hwy 6, 12 mi E of Thistle, 2000 msl 39 57 24 N 111 16 09 W 23-May-1998 C. R. Nelson # 6715 & B. P. Stark & I. Sivec 29 photos of Bill & Nace at cabin *Pteronarcella badia*, photos 1 ny; also 13 ny.

Drunella grandis, photos, 1 ny.

Aldelgidae galls on blue spruce

Atherix larvae

Hexatoma larva 6715

6716 USA COLORADO: Montezuma Co. view to north east from Pleasant View 23-May-1998 C. R. Nelson # 6716 & B. P. Stark & I. Sivec 29 photos: mountains around Telluride 6716

6717 USA COLORADO: La Plata Co. Animas River, Durango, at fish hatchery 23-May-1998 C. R. Nelson # 6717 & B. P. Stark & I. Sivec 29 No stoneflies seen despite kicks in river and beating sheets on land.

No specimens kept, but saw *Ephemerella inermis*? nymphs and *limnephilidae* larvae.

The mystery of *Pteronarcys californica* from "Durango" is not yet solved. No stoneflies seen 6717

6718 USA NEW MEXICO: Rio Arriba Co. Rio Chama, 1 mi N of Chama, Hwy 17, 2590 msl. 36 54 43 N 106 33 35 W 23-May-1998 C. R. Nelson # 6718 & B. P. Stark & I. Sivec 29 #5 of 24 May is *Skwala* from Thomas Creek, #6711.

#6 of 24 May 1998 was adult Mayfly from Big Spring (then it escaped!).

#7 of 24 May 1998 was *Ascapus truei* tadpole from Ruby Creek, #6701. *Pteronarcella badia*, 41 ny in 70% EtOH

others in 100% EtOH.

Isogenoides zionensis, photos #2 of 24 May 1998, nymphs

Claassenia sabulosa, photos #1 of 24 May 1998, 5 ny.

Hesperoperla pacifica, photos, 1 ny.

Diura knowltoni, photos #4 of 24 May 1998, 2ny.

Bibliocephala grandis, photos #3 of 24 May 1998.

Ambrysus

Atherix, 7 larvae

Tipulidae

Arctopsyche 4 larvae

Ameletus 1 ny

Sweltsa 1 ny

Saw nymphs of *chloroperlidae* & *Isoperla*

No adults seen. 6718

6719 USA NEW MEXICO: San Miguel Co. 5 mi E of Las Vegas, Hwy 104 24-May-1998 C. R. Nelson # 6719 & B. P. Stark & I. Sivec 29 photos: short grass prairie. 6719

6720 USA TEXAS: Oldham Co. I-40, 2.5 mi E of New Mexico border 24-May-1998 C. R. Nelson # 6720 & B. P. Stark & I. Sivec 29 photos also by Bill & Nace.

Yucca plant had leaves to about 25 cm, roughly 1 cm wide. many fruits were persistent (but open & empty) from last year. yucca moths, photos on yucca 6720

6721 USA TEXAS: Val Verde Co. Devils River above Dolan Falls, walk to Blue Spring 29 53 07 N 100 59 37 W 08-Jun-1998 C. R. Nelson # 6721 & B. P. Stark & I. Sivec 29 Class Members present:

Field Entomology:

Erik Dopman

Meredith Worthen

Andrew Chang

Sarah Simmonds

Tom Devitt

Jerremy Arntson

Claude Murugen

Elisa Atarod

Jaime Lafuente

Kim Chrisman

Michael Teasdale

Kyle McMillan

Marcio Cardoso, teaching assistant

Vertebrate class:

David Hillis, prof

Laurie Dries, teaching assistant

Howard ?

Jennifer Stahl

Cristina Velez

Chase ?

Darin ?

Tom Devitt

Jaime Lafuente

Jessica ?

Kim Chrisman

Sarah Jane Williams

Adam Talianchich

Erik Dopman Coreidae small

Efferia albibarbis

Mutillidae

Muscidae, photos on Baccharis neglecta

Formica, photos on Baccharis

Acalypterates, photos on Baccharis

from hillside:

Crotalus lepidus, rock rattlesnake, photos

rough green snake, photos 6721

6721.1 USA TEXAS: Val Verde Co. Devils River above Dolan Falls, 29 53 07 N 100 59 37 W
09-Jun-1998 C. R. Nelson # 6721.1 & class 29 Started using the magellan ColorTrak Global
Positioning System at this time. Previous coordinates were with Ignace Sivec magellan or
taken from maps.

Class Members present:

Field Entomology:

Erik Dopman

Meredith Worthen

Andrew Chang

Sarah Simmonds

Tom Devitt

Jerremy Arntson

Claude Murugen

Elisa Atarod

Jaime Lafuente

Kim Chrisman

Michael Teasdale

Kyle McMillan

Marcio Cardoso, teaching assistant

Vertebrate class:

David Hillis, prof

Laurie Dries, teaching assistant

Howard ?

Jennifer Stahl

Cristina Velez

Chase ?

Darin ?

Tom Devitt

Jaime Lafuente

Jessica ?

Kim Chrisman

Sarah Jane Williams

Adam Talianchich

Erik Dopman Lower areas below Long Pool in west canyon:

Odonata

Surber site:

Dolan Falls:

group photo taken 10 June 1998 6721.1

6722 USA TEXAS: Val Verde Co. Long Pool in west canyon north of Dolan Falls above the Devils River 29 53 37 N 101 00 43 W 09-Jun-1998 C. R. Nelson # 6722 & class 29 West canyon is above the caretaker's cabin, with a road leading west away from the river. Efferia argyrosoma

Bombyliidae

Efferia zonata

Sphecidae

Pompilidae

Cerambycidae, amazing green

Acrolophitus hirtipes grasshopper

Romaleinae

Coreidae

grasshoppers

Cerambycidae, Monilema, photos

Phrynosoma modestum, rount tail horned lizard, photos.

6722

6723 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 29 53 14 N 100 59 31 W 09-Jun-1998 C. R. Nelson # 6723 & class 29 GPS reading taken at Big Catfish Pool.

Chrysomelidae on Chilopsis

bees on Cephalanthus

Sphecidae, Chlorion?

Efferia argyrosoma

Phylloicus

Polacantha 6723

6723.1 USA TEXAS: Terrell Co. 10 mi W of Sanderson, Hwy 90 30 08 38 N 102 32 39 W 10-Jun-1998 C. R. Nelson # 6723.1 & class 29 lunch stop Hermetia on sotol 6723.1

6724 USA TEXAS: Presidio Co. Big Bend Ranch State Park, northside of El Solitario, 29 28 54 N 103 47 29 W 11-Jun-1998 C. R. Nelson # 6724 Field Entomology: Zoo 370C class: Marcio Cardoso, TA, Jerremy Arntson, Elisa Atarod, Andrew Chang, Kim Chrisman, Tom Devitt, Erik Dopman, Jaime Lafuente, Claude Murugen, Kyle McMillan, Sarah Simmonds, Michael Teasdale, and Meredith Worthen.

29 Lat long at 12:05:01 pm

No water in sight!

mileages:

948.1 at collecting stop

952.3 at shut gate

953.7 at rock cairn

954.1 at road to Pila Montoya

954.9 at Solitario Overlook

960.4 at South Leyva campground Coenagrionidae

butterflies

Odonata 6724

6724 USA TEXAS: Presidio Co. Big Bend Ranch State Park, northside of El Solitario 30 08 38 N 102 32 39 W 10-Jun-1998 C. R. Nelson # 6724 & class 29 lunch stop Hermetia on sotol 6724

6725 USA TEXAS: Presidio Co. Big Bend Ranch State Park, South Leyva Campground, 1 mi E of Saucedo Headquarters, 29 28 37 N 103 56 41 W 11-Jun-1998 C. R. Nelson # 6725 Field Entomology: Zoo 370C class:

Marcio Cardoso, TA, Jerremy Arntson, Elisa Atarod, Andrew Chang, Kim Chrisman, Tom Devitt, Erik Dopman, Jaime Lafuente, Claude Murugen, Kyle McMillan, Sarah Simmonds, Michael Teasdale, and Meredith Worthen.

29 Lat long at 11:36:17 am

Not a great collecting spot. Cerambycidae, Monilema (spelling?) on cholla Opuntia 6725

6726 USA TEXAS: Presidio Co. Big Bend Ranch State Park, Ojito Adentro, above Cuevas 29 29 15 N 104 03 56 W 11-Jun-1998 C. R. Nelson # 6726 Field Entomology: Zoo 370C class: Marcio Cardoso, TA, Jeremy Arntson, Elisa Atarod, Andrew Chang, Kim Chrisman, Tom Devitt, Erik Dopman, Jaime Lafuente, Claude Murugen, Kyle McMillan, Sarah Simmonds, Michael Teasdale, and Meredith Worthen.

29 Lat long at 6:45:41 pm

Dryopidae

Dytiscidae

Efferia sp. 1

Efferia sp. 2

Libellula

Argia

Cicadidae

photos:

diving spider with Coenagrionidae

varied bunting

Sceloporus poinsettii

Cnemidophorus gularis?

Urosaurus inornatus 6726

6727 USA TEXAS: Presidio Co. Big Bend Ranch State Park, Cuevas AmarillasCreek 29 29 40 N 104 06 00 W 11-Jun-1998 C. R. Nelson # 6727 Field Entomology: Zoo 370C class: Marcio Cardoso, TA, Jeremy Arntson, Elisa Atarod, Andrew Chang, Kim Chrisman, Tom Devitt, Erik Dopman, Jaime Lafuente, Claude Murugen, Kyle McMillan, Sarah Simmonds, Michael Teasdale, and Meredith Worthen.

29 Lat long at 7:23:49 pm

Mileage:

72.8 at Cuevas

92.8 at Saucedo Headquarters

Other mileages as leaving area, for records:

995.5 at Cuevas

1002.9 at locked state gate

1005.1 scenic photos

1010.6 at Hwy 170

1014.4 at Fort Leaton

1017.7 at Presidio Post Office

Odontoceridae

Solpugida 6727

6728 USA TEXAS: Presidio Co. 2.5 mi E of Redford, Hwy 170 11-Jun-1998 C. R. Nelson, not present # 6728 David Hillis & Tom Devitt, & class 29 I was not present when the others collected the snake during a road run at night. *Bogartophis subocularis*, Trans-Pecos Rat Snake 6728

6729 USA TEXAS: Presidio Co. 5.5 mi NE of Hwy 170, Casa Piedras Road 12-Jun-1998 C. R. Nelson # 6729 Field Entomology: Zoo 370C class:

Marcio Cardoso, TA, Jerremy Arntson, Elisa Atarod, Andrew Chang, Kim Chrisman, Tom Devitt, Erik Dopman, Jaime Lafuente, Claude Murugen, Kyle McMillan, Sarah Simmonds, Michael Teasdale, and Meredith Worthen.

29 Photos:

scenery Photos:

cows

6729

6730 USA TEXAS: Presidio Co. 10 mi S of Marfa, Hwy 67 12-Jun-1998 C. R. Nelson # 6730 Field Entomology: Zoo 370C class:

Marcio Cardoso, TA, Jerremy Arntson, Elisa Atarod, Andrew Chang, Kim Chrisman, Tom Devitt, Erik Dopman, Jaime Lafuente, Claude Murugen, Kyle McMillan, Sarah Simmonds, Michael Teasdale, and Meredith Worthen.

29 collected on Yucca, tree, insect specimens kept by Sarah Simmonds 6730

6731 USA TEXAS: Reeves Co. Balmorhea State Park, San Solomon Springs 30 56 44 N 103 47 14 W 12-Jun-1998 C. R. Nelson # 6731 Field Entomology: Zoo 370C class:

Marcio Cardoso, TA, Jerremy Arntson, Elisa Atarod, Andrew Chang, Kim Chrisman, Tom Devitt, Erik Dopman, Jaime Lafuente, Claude Murugen, Kyle McMillan, Sarah Simmonds, Michael Teasdale, and Meredith Worthen.

29 collected aquatics in canal, they are with Andrew Chang, Meredith Worthen, and Erik Dopman

photos:

swimming pool

reconstructed Cienega

Lat long taken at: 6:23:22 pm

Tom Johnson is the Park superintendent Amphipods in pool

Solpugida

Lampyridae

Mayfly subimagos

Cicindelidae, Megacephala

Cleridae

Photos:

Phrynosoma cornutum, Texas Horned Lizard

Gambusia nobilis

Cyprinodon elegans

Nerodia erythrogaster transversa

6731

6732 USA TEXAS: Jeff Davis Co. Hwy 1832, 7.6 mi W of jct Hwy 17 13-Jun-1998 C. R. Nelson, not present # 6732 David Hillis & Tom Devitt & class 29 CRN not present when collected, I just photographed the specimen back at Balmorhea. CRN photos:

Agkistrodon contortrix pictigaster, Trans-Pecos Copperhead 6732

6733 USA TEXAS: Ward Co. Monahans Sandhills State Park, campground 31 38 12 N 102 49 01 W 13-Jun-1998 C. R. Nelson # 6733 Field Entomology: Zoo 370C class:

Marcio Cardoso, TA, Jeremy Arntson, Elisa Atarod, Andrew Chang, Kim Chrisman, Tom Devitt, Erik Dopman, Jaime Lafuente, Claude Murugen, Kyle McMillan, Sarah Simmonds, Michael Teasdale, and Meredith Worthen.

29 Lat long taken at:

6:35:14 pm Stichopogon, red abdomen

Laphystia, single specimen

Proctacanthus near longus

Megaphorus

bees

wasps

grasshoppers

Poecilanthrax

Cleridae

Cicadidae

Chrysomelidae, gray on "Oenothera"

Buprestidae, Acmaeodera, several spp.

Scarabaeidae, Polyphaga, look "rubbed"

Canthon

Photos:

Chrysochus auratus on *Apocynum*

Crotalus atrox, western diamondback rattlesnake 6733

6734 USA TEXAS: Kimble Co. South Llano River State Park, 5 mi S of Junction 30 26 58 N 99

48 45 W 14-15 June 1998 C. R. Nelson # 6734 Field Entomology: Zoo 370C class:

Marcio Cardoso, TA, Jerremy Arntson, Elisa Atarod, Andrew Chang, Kim Chrisman, Tom Devitt, Erik Dopman, Jaime Lafuente, Claude Murugen, Kyle McMillan, Sarah Simmonds, Michael Teasdale, and Meredith Worthen.

29 Lat long taken at:

12:21 pm

Wayne Haley, park superintendent

each member of the class took at least one EPA First 100 sample, I took one as well.

Metrobates

Argia

Cryphocricos

Limnocoris

Ambrysus

Corydalus

Microcylloepus

Leptophlebiidae

saw *Percina*

saw *Cichlasoma*

saw *Ictalurus punctatus*

saw *Micropterus*

15 June: Hilltop above camp:

Syrphidae

Bombyliidae

Scarabaeidae, green colorful

15 June: river crossing near Hwy 377

damselflies

Metrobates, some in 100% ethanol

Diogmites neoternatus with Argian prey

6734

6735 USA TEXAS: Edwards Co. SW of Rocksprings, Hwy 377 14-Jun-1998 C. R. Nelson, not present # 6735 David Hillis, Tom Devitt & class 29 CR Nelson not present when collected. I photographed the specimen back at the South Llano River State Park photos: *Scaphiopus couchii* 6735

6736 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 18-Jun-1998 C. R. Nelson # 6736 & class 29 Just for the record, not in association with this collection but: Austin at I-35 & Town Lake has coordinates of:

30 15 54 N 97 44 10 W *Promachus*

Diogmites angustipennis with bee prey, released fly.

Also female fly with bee prey

Mydas clavatus

Cicadellidae, large, long series

Mutillidae 6736

6737 USA TEXAS: Blanco Co. Pedernales Falls State Park, falls area 25-Jun-1998 C. R. Nelson # 6737 & class 29 Class members in attendance: Riley Nelson, Marcio Cardoso (teaching assistant), Jerremy Arntson, Elisa Atarod, Meredith Worthen, Kim Chrisman, Michael Teasdale, Sarah Simmonds, Claude Murugen, Kyle McMillan, Tom Devitt, Andrew Chang, and Jaime Lafuentes. *Efferia albibarbis*

Stichopogon trifasciatus

Diogmites angustipennis

Promachus painteri

Promachus bastardi

Chrysomelidae on *Cynanchum unifarium* (Scheele) Woodson

Sphecidae

Gomphidae

Eccritosisia zamon 6737

6738 USA TEXAS: Harrison Co. Caddo Lake State Park, Big Cypress Bayou 32 41 32 N 94 10 47 W 27-Jun-1998 C. R. Nelson # 6738 & family's 29 photos of pond and lake.

Traveling with Pearce and Nelson family. Riley Nelson, Kaye Nelson, Jason Nelson, Andrea Nelson, Amy Nelson. John Pearce, Jan Pearce, Jared Pearce, John Pearce, Jacob Pearce. Went on boat ride with guide, \$30 for family. The guide was Dave Lomax of Caddo Canoe Rentals 903-679-3743. He offered \$20 per day canoes for the class. *Diogmites misellus*? *Trypoxylon*

Calopteryx maculata male

Erythemis simplicicollis

Libellula? 6738

6739 USA ARKANSAS: Pike Co. Murfreesboro, Ka Do Ha Indian Mound 34 03 42 N 93 43 09 W 28-Jun-1998 C. R. Nelson # 6739 & families 29 Efferia in museum display indoors.

Diogmites

Mutillidae

Cercopidae 6739

6740 USA ARKANSAS: Pike Co. Murfreesboro, Crater of Diamonds State Park 34 01 58 N 93 40 11 W 28-Jun-1998 C. R. Nelson # 6740 & families 29 photos: people Holcocephala

Triorla

Diogmites

saw Efferia 6740

6741 USA ARKANSAS: Montgomery Co. Norman 28-Jun-1998 C. R. Nelson # 6741 & family 29 bought quartz from Fisher Mountain near Mount Ida. 6741

6742 USA ARKANSAS: Logan Co. magazine Mountain, south overlook 28-Jun-1998 C. R. Nelson # 6742 & families 29 video: black vultures 6742

6743 USA ARKANSAS: Logan Co. magazine Mountain, Overlook Drive 28-Jun-1998 C. R. Nelson # 6743 & families 29 Photos: wide scenery grape skeletonizer, photos. 6743

6744 USA ARKANSAS: Benton Co. Siloam Spring, Hwy 59, 3 mi N of Hwy 412 36 13 41 N 94 29 39 W 29-Jun-1998 C. R. Nelson # 6744 & families 29 Kelly & Rachel Wheeler's house Atomosia 6744

6745 USA MISSOURI: Newton Co. George Washington Carver National Monument, Diamond 29-Jun-1998 C. R. Nelson # 6745 & families 29 bought reprint of 1940 pamphlet, 105 ways to prepare peanuts saw 3 small snapping turtles near Yellow House 6745

6746 USA MISSOURI: Jackson Co. Independence, LDS Visitor Center 39 05 22 N 94 25 34 W 29-Jun-1998 C. R. Nelson # 6746 & families 29 temple site was at: 39 05 24 N 94 25 29 W

Families in group: Nelson, Pearce, Parker, Hodgkin, & Beauchamp. 6746

6747 USA MISSOURI: Clay Co. Liberty, Liberty Jail Historic Site 39 14 58 N 94 25 12 W 29-Jun-1998 C. R. Nelson # 6747 & families 29 Families in group: Nelson, Pearce, Parker, Hodgkin, & Beauchamp. Scarabaeidae 6747

6748 USA MISSOURI: Caldwell Co. Far West, NE of Kingston 39 40 17 N 94 07 53 W 30-Jun-1998 C. R. Nelson # 6748 & families 29 travelling in 5 vans

Families in group: Nelson, Pearce, Parker, Hodgkin, & Beauchamp. *Pseudoacris triseriatus*, photos

Tabanidae

Reduviidae 6748

6749 USA MISSOURI: Daviess Co. Adam-Ondi-Ahman, Tower Hill, N of Gallatin 39 58 19 N 93 59 00W 30-Jun-1998 C. R. Nelson # 6749 & families 29 Families in group: Nelson,

Pearce, Parker, Hodgkin, & Beauchamp. *Solidago*, golden rod gall, photos.

magicicada

Tetraopes

Scarabs 6749

6750 USA ILLINOIS: Hancock Co. Nauvoo, Mississippi River 40 33 40 N 91 23 26 W 30-Jun-1998 C. R. Nelson # 6750 & families 29 at boat ramp, UV light

Beauchamp family now gone, Families in group: Nelson, Pearce, Parker, & Hodgkin.

Hexagenia

Perlesta

Perlidae #2

white Mayflies

Toxorhynchites

Scarabaeidae

Parcoblatta

Tridactylus 6750

6751 USA ILLINOIS: Hancock Co. Old Nauvoo 01-Jul-1998 C. R. Nelson # 6751 & families 29 Families in group: Nelson, Pearce, Parker, & Hodgkin. Scarabaeidae

Lampyridae

toad, photos.

6751

6752 USA ILLINOIS: Hancock Co. Mississippi River, Old Nauvoo, Parley Road 40 32 36 N 91 24 04 W 02-Jul-1998 C. R. Nelson # 6752 & families 29 Families in group: Nelson, Pearce, Parker, & Hodgkin. mid day-

Hexagenia, photos, including in flight!

photos of dead Masses in lab at BFL, 17 July 1998.

Video at some spot, evening of 1 July 1998.

more video & stills, evening of Hexagenia at boat landing. 6752

6753 USA ILLINOIS: Hancock Co. Carthage, Old Jail 02-Jul-1998 C. R. Nelson # 6753 & families 29 Families in group: Nelson, Pearce, Parker, & Hodgkin. Mutillidae 6753

6754 USA MISSOURI: Marion Co. Hannibal, Lovers Leap 39 42 54 N 91 21 29 W 03-Jul-1998 C. R. Nelson # 6754 & families 29 photo: Hannibal & Mississippi River

Families in group: Nelson, Pearce, Parker, & Hodgkin. 6754

6755 USA MISSOURI: Marion Co. Hannibal, Mark Twain Riverboat, Mississippi River 39 42 44 N 91 21 14 W 03-Jul-1998 C. R. Nelson # 6755 & families 29 photos & video: crayfish on ear & nose of Riley Nelson.
photos: scenic Mississippi River

Families in group: Nelson, Pearce, Parker, & Hodgkin. Perlesta

Cantharidae

Mayfly subimago

Pompilidae

Coenagrionidae 6755

6756 USA MISSOURI: Dallas Co. 1 mi NE of Tunas, Hwy 73 04-Jul-1998 C. R. Nelson # 6756 & families 29 start: 45919 Tunas: 45920 = 1 mile.

now only Nelson & Pearce families are traveling together. cicada damage on oak, photos. 6756

6757 USA MISSOURI: Lawrence Co. 4 mi NE of Mt. Vernon, I-44 rest area 37 08 29 N 93 43 16 W 04-Jul-1998 C. R. Nelson # 6757 & families 29 millipede, photos, then specimens to Jared Pearce 6757

6758 USA OKLAHOMA : Muskogee Co. Muskogee 35 44 39 N 95 24 16 W 4-5 July 1998 C. R. Nelson # 6758 & families 29 Motel 6. Hexagenia male subimage, photos.

Hexagenia female

Gryllidae, Oecanthus?, female tree cricket, photos. 6758

6759 USA TEXAS: Walker Co. Sam Houston National Forest, Stubblefield Lake Campground, Road 215, 10 mi W of New Waverly 30 33 38 N 95 38 15 W 6-7 July 1998 C. R. Nelson # 6759 & class 29 Nice collecting spot recommended by people at Texas A & M.

UV light:

Scarabs

Ascalaphidae

Cydnidae

waters edge at night:

Omophron

Campsurus

Tetrigidae.

7 July 1998: morning, hand collecting:

Libellula, 2 spp.

Erythemis simplicicollis

Gomphidae

Perithemis

Pantala flavescens

Proctacanthus

Triorla interrupta

Diognites neoternatus?

Hispanae, Chrysomelidae, on Campsus radicans, photos. 6759

6760 USA TEXAS: Harrison Co. Caddo Lake State Park, Big Cypress Bayou 32 41 36 N 94 10 44 W 7-9 July 1998 C. R. Nelson # 6760 & class 29 GPS reading taken from Wildlife Pier, less than 200 m from reading of #6738, which was:

32 41 32 N 94 10 47 W

7 July: UV light, all night:

photos: Mill Pond.

8 July: paddled upstream of Hwy 43.

photos: canoes, 35mm by Arwen Vaughn, digital by Debbie Cerda.

9 July:

Cleridae, photos, at UV light.

Cerambycidae, photos.

Dytiscidae, Cybister?, with male tarsal pads.

Tabanidae, photos, adult.

Gryllidae? Tettigoniidae?, colorful, photos. 6760

6761 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 30 17 03 N 97 46 41 W 17-Jul-1998 C. R. Nelson # 6761 29 GPS reading was from front parking lot. photos: Mayflies from Mississippi River, CRN #6752

photos: malaise trap form BFL, 21-27 April 1993. 6761

6762 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 30 17 03 N 97 46 41 W 18-Jul-1998 C. R. Nelson # 6762 29 GPS reading was from front parking lot at same spot as for 6762 was:

30 17 04 N 97 46 42 W. This is given to show the variation that exists using this system.

armadillo photos

Mordellidae photos, Mordella sp. (atrata?) on mexican hat, Ratibida columnaris.

macromia.

photos of pinned Mordellidae:

small: Mordellistena andreae ancilla LeConte

medium: Tomoxia serval (Say)

large: Glipa hilaris (Say) 6762

6763 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 18-Jul-1998 C. R. Nelson # 6763 29 cockroach 6763

6764 USA TEXAS: Kleberg Co. Padre Island National Seashore, Malaquite Beach N 27.432069 W 97.293795 0 m, 01-Aug-1998 C. R. Nelson # 6764 & scouts 29 For many years I have listed the county for Malaquite Beach as Nueces. I have been wrong.

Portuguese man of War, photos.

Birds, photos.

Boys, photos. 6764

6765 USA HAWAII: Oahu Island Diamond Head, above Waikiki Beach 03-Aug-1998 C. R. Nelson # 6765 & J. K. Nelson 29 photos of ocean & headlands. doves, photos. 6765

6766 USA HAWAII: Oahu Island Hanauma Bay 03-Aug-1998 C. R. Nelson # 6766 & J. K. Nelson 29 photos of scenery.

Later in the evening we ate at Duke's Canoe Club on Waikiki. fish, underwater photos. 6766

6767 USA HAWAII: Oahu Island Honolulu, Makapuu, Kailua 04-Aug-1998 C. R. Nelson # 6767 & J. K. Nelson 29 We ate dinner with Rick & Lana Nelson at the Chowder House and Bubbies Ice Cream near the University. On 5 August we went to the Flea market at Aloha Stadium, Waikiki Beach, and the Waikiki Aquarium. For dinner we ate at the International market. photos of green turtles at University of Hawaii pier near Makapuu. 6767

6768 USA HAWAII: Oahu Island Hanauma Bay 06-Aug-1998 C. R. Nelson # 6768 & J. K. Nelson 29 Joined by Nick & Christine Nelson, then Randy & Jean Nelson.

We were sunburned badly, especially Kaye. She collapsed from exhaustion in the hotel lobby before going to dinner in Kaneohe at the Chart House. fish, underwater photos. 6768

6769 USA HAWAII: Oahu Island Kaneohe 06-Aug-1998 C. R. Nelson # 6769 & J. K. Nelson 29 dinner at Chart House in the evening watching the windward cliffs. 6769

6770 USA HAWAII: Oahu Island Honolulu, Waikiki 21 16 46 N 157 49 31 W 07-Aug-1998 C. R. Nelson # 6770 & J. K. Nelson 29 We spent the morning recovering from sun burn. 6770

6771 USA HAWAII: Oahu Island Laie 21 38 51 N 157 55 47 W 08-Aug-1998 C. R. Nelson # 6771 & J. K. Nelson 29 We were at the temple for the wedding of Sally & Jerry Wright. Sally is my niece. frangipani photos.

manioc photos.

family photos. 6771

6772 USA HAWAII: Oahu Island 08-Aug-1998 C. R. Nelson # 6772 & J. K. Nelson 29 6772

6773 ARGENTINA Cordoba Prov. Cordoba 13-Aug-1998 C. R. Nelson # 6773 & R. S. Hansen & L. M. Weston 30 photos of hotel key & door. I took other photos in Cordoba square, Plaza de San Martin. My traveling companions are Robert S. Hansen and Lisa Marie Weston. 6773

6774 ARGENTINA Cordoba Prov. Cordoba 31 25 00 S 64 11 01 W 14-Aug-1998 C. R. Nelson # 6774 & R. S. Hansen & L. M. Weston 30 photos of bustling crowds, statue of San Martin, and buildings. The GPS reading is from the bus station, a few blocks off the plaza. 6774

6774.1 ARGENTINA Cordoba Prov. near Villa de Maria, Hwy 9, 20 km S of Villa Ojo de Agua 29 49 31 S 63 44 04 W 14-Aug-1998 C. R. Nelson # 6774.1 & R. S. Hansen & L. M. Weston 30 We took a bus to go to Tucuman. We left Cordoba at 2:00 pm and headed north to Tucuman. The price was \$20 and took 8 hours.

Photos of chaparral, thorny habitat, near a slight pass over a hill. 6774.1

6775 ARGENTINA Cordoba Prov. 13 km S of Ojo de Agua, Hwy 9 29 41 02 S 63 43 38 W 14-Aug-1998 C. R. Nelson # 6775 & R. S. Hansen & L. M. Weston 30 We stopped for 15 minutes in Ojo de Agua. We saw a family having a dinner party at a table in the parking lot. An old man was selling bolas. The coordinates for Ojo de Agua were: 29 30 52 S 63 42 18 W photos of palm. 6775

6776 ARGENTINA Santiago de Estero Prov. 36 km N of Ojo de Agua, Hwy 9 29 13 27 S 63 52 36 W 14-Aug-1998 C. R. Nelson # 6776 & R. S. Hansen & L. M. Weston 30 photos of habitat. 6776

6777 ARGENTINA Santiago de Estero Prov. 91 km N of Ojo de Agua near Rio Saladillo, Salinas de Ambargasta 28 45 34 S 64 02 04 S 14-Aug-1998 C. R. Nelson # 6777 & R. S. Hansen & L. M. Weston 30 photos of salt flat community.

We arrived in Tucuman just after 10:00 pm at a mall with a "Neverland" play area. We stayed at the Hotel Frances near the plaza. It was a nice room for \$45. We ate a standard late argentine dinner (10pm) at the Parilla del Plaza. It was a good spot after a long travel day. Artemesia?

Atriplex? 6777

6778 ARGENTINA Tucuman Prov. Tucuman, Instituto Miguel Lillo 26 49 52 S 65 13 19 W 15-Aug-1998 C. R. Nelson # 6778 & R. S. Hansen & L. M. Weston 30 We stumbled on to the grounds of the Lillo Institute and found an island of green in the urban sprawl. It was quite a groomed spot, but the insects were very cooperative. We discovered later that this is the institution were our sponsor for the meetings, Eduardo Dominguez, works. A GPS reading for the Plaza de la Independencia was:

26 49 49 S 65 12 17 W. Ithomiinae butterflies, photos.

Tachinidae photos.

Chrysomelidae photos.

Ichneumonidae photos.

Hemiptera photos. 6778

6779 ARGENTINA Tucuman Prov. 17 km SW of Tucuman, Rio Lules, Hwy 38 26 54 57 S 65 19 52 W 16-Aug-1998 C. R. Nelson # 6779 & R. S. Hansen & L. M. Weston 30 photos of Rio Lules and Aconquija.

For CRN # 6779-6789 km reading refer to loop from Tucuman to Tafi del Valle read directly off GPS so the might not reflect the actual km reading on the Hwys 38 & 307 on which we traveled. photos of sugar cane

6779

6780 ARGENTINA Tucuman Prov. Rio Famailla, Hwy 38, Famailla, 37 km SW of Tucuman 29 03 30 S 65 23 44 W 16-Aug-1998 C. R. Nelson # 6780 & R. S. Hansen & L. M. Weston 30 photos of Rio Famailla. 6780

6781 ARGENTINA Tucuman Prov. Rio Horcones, Hwy 307, 58 km W of Tucuman 27 05 29 S 65 33 20 W 16-Aug-1998 C. R. Nelson # 6781 & R. S. Hansen & L. M. Weston 30 map calls Rio Ca $\sqrt{\pm}$ as the Rio Horcones. I took photos of river, but discarded. 6781

6782 ARGENTINA Tucuman Prov. 66 km W of Tucuman, farm & forest, Hwy 307 27 05 49 S 65 37 23 W 16-Aug-1998 C. R. Nelson # 6782 & R. S. Hansen & L. M. Weston 30 photos of farm & forest, discarded. 6782

6783 ARGENTINA Tucuman Prov. Canyon of Rio de Los Sosas, El Naranjal, Hwy 307, 73 km W of Tucuman 27 03 35 S 65 40 01 W 16-Aug-1998 C. R. Nelson # 6783 & R. S. Hansen & L. M. Weston 30 photos inside bus, discarded. See 6789 for meaning of km readings. 6783

6784 ARGENTINA Tucuman Prov. Canyon of Rio de Los Sosas, switchbacks of Hwy 307, 74 km W of Tucuman 27 03 20 S 65 40 23 W 16-Aug-1998 C. R. Nelson # 6784 & R. S. Hansen & L. M. Weston 30 photos of statue. 6784

6785 ARGENTINA Tucuman Prov. Canyon of Rio de Los Sosas, Arroyo Azucenas, Hwy 307, 84 km W of Tucuman 27 00 49 S 65 39 34 W 16-Aug-1998 C. R. Nelson # 6785 & R. S. Hansen & L. M. Weston 30 photos of farm hut. 6785

6786 ARGENTINA Tucuman Prov. Canyon of Rio de Los Sosas, El Nogales, Hwy 307, 87 km W of Tucuman 27 00 19 S 65 39 45 W 16-Aug-1998 C. R. Nelson # 6786 & R. S. Hansen & L. M. Weston 30 photos "beeches?" in aments, trees without leaves. 6786

6787 ARGENTINA Tucuman Prov. Rio de Los Sosas, Hwy 307, 89 km W of Tucuman 26 58 29 S 65 39 36 W 16-Aug-1998 C. R. Nelson # 6787 & R. S. Hansen & L. M. Weston 30 photos river. 6787

6788 ARGENTINA Tucuman Prov. Canyon of Rio de Los Sosas, Hwy 307, 93 km W of Tucuman 26 57 15 S 65 39 48 W 16-Aug-1998 C. R. Nelson # 6788 & R. S. Hansen & L. M. Weston 30 photos of grazing lands. 6788

6789 ARGENTINA Tucuman Prov. Tafi del Valle, 107 km W of Tucuman, Hwy 307 26 51 13 S 65 42 27 W 16-Aug-1998 C. R. Nelson # 6789 & R. S. Hansen & L. M. Weston 30 photos ball moss on cactus. 6789

6790 ARGENTINA Tucuman Prov. Rio Tafi, Tafi del Valle, Hwy 307, 107 km W of Tucuman 26 51 13 S 65 42 27 W 17-Aug-1998 C. R. Nelson # 6790 & R. S. Hansen & L. M. Weston 30 Anacroneuria photos.
Atopsyche photos. 6790

6791 ARGENTINA Tucuman Prov. Tafi del Valle, Hwy 307, 107 km W of Tucuman 26 51 13 S 65 42 27 W 18-Aug-1998 C. R. Nelson # 6791 & R. S. Hansen & L. M. Weston 30 Photos,

outside Hosteleria Lunahuana.

Photos, Cerro $\sqrt{\pm}$ orca Grande. 9:00 am

Photos, traditional dancers. 6791

6792 ARGENTINA Tucuman Prov. Tafi del Valle, NW, dirt road, Estancia Las Carreras, established 1779 26 55 55 S 65 45 57 W 19-Aug-1998 C. R. Nelson # 6792 & R. S. Hansen & L. M. Weston 30 photos, people & cheese. Photos end with indian corrals built circa 1700. 6792

6793 ARGENTINA Tucuman Prov. Tafi del Valle, Hwy 307, 107 km W of Tucuman 26 51 12 S 65 42 24 W 19-Aug-1998 C. R. Nelson # 6793 & R. S. Hansen & L. M. Weston 30 photos, group shot breaking up.

This is same location as 6789. GPS today was: 26 51 12 S 65 42 24 W. Note the variation. 6793

6794 ARGENTINA Tucuman Prov. tributary of Rio de los Sosa, at Apeadero Mu $\sqrt{\pm}$ oz 26 59 16 S 65 39 45 W 21-Aug-1998 C. R. Nelson # 6794 & R. S. Hansen & L. M. Weston 30 site photos, also we were with all the symposium crowd. Anacroneuria

Blephariceridae

Leptophlebiidae

Baetodes

Baetis

Atopsyche

Tabanidae

Tipulidae

Hydropsychidae

Corydalus to Peter Zwick

other Corydalidae 6794

6795 ARGENTINA Tucuman Prov. El Infiernillo, N of Tafi del Valle 26 45 49 S 65 44 12 W 21-Aug-1998 C. R. Nelson # 6795 & R. S. Hansen & L. M. Weston 30 We came out of the clouds, but no time for photos, but see CRN #6798 on return trip to Tafi. 6795

6796 ARGENTINA Tucuman Prov. Rio ?, 4 km N of El Infiernillo 26 42 51 S 65 47 46 W 21-Aug-1998 C. R. Nelson # 6796 & R. S. Hansen & L. M. Weston 30 This was the only spot on the highway in the canyon where river and road are on the same level. The river flows north, down from pass, toward "Quilmes". The spot was 46 km S of Quilmes Ruins.

I took photos of dry streambed and the dry hillside. I later took photos of the Santa Maria

River. Baetidae

Anacroneuria

Elmidae

Limnephilidae 6796

6797 ARGENTINA Tucuman Prov. Santa Maria Valley, Quilmes ruins 26 27 51 S 66 02 06 W
21-Aug-1998 C. R. Nelson # 6797 & R. S. Hansen & L. M. Weston 30 photos of ruins &
cactus. 6797

6798 ARGENTINA Tucuman Prov. pass at El Infiernillo, Hwy 307, 22 km N of Tafi del Valle 26
45 49 S 65 44 12 W 21-Aug-1998 C. R. Nelson # 6798 & R. S. Hansen & L. M. Weston 30
Photos of cloud filled valley, Cerro $\sqrt{\text{eu}} \pm \text{orco}$ Grande, people. Mariana, Mariana, &
Ricardo.

The summit was 50 km S of Quilmes Ruins.

Tafi del Valle is 72 km S of Quilmes Ruins.

I also took pictures of Hugo in the bus. I finished film roll in Olympus, OLY AR 2. 6798

6799 ARGENTINA Tucuman Prov. Rio de Los Sosas Canyon 27 00 00 S 65 39 00 W 23-Aug-
1998 C. R. Nelson # 6799 & R. S. Hansen & L. M. Weston 30 Photos from bus, start with El
Mollar. 6799

6800 ARGENTINA Jujuy Prov. Rio Xibi Xibi, in San Salvador de Jujuy 24 11 20 S 65 18 04 W
24-Aug-1998 C. R. Nelson # 6800 & R. S. Hansen & L. M. Weston 30 These photos were
taken on the south bank of the Rio Xibi Xibi in Jujuy. This rivers name is pronounced like Sea
Bee (Navy group). scale insects, photos. 6800

6801 ARGENTINA Jujuy Prov. Rio Lozano, Hwy 9, outside Jujuy 24 04 35 S 65 24 39 W 24-
Aug-1998 C. R. Nelson # 6801 & R. S. Hansen & L. M. Weston 30 Stream substrate was
green flagstones. I kept a rock & sand substrate sample. Loricariidae, photos of adult with
eggs, found under a rock in a riffle.

Anacroneuria nymphs, photos.

Leptophlebiidae, photos.

Baetidae

Trichoptera

Tipulidae larva 6801

6802 ARGENTINA Jujuy Prov. Rio Yala, 1 km from Hwy 9, first bridge on road to Lagunas
Yala, outside Jujuy 24 07 14 S 65 26 16 W 24-Aug-1998 C. R. Nelson # 6802 & R. S. Hansen

& L. M. Weston & Walter & C. Rueda 30 photos of river. Perlidae
Ephemeroptera 6802

6803 ARGENTINA Jujuy Prov. Laguna Yala at Jujuy Provincial Fish Hatchery, 12 km from Yala & Hwy 9 24 06 44 S 65 28 40 W 24-Aug-1998 C. R. Nelson # 6803 & R. S. Hansen & L. M. Weston & Walter & C. Rueda 30 photos of Walter & Cristina Rueda, Rober, & Lisa. It was rainy. We were in clouds all the time as it got dark. Later, from the plane, I could see that we were near snow!

Walter (El Negro), runs the hatchery, La Estacion de Piscicultura de la Provincia San Salvador de Jujuy. photos of fish & people. 6803

6804 ARGENTINA Jujuy Prov. San Salvador de Jujuy 24 11 20 S 65 18 04 W 24-Aug-1998 C. R. Nelson # 6804 & R. S. Hansen & L. M. Weston & Walter & C. Rueda 30 I took photos of taxi with all of us in it! 6804

6805 ARGENTINA Jujuy Prov. San Salvador de Jujuy 24 11 20 S 65 18 04 W 25-Aug-1998 C. R. Nelson # 6805 & R. S. Hansen & L. M. Weston 30 main Plaza in Jujuy is Plaza Belgrano. Photos of breakfast at Cafe e Biliardos Dos Chinos, best medialunas of the trip. Photos of downtown, a statue La Libertad, movie poster, a shop selling books and fire extinguishers, Rio Xibi Xibi in the rain. 6805

6806 ARGENTINA air trip from Cordoba to La Quiaca 26-Aug-1998 C. R. Nelson # 6806 & R. S. Hansen & L. M. Weston 30 taken while in 747 ject at 11000 m.

photo: Andes in the distance, to west, south of salt playas. Massif was probably Cerro de Olivares, 20,605 ft; Cerro del Toro, 20,930 ft.

photo: salt playa, probably Salinas Grandes.

photo: Andes with snow, probably Massif of Cerro del Potro & Pissis.

photo: Also two ranges with snow. All of the above is south of Estero, I saw the dam and Rio Hondo.

photo: Tucuman with large park.

photo: Tafi with small isolated cloud in foreground.

photo: Santa Maria Valley behind Infiernillo Pass, Andes in background, (Atafalla? 21,129 ft.)

photo: mountains between Tucuman & Salta, S of irregular mountain reservoir, Salta was easily seen to the north.

photo: Jujuy & upstream canyons & (& vertical shot); We were near snow at Lagunas Yalas.

photo: part of Quebrada near Humahuaca. The flight from Cordoba to Miami took 9 hours.
6806

6807 BOLIVIA Tarija Prov. Altiplano near Tarija 26-Aug-1998 C. R. Nelson # 6807 & R. S. Hansen & L. M. Weston 30 taken while in 747 ject at 11000 m.
air trip from Cordoba to La Quiaca

photos of Altiplano.

photos of deep canyon cutting into Altiplano, southern Bolivia, Rio Piloya drainage? then crossed 21 d S, heading of 356 d, Could see Lake Poopo in distance. I could have been viewing from Chuquisaca Province.

6807

6808 BOLIVIA Cochabamba Prov. Cochabamba 26-Aug-1998 C. R. Nelson # 6808 & R. S. Hansen & L. M. Weston 30 taken while in 747 ject at 11000 m.
air trip from Cordoba to La Quiaca

photos of part of Cochabamba, a sprawling metropolis in several valleys.

Then it was slightly overcast, then full cloud cover at 17d S as we entered the Amazon basin! It was very striking. We were traveling at about 7-8 minutes of time per degree. at 4:44 pm we were at 17 d. I projected the Amazon River, at 4 d S would be crossed at 6:15 to 6:28. Unfortunately it was totally overcast. 6808

6809 BRAZIL ? Amazon Basin 26-Aug-1998 C. R. Nelson # 6809 & R. S. Hansen & L. M. Weston 30 taken while in 747 jet at 11000 m.
air trip from Cordoba to La Quiaca

photo at 7:05 pm, clouds, amazing storm that bounced us. We were between 18-20 d n of 17 d S, so from 1 to 3 d N.

Thus just north of Rio Negro in Rio Branco Province of Brazil or in Amazonas Province of Venezuela or even perhaps in Vaupes or Vichada Province of Colombia! All depending on the heading.

The steward made me turn off my GPS at 4:44 pm, at 17 de S, heading was 357d. So all my calculations were from this point. 6809

6810 USA TEXAS: Travis Co. Austin, University of Texas, WEL 2.2156 27-Aug-1998 C. R. Nelson # 6810 30 photo of Entomology class on first day, with small camera. Just back from South America. 6810

6811 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 30 11 32 N 97 47 16 W 30-Aug-1998 C. R. Nelson # 6811 30 photos with small camera, backyard & Amy, including tiny toads. *Passiflora lutea*, photos.

Verbaena, photos.

Elephant ear & pond, photos.

tiny toads from pond, *Bufo valliceps*. 6811

6812 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, Town Lake 30 17 03 N 97 46 41 W 30-Aug-1998 C. R. Nelson # 6812 & class 30 Class: Kate LeVering, Adam Talianchich, Betsy Maxim, Nikki Hanegan, Maria Dahmus, Tina Mendez, and Brad Caston.

Hexagenia

Sialis

Caenis

Barchercus?

Stenacron 6812

6813 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m, Pond F 30 17 03 N 97 46 41 W

04-Sep-1998 C. R. Nelson # 6813 30 kept: *Pleidae*

Saw:

Libellula?

Anax

Hydrophilus triangularis.

snaky *Dytiscidae* larvae. 6813

6814 USA TEXAS: Kleberg Co. Padre Island, Malaquite Beach 05-Sep-1998 C. R. Nelson # 6814 30 water higher on beach than I've ever seen. Dune to high tide is 20 yards.

Drove to coast last night, brought Nick Kriese. Others: Joyces, Swensons, Shawn & oy Kriese, Pearce's, Shane & Jamie Stoddard, Friskes. no insect collecting.

fishing:

whiting, ate one, coarse flesh.

a yellow bellied small "bass".

hardhead catfish.

elongate fish, ladyfish?

drawing of ladyfish in notes.

pompano

spotted sea trout, ate one, fine flesh. 6814

6815 USA TEXAS: Nueces Co. Humble Channel, Red Dot Pier, Corpus Christi 05-Sep-1998
C. R. Nelson # 6815 & Jared Pearce & Brian Cannaday 30 night fishing start, 9:30 pm end
midnight. Very slow night, many people, reel bail not clicking open. hardhead catfish
pinfish
redfish (10 inches). 6815

6816 USA TEXAS: Nueces Co. Port Aransas, South Jetty 06-Sep-1998 C. R. Nelson # 6816
& family 30 fishing:
pinfish
grunt?
needlefish
redfish. 6816

6817 USA TEXAS: Nueces Co. offshore of Port Aransas, 1st row of oil rigs due east. 07-
Sep-1998 C. R. Nelson # 6817 & family 30 deep sea fishing, drift fishing with ribbonfish
bait. I caught one of only two fish, a king Mackerel. It was 37 inches long and weighed 11
lbs. 6817

6818 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 30 17 03 N 97 46
41 W 09-Sep-1998 C. R. Nelson # 6818 30 Chironomidae, in new large greenhouse, very
abundant. Keyed males to tribe: "Metriocnemini." 6818

6819 USA TEXAS: Travis Co. Austin, William Cannon Drive 30 11 32 N 97 47 16 W 12-Sep-
1998 C. R. Nelson # 6819 30 Psychodidae, photos, Psychoda cinerea?, dead on rock,
dead on wood. 6819

6820 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 30 11 32 N 97 47 16 W 16-Sep-
1998 C. R. Nelson # 6820 30 box from frozen food, photos.
European Style Hearth Baked
New York Brand, Texas Garlic Toast, with a map with star on Austin?
made by new York Frozen Foods, Inc. Box 29163, Columbus, OH 43229. 6820

6821 USA TEXAS: Bastrop Co. Lost Pines Biological Station, Stengl Ranch 30 05 12 N 97 10
23 W 19-Sep-1998 C. R. Nelson # 6821 & class 30 Participants: Kate LeVering, Gad Perry,
David Millard, Liz Nichols, Robert Buchwald, Scott Egan, Chris Edeus, Russell Wilke,
Leanne Robinson, Jason Moss, Don Pokorny, Elisa Lewis, her husband Chris, Dam Broglie,
Tina Mendez, Dani Clement, Jennifer Alana, Jennifer Brown, Jennifer Johnson, Brent Hunter,
Aaron Kaufman, Maria Dahmus, Nikki Hanegan, Houston Hawkins, Melissa Michels, Becky
Brady, Michael Teasdale, Adam Talianchich. Hosted by Phil & Pat Schappert. Scaphiopus,
two colors, photos.

Therevidae at light

Yellow fungus, photos. 6821

6822 USA TEXAS: Bastrop Co. Colorado River, McKinney Roughs Preserve, at Windmill Ranch 30 09 45 N 97 26 43 W 19-Sep-1998 C. R. Nelson # 6822 & class 30 Participants: Kate LeVering, Gad Perry, David Millard, Liz Nichols, Robert Buchwald, Scott Egan, Chris Edeus, Russell Wilke, Leanne Robinson, Jason Moss, Don Pokorny, Elisa Lewis, her husband Chris, Dam Broglie, Tina Mendez, Dani Clement, Jennifer Alana, Jennifer Brown, Jennifer Johnson, Brent Hunter, Aaron Kaufman, Maria Dahmus, Nikki Hanegan, Houston Hawkins, Melissa Michels, Becky Brady, Michael Teasdale, Adam Talianchich.

Cryphocricos

Limnocoris

Ambrysus lunatus

Gerridae 6822

6823 USA TEXAS: Bastrop Co. iron rich spring, McKinney Roughs Preserve 30 09 N 97 26 W 19-Sep-1998 C. R. Nelson # 6823 & class 30 specimens to students. Brachypremna adults Ptychopteridae adults & larvae

Gerridae

beetles

Odonata 6823

6824 USA TEXAS: Bastrop Co. stock tank, McKinney Roughs Preserve 30 09 N 97 26 W 19-Sep-1998 C. R. Nelson # 6824 & class 30 nothing collected, too many Gambusia 6824

6825 USA LOUISIANA: Lafayette Parish Lafayette, north east corner of Walker Road and Hebert Road 28-Apr-1998 CRN not present, C. R. Nelson # 6825 30 actual collectors were: Caitlin Gabor & Laura Higgins. Sternotherus odoratus, common musk turtle.

leech removed by C. R. Nelson in early May.

C. R. Nelson not present when turtle was collected. 6825

6826 USA TEXAS: Travis Co. Austin 01-May-1998 CRN not present, C. R. Nelson # 6826 30 Al Hook gave me the turtle, one he had at St. Edwards University. red eared slider turtle, baby, presented to C. R. Nelson before Al went to Trinidad. Provenance unknown. 6826

6828 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 30 17 03 N 97 46 42 W 24-Sep-1998 C. R. Nelson # 6828 30 Vaejovis reddelli

Pseudoscorpions

Tipulidae, Brachypremna

Fulgoridae

Embioptera

Pieridae 6828

6829 USA TEXAS: Bastrop Co. Colorado River, McKinney Roughs Preserve, Wilbarger Bend
30 09 14 N 97 27 19 W 25-Sep-1998 C. R. Nelson # 6829 30 Gomphidae adults
Diogmites angustipennis & prey, Polistes carolina 6829

6830 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 30 11 32 N 97 47 16 W 28-Sep-
1998 C. R. Nelson # 6830 30 Blaberidae, hissing roach pets, new babies, photos, but
overexposed and thrown out. 6830

6831 USA TEXAS: Travis Co. Austin, Univ. Texas 28-Sep-1998 C. R. Nelson # 6831 30
cockroach in office, photos. 6831

6832 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 30 11 32 N 97 47 16 W 02-Oct-
1998 C. R. Nelson # 6832 30 caterpillar, photos, found crawling on porch, far from
vegetation. Probably prepupal, wandering. 6832

6833 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 30 17 03 N 97 46
41 W 02-Oct-1998 C. R. Nelson # 6833 30 Evaniidae 6833

6834 USA TEXAS: Travis Co. Barton Creek Preserve, Bee Caves near jct 71 & 2244 07-Oct-
1998 C. R. Nelson # 6834 & L. Leopold & Maria Dahmus 30 set up emergence traps. After
a couple weeks a flood came and destroyed 6 of the 18. Li bellulidae 6834

6835 USA TEXAS: Bastrop Co. Colorado River, McKinney Roughs Preserve 30 09 31 N 97 27
24 W 10-Oct-1998 C. R. Nelson # 6835 & A. W. Hook & J. Neff 30 green lynx spider
guarding eggs, Peucetia viridans, photos.

Acmaeodera, photos, on Verbesina virginica.

Heteropogon lautus, photos.

Lycaenidae, photos, on Verbesina virginica.

Lycaenidae, Atlides halesus, photos, on Verbesina virginica.

macromia, mating pair, photos.

Thomisidae, Misumenops, photos.

On 26 Feb 2009 John Abbott informed me that some dragonflies collected with this field
number are:

Brechmorhoga mendax

Sympetrum corruptum

Tamea onusta

Tamea lacerata

He didn't have a record of the macromia but thought it would be either: M. illinoensis

georgina or

M. taeniolata 6835

6836 USA TEXAS: Travis Co. Austin, Bull Creek 14-Oct-1998 CRN not present C. R. Nelson # 6836 & David Millard 30 *Papilio multicaudata*, photos, by C. R. Nelson at BFL in lab.

6836

6837 USA TEXAS: San Saba Co. Colorado Bend State Park, Spicewood Creek 31 01 15 N 98 26 40 W 16-17 Oct 1998 C. R. Nelson # 6837 & class 30 very strong winds at night (16th), hard to sleep! collected nothing in campground (students collected some). Rained some at night, hard near noon at 17th.

participants:

David Millard

Chris Edeus

Jennifer Johnson

Angela Masloff

Scott Egan

Robert Buchwald

Aaron Kaufman

Catherine Mustoe

Chris Beacom

Don Pokorny

Brent Hunter

Houston Hawkins

Lia Llaque

Brad Caston

Betsy Maxim

Tina Mendez

Damon Broglie

Maria Dahmus

Adam Talianchich Spicewood Creek:

Ectopria larvae, photos.

Chironomus larvae, photos. 6837

6838 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 30 17 03 N 97 46 42 W 23-Oct-1998 C. R. Nelson # 6838 30 Zoraptera, under dead cottonwood tree bark, photos taken 30 Oct 1998 in lab.

Hydrometra, photos.

Buprestidae, on windfall hackberry trunk, photos & video.

Scarabaeidae, photos & video.

Uranotaenia

Blaberidae, *Panclora nivea*, photos & video. 6838

6839 USA TEXAS: Travis Co. Austin, Univ. Texas, Painter Hall 23-Oct-1998 C. R. Nelson #

6839 30 Evaniidae, video & photos. 6839

6840 USA TEXAS: Williamson Co. Liberty Hill 29-Oct-1998 CRN NOT PRESENT C. R.

Nelson # 6840 30 some member of the public brought this spider to me. trapdoor or
purseweb spider, photos, 30 Oct 1998. 6840

6841 USA TEXAS: Cameron Co. Harlingen, 2314 Susan Street 24-Oct-1998 CRN NOT

PRESENT C. R. Nelson # 6841 & Angela Masloff 30 Collected by Angela Masloff at her
mother's house. Chrysomelidae: Cassidinae, larva, pupa, adult, on "native olive".

photographed in UT lab by C. R. Nelson with mulberry leaves. Also parasitic wasp that
emerged from pupa. 6841

6842 USA TEXAS: Travis Co. Austin, Univ. Texas, lab colony 30-Oct-1998 C. R. Nelson #

6842 30 *Eacles imperialis* larva, lab reared from eggs by David Millard 6842

6843 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170m 30 17 03 N 97 46

42 W 05-Nov-1998 C. R. Nelson # 6843 & J. E. Gillaspay & Don Pokorny & Jennifer Alana &
Michael Teasdale. 30 on dogwood, *Cornus drummondii*:

sawfly larvae, photos, light and dark.

Notodontidae, *Schizura unicornis*, caterpillar.

Zoraptera under firm bark of huge, dead, fallen cottonwood, given to Don Pokorny, Jennifer
Alana, and Michael Teasdale. 6843

6844 USA TEXAS: Travis Co. Austin, Univ. Texas 06-Nov-1998 C. R. Nelson # 6844 30

Phoridae, larvae, pupae, adults, on rotten potatoes. 6844

6845 USA UTAH: Washington Co. Rockville 11-Nov-1998 C. R. Nelson # 6845 & R. S.

Hansen & O. Hernandez. 30 *Chrysothamnus nauseosus* with galls of Tephritidae, probably
Aciurina sp.

also found a few galls on *Atriplex canescens*, all given to Mary Poteet to rear. 6845

6846 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 30 11 32 N 97 47 16 W 14-Nov-

1998 C. R. Nelson # 6846 30 Limacodidae, slug caterpillar, photos, perhaps *Euclea*
nanina?, photos on 17 Nov 1998. 6846

6847 USA TEXAS: Travis Co. Austin, Bill Hughes Road 30 11 32 N 97 47 16 W 17-Nov-1998
C. R. Nelson # 6847 30 grackles, photos. 6847

6848 USA TEXAS: Travis Co. Austin, Zillker Park 30 16 06 N 97 45 52 W 18-Nov-1998 C. R.
Nelson # 6848 30 fall webworm in pecan tree, purported squirrel in spider web.
grackles, photos.
pigeons below Mo-Pac 6848

6849 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 29 53 12 N 100 59 36 W 20-Nov-
1998 C. R. Nelson # 6849 30 Camille's riffle = Surber riffle. mercury vapor light:
Simuliidae
Corixidae
Caenidae
Ophion, Ichneumonidae, photos.
Pyralidae, Diaphania hyalinata, photos, black bordered white with purplish reflections.

at falls at night:
mosquitoes in pot holes, slender siphon.
beetles.

Saturniidae
Hemileuca grotei 6849

6850 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 29 53 12 N 100 59 36 W 21-Nov-
1998 C. R. Nelson # 6850 30 Camille's riffle = Surber riffle.

2 samples of First 100 on Camilles riffle, each student took 2 samples as well. Sisyridae,
Climacia, photos.
6850

6851 USA TEXAS: Val Verde Co. Devils River, Blue Springs above Dolan Falls 29 53 12 N 100
59 36 W 21-Nov-1998 C. R. Nelson # 6851 & class 31 Nepidae - Ranatra
Zygoptera, mostly Enallagma nymphs
Platyvelia
Donacia
Hydrometra 6851

6852 USA TEXAS: Val Verde Co. Devils River, walk to Blue Spring, temporary pools above
Dolan Falls 29 53 12 N 100 59 36 W 21-Nov-1998 C. R. Nelson # 6852 & class 31
Nematomorpha

Conchostraca

Notostraca, photos, tadpole shrimp 6852

6853 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 29 53 15 N 100 59 28 W

21-Nov-1998 C. R. Nelson # 6853 & class 31 Set up 4 light traps at 5:45 pm, before dark, at
paced:

1 m = 1 yd with Haglof LaserPro distance meter

10 m = 10 yd with Haglof

50 m = 55 yd with Haglof

100 m = 110 yd with Haglof

distance from creek at Mercury Falls, going up north slope, temp at 7:47 at rock surface
(shade) was 11 d C on morning of 22 Nov 1998. Robert Hansen was with me. He collected
Dolichopodidae adults off the surface of temporary pool.

Trap 1: 29 53 25 N 100 59 13 W

Trap 2: 29 53 25 N 100 59 14 W

Trap 3: 29 53 26 N 100 59 14 W

Trap 4: 29 53 27 N 100 59 15 W

Other lat long for this area:

catfish pool: 29 53 14 N 100 59 30 W

Dolan Surber site: 29 53 15 N 100 59 28 W

Shelf Angle: 29 53 21 N 100 59 19 W

Cliff over Devils River on Tween Ridge:

29 53 36 N 100 59 42 W

Tween Peak: 29 53 31 N 100 59 24 W *Hydroscapha natans*, photos.

Psephenus 6853

6854 USA TEXAS: Val Verde Co. Devils River, above Dolan Falls, Tween Peak 29 53 31 N 100

59 24 W 22-Nov-1998 C. R. Nelson # 6854 & class 31 photos of Maria Dahmus & Adam

Talianchich from below then from on top.

photos of river scenery.

photos of C. R. Nelson.

Also I drew a map in my notes showing the photo points for shooting downstream. 6854

6855 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 29 53 14 N 100 59 31 W

22-Nov-1998 C. R. Nelson # 6855 & class 31 Walked up the creek and along spring side.

High water flows, much rearrangement of riffles due to flood of 27 Aug 1998.

Harvested light traps see notes #6853. Collected with class near Mercury Falls (high water, falls unapparent).

photos through surface water, of Leucotrichia, Baetidae.

photos, Polycentropodidae, Cernotina.

Students kept most specimens, Calamoceratidae, Phylloicus in main creek.

photos, Cydnidae. Dolichopodidae on temporary pools, see #6853.

photos through surface water, of Leucotrichia, Baetidae.

photos, Polycentropodidae, Cernotina.

Students kept most specimens, Calamoceratidae, Phylloicus in main creek.

photos, Cydnidae. 6855

6856 USA TEXAS: Val Verde Co. springs of Dolan Creek, Penstemon Cliff Spring, above Devils River 29 53 14 N 100 59 31 W 22-Nov-1998 C. R. Nelson # 6856 & class 31 No salamanders in Robert Hansen's drift net at mouth of standard, "Table Rock" spring. We did see one salamander on level sheet flow of spring upstream most (nearest open space of Penstemon Cliff, but below 1997 rock fall. It swam upstream quickly and disappeared, approximate total length was about 6 cm. See the length drawing in notes.

Calamoceratidae 6856

6857 USA TEXAS: Val Verde Co. Spotted Beetle Pool in Grotto Canyon, above Dolan Creek 29 53 14 N 100 59 31 W 22-Nov-1998 C. R. Nelson # 6857 & class 31 Site photos, Spotted Beetle Pool.

Later i took a group photo at Pavilion, opposite showers, left camp at 3:15 pm, arrived in Austin at 8:30 pm, we only had one minor gas stop in Sonora. Nematomorpha wound up around leaf, photos. 6857

6858 USA TEXAS: Burnet Co. Hamilton Creek, Mormon Mill Road, then turn of f CR 341, 4.3 mi NE of Marble Falls 30 37 23 N 98 13 47 W 25-Nov-1998 C. R. Nelson # 6858 & Jason Wood & Dale Jurecka & David Bass & Curt Burdorff 31 Site photos. Zealeuctra hitei, 1 m l f adults

Aeshna, photos of nymphs of Basiaeshna janata.

Adult was Aeshna verticalis.

Rheumatobates

Libellulidae, photos, large Corduliidae: Epitheca princeps; small Epitheca princeps.

Belostoma, photos.

Arigomphus nymph

Traverella

Berosus

Helichus lithophilus

also one small *Epitheca*? (*Tetragoneuria*).

Another GPS reading at same general site was: 30 37 14 N 98 13 47 W 6858

6859 USA TEXAS: Blanco Co. Cypress Creek, Hwy 962, 1 mi NE of Cypress Mill 30 22 59 N 98 15 00 W 25-Nov-1998 C. R. Nelson # 6859 & Jason Wood 31 Site photos.

Cypress Creek, 0 miles

Hammet (sp?) Crossing 8.5 mi

Pedernales River

Hamilton Pool 9.1

jct Hwy 12 15.4

jct Hwy 71 21.9 *Suragina concinna* larvae, photos, some in 100% EtOH sent to Brian Wiegmann in North Carolina.

Macrelmis texanus, photos, adults & larva

Tabanidae

Microcylloepus 6859

6860 USA TEXAS: Hemphill Co. Canadian River, Hwy 83, 1 mi N of Canadian 35 56 16 N 100 22 15 W 19-Dec-1998 C. R. Nelson # 6860 & family 31
Much sand. Little substrate for stoneflies, but possible.

Elm Creek, S of Shamrock looked like a good spot to find stoneflies. Collected nothing.
Saw several kinds of snails, fish, *Gambusia*, *Lepomis*. 6860

6861 USA UTAH: Utah Co., Wheeler Sawmill, 12 mi E of Thistle, Hwy 6 39 57 19 N 111 16 00W 25-Dec-1998 C. R. Nelson # 6861 & family 31 Photos, technology & scenics.
Photos, snowmobiling.

First try with GPS was:

39 57 24 N 111 16 02 W *Adelgidae* galls, photos, on blue spruce.

photos, box elder seeds.

6861

6862 USA UTAH: Grand Co. Crescent Junction, I-70 rest area 38 56 42 N 109 47 48 W 30-Dec-1998 C. R. Nelson # 6862 & family 31 Photos were taken at Parker's house in Westminster, Colorado on 31 Dec 1998. Collected & photographed:
galls on *Chrysothamnus nauseosus*, fuzzy.

galls on *Chrysothamnus nauseosus*, smooth.
stems of *Eriogonum inflatum*. 6862

6863 USA UTAH: Grand Co. I-70 Westwater exit, milepost 225 39 10 53 N 109 07 20 W 30-Dec-1998 C. R. Nelson # 6863 & family 31 galls: fuzzy white on *Chrysothamnus nauseosus*.

Looked for galls on *Atriplex canescens*, but found none.
6863

6864 USA COLORADO: Garfield Co. Grizzly Creek Rest Area, I-70, Glenwood Canyon, 5 mi E of Glenwood Springs 30-Dec-1998 C. R. Nelson # 6864 & family 31 Photos of Amy Leah Nelson with Colorado River in background. Amy and I watched dippers (water ouzels) diving into the frigid waters of the river.

We also had a snowball fight. 6864

6865 USA COLORADO: Adams Co. Westminster 39 56 27 N 105 00 40 W 31-Dec-1998 C. R. Nelson# 6865 31 photos: galls on aspen, *Populus tremuloides* in Parker's yard as a planting. Agromyzidae: *Hexomyza schineri* 6865

6866 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97 46 41 W 08-Jan-1999 C. R. Nelson# 6866 & J. E. Gillaspay 31 larva of moth collected at U. T. on Nov 1998 by J. E. Gillaspay photos: Ichneumonidae emerged from *Megalopyge opercularis*, also photos of pupa (on 3 Jan 1999) 6866

6867 USA TEXAS: Lee Co. Old Dime Box, Hwy 21, 2 mi N of Old Dime Box 09-Jan-1999 C. R. Nelson# 6867 & Everett Simmons 31 photos: *Solenopsis invicta* mounds 6867

6868 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97 46 41 W 25-Jan-1999 C. R. Nelson# 6868 & Bio 208 class 31 warm day; fishponds, near stream, Firefly Meadow, GPS at Boat Ramp *Anax plethodon glutinosus* 6868

6869 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97 46 41 W 27-Jan-1999 C. R. Nelson# 6869 & Bio 208 class 31 Wednesday walk, Boathouse loop east, GPS at Pond F 6869

6870 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97 46 41 W 29-Jan-1999 C. R. Nelson# 6870 & Bio 208 class 31 cold & wet Reduviidae on *Forsteria* 6870

6871 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 30 11 32 N 97 47 16 W 30-Jan-1999 C. R. Nelson# 6871 31 photos, some at f22 and some at f32, no difference to me.

Margarodidae (originally thought Ortheziidae), females with crawlers on legume with sticktight seeds, *Desmodium paniculatum* 6871

6872 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97 46 41 W 01-Feb-1999 C. R. Nelson# 6872 & Bio 208 class 31 room temp was 23 degrees C TAs Adam & Curtis

HP#1: Daniel, Monica, and Jeff.

LA-M: Jessica, Colleen, Melissa, and Ashley.

LA-K: Leticia, Kathy, Marc, and Chase.

photos: fire ants, *Solenopsis invicta*

photos: people 6872

6873 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97 46 41 W 03-Feb-1999 C. R. Nelson# 6873 & Bio 208 class 31 Wednesday room temp was 26 degrees C

HP#1

LA-M:

LA-K: fire ants, *Solenopsis invicta*, preference

6873

6874 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97 46 41 W 03-Feb-1999 C. R. Nelson# 6874 & Meredith Worthen 31 BFL: Asilidae for SEM, SEM notes 6874

6875 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97 46 41 W 04-Feb-1999 C. R. Nelson# 6875 & Meredith Worthen 31 downed cottonwood log: Zoraptera and Pseudoscorpions for SEM 6875

6875.1 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97 46 41 W 05-Feb-1999 C. R. Nelson# 6875.1 & Bio 208 class 31 Friday fire ants, *Solenopsis invicta*, preference

6875.1

6876 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97 46 41 W 15-Feb-1999 C. R. Nelson# 6876 & Bio 208 class 31 Monday: Walked permanent transects established by Greg Sword during summer 1998, Point quarter transect, woody vegetation 1 cm dbh;

3 transects on SE end, finished and ended 4:30 pm 6876

6877 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97 46 41 W 17-Feb-1999 C. R. Nelson# 6877 & Bio 208 class 31 Wednesday: more permanent transects , 4 transects walked, point quarter, etc. like Monday but did not finish all (except #1 of the day which ended at the Boathouse.

photos: students 6877

6878 USA TEXAS: Travis Co. Austin, Emma Long Metropolitan Park 14-Feb-1999 C. R. Nelson# 6878 & actual collectors: Mary Poteet & Chris Bell 31 CRN not present during collecting, merely a photo session at BFL photos: Curculionidae: Myrmex in galls of Quercus buckleyi.

photos: Embioptera in gall of Quercus buckleyi
6878

6879 USA TEXAS: Travis Co. Austin, Bull Creek Greenbelt, Forest Ridge, W of Hwy 360 13-Feb-1999 C. R. Nelson# 6879 & actual collectors: Mary Poteet & Chris Bell 31 CRN not present during collecting, merely a photo session at BFL photo: Psyllidae in petiole galls of Celtis. 6879

6880 USA TEXAS: Travis Co. Austin, UT campus 08-Feb-1999 C. R. Nelson# 6880 & actual collectors: Mary Poteet & Chris Bell 31 CRN not present during collecting, merely a photo session at BFL photo: Bruchidae in pod around seed of Sophora secundiflora 6880

6881 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97 46 41 W 19-Feb-1999 C. R. Nelson# 6881 31 no notes? why the page? 6881

6882 USA TEXAS: Bastrop Co. Lost Pines Biological Station, Stengl Ranch 20-Feb-1999 C. R. Nelson # 6882 & Bio 208 class 31 House:

30 05 12 N 97 10 23 W

Pond:

30 05 15 N 97 10 13 W

Gillaspy Bluff:

30 05 06 N 97 09 42 W

JD Creek & fence:

30 05 00 N 97 09 37 W Passalidae elytra,

Tenebrionidae?

photo: Group of students 6882

6883 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97 46 41 W 22-Feb-1999 C. R. Nelson# 6883 & Bio 208 class 31 Monday

Nested vegetation plots

Quarry Meadow:

30 17 07 N 97 46 46 W

Oak Forest:

30 17 02 N 97 46 45 W

Butterfly Meadow

30 17 00 N 97 46 39 W

photos of students with Olympus zoom

6883

6884 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97 46 41 W 24-Feb-1999 C. R. Nelson # 6884 & Bio 208 class 31 Wednesday

Nested vegetation plots

Boathouse Meadow:

30 16 54 N 97 46 48 W

Pogo Bench:

30 16 51 N 97 46 44 W

Hackberry Forest:

30 16 49 N 97 46 42 W

Presentation Meadow:

30 16 52 N 97 46 46 W (site of photos of log etc.)

Firefly Meadow:

30 17 09 N 97 46 53 W on 29 Jan 1999

BFL on 17 July 1998:

30 17 03 N 97 46 41 W

malaise trap pond of 1989:

30 16 55 N 97 46 45 W photos: under hackberry bark of huge tree that fell during last fall's floods

fly larvae

Buprestidae larvae

Sciaridae adult

Buprestid? pupa 6884

6885 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97 46 41 W 26-Feb-1999 C. R. Nelson # 6885 & Bio 208 class 31 Friday

Firefly Meadow:

30 17 08 N 97 46 53 W

Hardpan Flat:

30 17 08 N 97 46 53 W

Juniper Forest:

30 17 08 N 97 46 53 W photos: Star fungus

galls on live oak

saw first Efferia snowi of the year.

photos: Lupinus

photos: Erodium texanum

photos: little bluestem 6885

6886 USA NEW MEXICO: near Clovis 27-Feb-1999 C. R. Nelson # 6886 & Bio 208 class 31 flight Dallas TX to Ontario CA, photos from the air:

irrigation circles near Clovis

view NW to Albuquerque, Rio Grande

due N to Albuquerque

due N to Albuquerque over Rio Grande jct Rio Puerco

chained junipers near Fence Lake

more chained junipers near Payson?

notes: movies/stories with scale important:

Alice in Wonderland

Gullivers Travels

Fantastic Voyage

Honey, I shrunk the kids

Time Machine

Tron

Star Gate

Back to the Future

more photos from the air:

AZ: Mormon Lake, San Francisco Peak, Red Rock of Sedona
mine & lake at Bagdad?, forest fire behind (in Hualapai Mtns.?)

mine & lake, closer up, two tone water

Lake Havasu & city, former Colorado River

Lake Havasu, slightly to east

isolated irrigation agriculture near shore of Cadiz Lake

Twenty nine Palms, peace sign?

Big Bear Lake, Anderson Peak

Anderson Peak

San Bernardino

interchange at Loma Linda & river

San Gabriel Mtns. & San Bernardino

San Gabriel Mtns. & raceway

new roll of film: smog & SW plane on landing

6886

6887 USA CALIFORNIA: Los Angeles Co. Rancho Santa Ana Botanical Garden, Claremont

34 30 47 N 117 42 52 W 27-Feb-1999 C. R. Nelson # 6887 & Randy & Jean Nelson 31

photos: Randy & Jean Nelson photos: *Sceloporus occidentalis*

6887

6888 USA CALIFORNIA: Orange Co. Anaheim Hills, 6990 Avenida de Santiago 33 50 01 N

117 44 45 W 28-Feb-1999 C. R. Nelson # 6888 & Randy & Jean Nelson 31 1 March:

photos: dinosaur egg & ostrich egg photos: Pacific Treefrog, first ever to fall in Randy & Jean's swimming pool. 6888

6889 USA CALIFORNIA: Riverside Co. Whitewater Creek, Whitewater Canyon, 5 mi N of I-10

33 58 59 N 116 39 09 W 02-Mar-1999 C. R. Nelson # 6889 & Connell Dunning & Hannah

Gould & Jutta Burger. 31 Nemouridae: malenka female

Mayflies: Baetidae, Ephemerellidae, Heptageniidae.

Bibionidae to Connell 6889

6890 USA CALIFORNIA: Riverside Co. Whitewater Creek, Whitewater Canyon, 2 mi N of I-10

33 56 15 N 116 38 32 W 02-Mar-1999 C. R. Nelson # 6890 & Connell Dunning & Hannah

Gould & Jutta Burger. 31 photos: galls on *Larrea*

photos: 11 March 1999: Cecidomyiidae emerging from gall: *Asphondylia* sp. 6890

6891 USA CALIFORNIA: Riverside Co. North Fork San Jacinto River, Dark Canyon, 7 mi NW of Idyllwild 33 47 48 N 116 44 27 W 02-Mar-1999 C. R. Nelson # 6891 & Connell Dunning & Jutta Burger. 31 *Capnia palomar*, 1m

Capnia teresa, 35m 29f, also 2m photo vouchers

Zapada cinctipes, 5m 19 f, also 1f photo voucher

Paraleuctra occidentalis, 2m

malenka biloba, 1m

photo: *Raphidia* (*Agulla*?) larva 6891

6892 USA CALIFORNIA: Riverside Co. Strawberry Creek, Hwy 74, 10 mi W of Mountain Center 33 42 40 N 116 46 11 W 02-Mar-1999 C. R. Nelson # 6892 & Connell Dunning & Jutta Burger. 31 *Capnia teresa* 4f

Mesocapnia 1m, long straight

Taenionema sp. 2f

Nemourid: *malenka* 1m, not *biloba*

photos: tree frog

photos: *Blephariceridae*: *Agathon*

photos: *Maruina*

Buprestidae

Chalcididae

Trichoptera larvae (with *Blephs*)

photo: *Tetragnatha* spider female eating *Agathon* male 6892

6893 USA CALIFORNIA: Riverside Co. Riverside, Box Springs Mtn. 02-Mar-1999 C. R. Nelson # 6893 & Connell Elizabeth Dunning & Jutta Christine Burger. 31 photos: with road kill "python" that was about 12 feet long 6893

6894 USA CALIFORNIA: from air, out of Ontario on American Airlines 03-Mar-1999 C. R. Nelson # 6894 31 photos heading east:

cloveleaf & mtan. South Orange Co.

coastal ranges near PaloMar (discarded)

Salton Sea from north

dunes & Colorado River N of Blythe

Colorado River glitter N of Blythe

aqueduct (sp?) N of I-10 near Parker S of Bill Williams River

Little Colorado River? & potholes? or near Heber (discarded)

Rio Grande S of Albuquerque

center pivots near Farwell, Texas (discarded)

more center pivots near Spring Lake

swimming pools of Fort Worth (discarded)
sewage treatment plant, Grapevine? (discarded)
downtown Dallas from I-20 near Arlington
downtown Dallas from DFW (discarded, out of focus)
plane shadow cast on Austin
plane shadow & Colorado River, Austin (poor focus)
plane shadow on Colorado River (discarded) 6894

6895 USA TEXAS: Travis Co. Austin, McKinney Falls State Park 07-Feb-1999 C. R. Nelson #
6895 & Mary Poteet & Chris Bell 31 CR Nelson not present during collection, photo session
at BFL photos: Cynipidae 6895

6896 USA TEXAS: Live Oak Co. Rest Area, I-37, 13 mi N of Three Rivers 28 28 57 N 98 14 35
W 13-Mar-1999 C. R. Nelson # 6896 & A. W. Hook & J. Neff 31 690 feet (from GPS)
Meloidae 6896

6897 USA TEXAS: Brooks Co. Falfurrias 27 14 27 N 98 08 21 W 13-Mar-1999 C. R. Nelson #
6897 & A. W. Hook & J. Neff 31 179 feet (from GPS) bees to Neff
Tachinidae 6897

6898 USA TEXAS: Brooks Co. 2 mi S of Falfurrias, Hwy 281 27 09 39 N 98 09 03 W 13-Mar-
1999 C. R. Nelson # 6898 & A. W. Hook & J. Neff 31 273 feet (from GPS)
30 degrees C Efferia snowi?

Efferia small

snails

Therevidae

Chrysidae

photo: immature grasshopper photographed after Resaca CRN #6899 6898

6899 USA TEXAS: Hidalgo Co. Bentsen Rio Grande State Park 26 10 11 N 98 22 55 W 13-
Mar-1999 C. R. Nelson # 6899 & A. W. Hook & J. Neff 31 87 feet elevation.

14 March 1999, morning, resaca at state park photos: snails & 1 maggot

photos: Heteropogon

Efferia

dragonflies

photos: Megachilidae males in sleeping aggregation, Megachile (Chelostomoides) texensis
det Jack Neff

6899

6900 USA TEXAS: Cameron Co. Boca Chica Beach, end of Hwy 4 25 59 50 N 97 09 12 W
14-Mar-1999 C. R. Nelson # 6900 & A. W. Hook & J. Neff 31 0 feet elevation.

Therevidae

Proctacanthella

Cicindelidae 6900

6901 USA TEXAS: Cameron Co. Boca Chica salt flats, 1 mi inland, Hwy 4 14-Mar-1999 C.

R. Nelson # 6901 & A. W. Hook & J. Neff 31 Efferia

Proctacanthella

Laphystia

Pompilidae

photos: Chenopodiaceae 6901

6901.1 USA TEXAS: Cameron Co. 5.6 mi W of Boca Chica beach, saltwater channel 14-Mar-1999 C. R. Nelson # 6901.1 & A. W. Hook & J. Neff 31 crab fishing spot

Laphystia

Volucella (Copestylus)

Cicindelidae 6901.1

6902 USA TEXAS: Cameron Co. Resaca de las Palmas Huntina Area, W of Brownsville 14-Mar-1999 C. R. Nelson # 6902 & A. W. Hook & J. Neff 31 went North of Riverbend Golf

Course & subdivision Laphystia

Aphoebantus

bees

Odonata 6902

6903 USA TEXAS: Hidalgo Co. La Joya 15-Mar-1999 C. R. Nelson # 6903 & A. W. Hook & J. Neff 31 Chrysomelidae, 2 spp. small on mesquite flowers 6903

6904 USA TEXAS: Starr Co. 1 mi E of Rio Grande City, Hwy 83, 18 mi W of La Joya 15-Mar-1999 C. R. Nelson # 6904 & A. W. Hook & J. Neff 31 Hwy 83 & Hidalgo Avenue Eumenidae

Sphecidae

bees

photos: Cophura? red Laphystia?

Tephritidae

Coenagrionidae 6904

6905 USA TEXAS: Starr Co. 3 mi NW of Roma , Hwy 83 15-Mar-1999 C. R. Nelson # 6905 & A. W. Hook & J. Neff 31 at Mier a Vista Mission Paracosmus

Haplopogon?

Saropogon abbreviatum

bees

Sphecoidea 6905

6906 USA TEXAS: Starr Co. 5 mi NW of Roma , Hwy 83, 2 mi SE of Arroyo Minita 15-Mar-1999 C. R. Nelson # 6906 & A. W. Hook & J. Neff 31 Heteropogon
Chrysomelidae 6906

6907 USA TEXAS: Starr Co. campground on Rio Grande, 2 mi below Falcon Dam, Chapeno 15-Mar-1999 C. R. Nelson # 6907 & A. W. Hook & J. Neff 31 aphids on reed
Coenagrionidae
Efferia albibarbis
Hetaerina americana 6907

6908 USA TEXAS: Zapata Co. Falcon State Park 15-Mar-1999 C. R. Nelson # 6908 & A. W. Hook & J. Neff 31 field labels incorrectly call Starr Co. Cerambycidae
Myrmeleontidae
Coenagrionidae
Libellulidae
Anopheles
Sphecidae
Efferia albibarbis
Ormia
photos: Efferia albibarbis with Argia prey
photos: Wilcoxia cactus
photos: Bostrichidae
photos: Chalcididae 6908

6909 USA TEXAS: Zapata Co. 5 mi SE of Zapata, Hwy 83 16-Mar-1999 C. R. Nelson # 6909 & A. W. Hook & J. Neff 31 5 mi from Zapata's plaza.
check out on a later visit: Arroyo Veleno, backwater & boat launch, too dry this year.
photos: Caesalpinia 6909

6910 USA TEXAS: Zapata Co. roadside 5.5 mi NE of San Ygnacio, Hwy 3169 16-Mar-1999 C. R. Nelson # 6910 & A. W. Hook & J. Neff 31 Buprestidae, lost
Perdita on Gaillardia
Diadasia on Cordia 6910

6911 USA TEXAS: Zapata Co. Arroyo Dolores, Hwy 83 16-Mar-1999 C. R. Nelson # 6911 & A. W. Hook & J. Neff 31 stream flows well, even in this drought photos: Haplopogon texana, abundant, in 70%, in 100%, dry.
Syrphidae 6911

6912 USA TEXAS: Dimmit Co. Chaparral State Wildlife management Area, 8 mi W of Artesia Wells 28 48 42 N 99 24 25 W 16-Mar-1999 C. R. Nelson # 6912 & A. W. Hook & J. Neff 31

GPS at bunkhouse; Jim Gallagher is a biologist here, David Synatzske is the area manager

387 feet elevation *Efferia snowi*

Bombyliidae

photo: Conopidae

Mutillidae 6912

6913 USA TEXAS: Dimmit Co. Chaparral State Wildlife management Area, 8 mi W of Artesia Wells 28 48 42 N 99 24 25 W 17-Mar-1999 C. R. Nelson # 6913 & A. W. Hook & J. Neff 31 8:00 am, 23 degrees C Syrphidae - Copestylum

Pyrgotidae

photos: Rhipiphoridae on *Thelesperma nuecense*

photos: Cleridae on *Thelesperma nuecense*

Trox 6913

6914 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl, Town Lake 30 17 03 N 97 46 41 W 22-Mar-1999 C. R. Nelson # 6914 & Bio 208 class 31 Monday, First 100 samples 6914

6915 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl, Pond F 30 17 03 N 97 46 41 W 22-Mar-1999 C. R. Nelson # 6915 & Bio 208 class 31 Monday, First 100 samples 6915

6916 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl, Town Lake 30 16 51 N 97 46 51 W 24-Mar-1999 C. R. Nelson # 6916 & Bio 208 class 31 Wednesday, First 100 samples photos: *Hexagenia limbata*
photos: Corduliidae, *Epithea princeps* 6916

6917 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl, Pond A 30 16 51 N 97 46 51 W 24-Mar-1999 C. R. Nelson # 6917 & Bio 208 class 31 Wednesday, First 100 samples photos: *Ranatra*
photos: Hydrophilidae larva, *Tropisternus* 6917

6918 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl, Town Lake 30 16 51 N 97 46 51 W 26-Mar-1999 C. R. Nelson # 6918 & Bio 208 class 31 Friday, First 100 samples photos of all:

Belostoma

Stenacron

Caenis

Ceratopogonidae

limpet 6918

6919 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl, Pond D 30 16 51 N 97 46 51 W 26-Mar-1999 C. R. Nelson # 6919 & Bio 208 class 31 Friday, First 100 samples

heavy sulfur smell

photos: C. R. Nelson by David McGeary 6919

6920 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 30 11 32 N 97 47 16 W 27-Mar-1999 C. R. Nelson # 6920 31 photos: Flathead snake, *Tantilla gracilis* 6920

6921 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 30 11 32 N 97 47 16 W 08-Apr-1999 C. R. Nelson # 6921 31 photos: hackberry mines, compost insects 6921

6922 USA TEXAS: Travis Co. Austin, Parker Lane 08-Apr-1999 C. R. Nelson # 6922 31 Therevidae 6922

6923 USA TEXAS: Kimble Co. South Llano River State Park 30 26 41 N 99 47 51 W 9-10 April 1999 C. R. Nelson # 6923 & Bio 208 class

Jan Barber, Curtis Clevinger, Adam Cohen, Bessie Green, Sam Sadin, Chris Beacom, Katy Klymus, Melissa Thomson, Colleen Bass; visited by Robert Hansen & Lisa Weston. 31 left Austin around 5:30 pm arrived in Junction around 8:15 pm

Talked with Paul McGaw of Toronto, Canada. He is a moth hunter and photographer. He and his wife had been visiting Phil & Pat Shappert at Stengl Ranch.

Therevidae

photos: *Acris crepitans*

saw *Perlesta decipiens* adult

Chimarra texana

Chimarra "angustipennis"

many other caddis 6923

6924 USA TEXAS: Terrell Co. Independence Creek, 25 mi SE of Sheffield 30 26 47 N 101 43 33 W 10-11 April 1999 C. R. Nelson # 6924 & Bio 208 class

Jan Barber, Curtis Clevinger, Adam Cohen, Bessie Green, Sam Sadin, Chris Beacom, Katy Klymus, Melissa Thomson, Colleen Bass 31 distances light trap experiment:

1m, 10m, 50m; start 8:31 pm 22 degree C; 9:07pm 19 d C; 9:31 pm 16 d C, from

Independence Creek at road crossing: 30 27 03 N 101 43 53 W; other lat long was from concrete slab;

This site is 22.2 mi S of Sheffield on hwy, then 5.3 mi E on dirt road toward the Pecos River.

photos: *Salvadora*

Efferia

photos: Startiomyidae on composite flowers
photos: Scleropogon

11 Apr:

photos: banded gecko
photos: scorpions, 2 spp., not Centruroides
photos: spider 6924

6925 USA TEXAS: Terrell Co. Pecos River, jct Independence Creek 11-Apr-1999 C. R. Nelson # 6925 & Bio 208 class

Jan Barber, Curtis Clevinger, Adam Cohen, Bessie Green, Sam Sadin, Chris Beacom, Katy Klymus, Melissa Thomson, Colleen Bass; 31 photos: junction of streams mussels damselflies

Leptophlebiidae males 6925

6926 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl, Firefly Meadow 30 17 03 N 97 46 41 W 12-Apr-1999 C. R. Nelson # 6926 & Bio 208 class

31 ants

photos: Erodium texanum
photos: Composites, white & yellow
photos: Thamnophis cyrtopsis, black neck garter snake 6926

6927 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl, Firefly Meadow 30 17 03 N 97 46 41 W 14-Apr-1999 C. R. Nelson # 6927 & Bio 208 class

31 Wednesday ants across ecotone experiment.

photos: Bombyliidae, teneral & pupal skin: Paravilla vigilans (parasitizes Diadasia afflicta, caught 1 female)

photos: Efferia snowi female laying eggs

photos: Erodium texana

saw Tantilla gracilis with prefrontal and labial touching at a point.

Gomphidae 6927

6928 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl, Firefly Meadow 30 17 03 N 97 46 41 W 16-Apr-1999 C. R. Nelson # 6928 & Bio 208 class

31 Friday ants across ecotone experiment.

photos: Diadasia afflicta turrets

photos: Erodium texanum

photos: Salvadora, patchnose snake caught by Tom Devitt. 6928

6929 USA TEXAS: Travis Co. Austin 21-Apr-1999 C. R. Nelson # 6929 Jules Dautel 31 C. R. Nelson not actually present when caught, brought in by Jules Dautel. *Alaus oculatus*, eyed click beetle 6929

6930 USA TEXAS: Travis Co. Barton Creek, uplands tract, Bee Caves near jct Hwys 71 & 2244 26-Apr-1999 C. R. Nelson # 6930 & Bio 208 class 31 The Nature Conservancy's Barton Creek Preserve.

mapped 2nd riffle below lower water crossing. 50 m section with lateral transects sampled at 0.5 m: flow, depth, temp., and oxygen. photos of all: people

Heteraerina americana adult

Argia adult

Lycosidae, 2 spp. with egg Masses

Cixiidae nymph

spiny softshell turtle baby

Salticidae

Lycaenidae 6930

6931 USA TEXAS: Travis Co. Barton Creek, uplands tract, Bee Caves near jct Hwys 71 & 2244 28-Apr-1999 C. R. Nelson # 6931 & Bio 208 class 32 The Nature Conservancy's Barton Creek Preserve.

mapped 2nd riffle below lower water crossing. next 50 m section with lateral transects sampled at 0.5 m: flow, depth, temp., and oxygen. photos, all:

Heteraerina americana

Argia

Saldidae, *Micracantha*

Justicia americana?

people

Veliidae 6931

6932 USA TEXAS: Travis Co. Austin, University of Texas 30-Apr-1999 C. R. Nelson # 6932 & Sarah Simmonds 32 photos: *Arctiidae*, *Cisseps fulvicollis*
photos: centipede & bot fly specimen bottles in lab, ESB 140. 6932

6933 USA TEXAS: Travis Co. Cedar Park 30-Apr-1999 C. R. Nelson # 6933 & Sarah Simmonds 32 photo session only, C. R. Nelson did not collect the specimen. Sarah Simmonds did. photos: *Pentatomidae*, black 6933

6934 USA TEXAS: Travis Co. Barton Creek, uplands tract, Bee Caves near jct Hwys 71 & 2244 30-Apr-1999 C. R. Nelson # 6934 & Bio 208 class 32 The Nature Conservancy's Barton Creek Preserve.

mapped 2nd riffle below lower water crossing. Third 50 m section with lateral transects sampled at 0.5 m: flow, depth, temp., and oxygen. photos, all:

people

beetle larva 6934

6935 USA TEXAS: Travis Co. Austin, University of Texas, turtle pond 05-May-1999 C. R. Nelson # 6935 32 photos:

Jacques Gauthier

Chris Bell

with *Trachemys scripta* 6935

6936 USA TEXAS: Travis Co. Austin, McKinney Falls State Park 05-May-1999 C. R. Nelson # 6936 32 photos:

Onion Creek

Rock Shelter

Williamson Creek 6936

6937 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97 46 41 W 13-May-1999 C. R. Nelson # 6937 & James E Gillaspay & A. W. Hook

32 *Laphria macquarti*

Tachinidae

Hippoboscidae

Efferia

Psilocurus

photos of rest:

Miridae on *Ratibida columnaris*

Cerambycidae on *Ratibida columnaris*

Plecia americana

Berytidae on big Gaura

Tingidae on big Gaura

Aphididae on big Gaura

Malvaviscus

Scarabaeidae

saw fly larvae

Asteraceae: 4 bracts, Tetragonotheca 6937

6938 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97 46 41 W 14-May-1999 C. R. Nelson # 6938 32 photos: grain mites in mealworm colony 6938

6939 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 30 11 32 N 97 47 16 W 15-May-1999 C. R. Nelson # 6939 32 photos: Jason & Andrea after seminary graduation. 6939

6940 USA TEXAS: Dimmit Co. Chaparral State Wildlife management Area, 8 mi W of Artesia Wells 28 18 41 N 99 24 25 W 19-May-1999 20-May-1999 C. R. Nelson # 6940 & A. W. Hook & J. L. Neff & R. J. Patrock 32 Baldy: agaves: 28 21 14 N 99 27 58 W
bunkhouse: 28 18 41 N 99 24 25 W

very good robber fly spot:

28 20 42 N 99 23 45 W 19 May:

Gyrinidae

Tetrigidae

Saropogon - black

Ospriocerus, 2 spp.

Saropogon - yellow

Saropogon abbreviatum

Cicindelidae

Nemestrinidae

Lampria

Cleridae

photos: Phaneus

20 May, from mercury vapor lamp:

photos: Meloidae, some mating

photos: Sphingidae

photos: Bufo speciosus, Texas toad

photos: tortoise

Ascalaphidae

Cydnidae

photos: ticks in dog's ear

photos: Elateridae

photos: moths, none kept

photos: dung beetles

photos: *Microstylum galactodes* with grasshopper prey. (at good robber fly site)

many robber flies. 6940

6941 USA TEXAS: Maverick Co. Eagle Pass 20-May-1999 C. R. Nelson # 6941 & A. W. Hook & J. L. Neff & R. J. Patrock 32 *Solenopsis invicta* at gas station, same in a planter box containing a yucca. 6941

6942 USA TEXAS: Val Verde Co. Sycamore Creek, Hwy 277, 9.2 mi SE of Del Rio 29 15 24 N 100 45 05 W 20-May-1999 C. R. Nelson # 6942 & A. W. Hook & J. L. Neff & R. J. Patrock 32 *Efferia argyrosoma*

Scleropogon

photos: Cantharidae: *Chauliognathus* blackspots: on composites, solid yellow on mint, solid yellow thick on Rhus tree

Chrysomelidae, 2 spp. on *Solanum elaeagnifolia*, a *Leptinotarsa* and a spherical metallic blue 6942

6943 USA TEXAS: Val Verde Co. San Felipe Springs, Del Rio 21-May-1999 C. R. Nelson # 6943 & A. W. Hook & J. L. Neff & R. J. Patrock 32 photos: Springs and hardware trapping them. *Atomosia* 6943

6944 USA TEXAS: Val Verde Co. 5 mi E of Del Rio, Hwy 90 29 23 03 N 100 45 06 W 21-May-1999 C. R. Nelson # 6944 & A. W. Hook & J. L. Neff & R. J. Patrock 32 10:21 AM *Efferia*
Atomosia

Acalypterate

Oedipodinae

Aphoebantus

Ammophila

Sphex 6944

6945 USA TEXAS: Uvalde Co. Nueces River, Hwy 55, 2 mi S of Camp Wood 29 37 08 N 100 00 34 W 21-May-1999 C. R. Nelson # 6945 & A. W. Hook & J. L. Neff & R. J. Patrock 32 overcast at first, cleared later *Efferia*

Polacantha

Cicindelidae

Syrphidae

bees

Psilocurus, yellow legs

all photos:

Lampyridae, lightless, voucher

Phthiria (now Poecilognathus) on Ratibida columnaris and Coreopsis

Suragina concinna, voucher

Murgantia, on Lepidium

Protoneura cara, twisted wing

Argia, large powder blue female

Enallagma, small blue male, voucher

Cicadellidae, no voucher

Tephritidae, mating pair, no vouchers 6945

6946 USA TEXAS: Real Co. 10 mi E of Camp Wood, Hwy 337 29 44 56 N 99 54 29 W 21-May-1999 C. R. Nelson # 6946 & A. W. Hook & J. L. Neff & R. J. Patrock 32 Pinus cembrioides var. remota, a pinyon on ridge 6946

6947 USA TEXAS: Real Co. Frio River, Hwy 337, Leakey 29 43 23 N 99 45 13 W 21-May-1999 C. R. Nelson # 6947 & A. W. Hook & J. L. Neff & R. J. Patrock 32 photos:

Carduus nutans

Tipulidae, striking orange and black, Jon Gelhaus thought it was Hexatoma when I described it to him on the phone.

Lampria

Helenium

Stenonema x

Suragina 6947

6948 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 30 11 32 N 97 47 16 W 26-May-1999 C. R. Nelson # 6948 32 photos: Mediterranean gecko 6948

6949 USA TEXAS: Blanco Co. Pedernales Falls State Park, falls area 30 20 02 N 98 15 08 W 27-May-1999 C. R. Nelson # 6949 & A. W. Hook & J. L. Neff 32 Falls: 30 20 12 N 98 15 03 W above falls, Bembicinus & Stictia nests:

30 20 20 N 98 15 19 W photos, all: Araneidae

Stratiomyidae, Nemotelus on Coreopsis

Satyridae

Ascalaphidae

Curculionidae on Sesbania

Meloidae

Sphecidae, Bembicinus

Araneidae on visible web pad

Apiomerus with Apis mellifera on Cephalanthus

Arilus cristatus with Xylacopa on Cephalanthus

Mordellidae on Stillingia

Corduliidae: *Neurocordulia xanthosoma* (Williamson) 1908, det A. R. Myrup 2006. 6949

6950 USA TEXAS: Travis Co. Austin, McKinney Falls State Park 30 11 16 N 97 43 16 W 31-May-1999 C. R. Nelson # 6950 32 photos: Riley & Kaye

Falls: 30 11 16 N 97 43 16 W

Smith visitor's center: 30 11 02 N 97 43 28 W photos, all:

Arctiidae on matelea

ball on a thread

Opilionida

Noctuidae

cypress

spider wasp & spider: watched for quite a long time, 15 minutes, wasp hauled spider up on a plant while it searched for the provisioning site. Was this to avoid ant predation?

Tipulidae

snail

Libellulidae

spider, *Gasteracantha cancriformis*

webworms

6950

6951 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 30 11 32 N 97 47 16 W 05-Jun-1999 C. R. Nelson # 6951 32 photos:

Drosophila

beetle

Calliphoridae

all on watermelon rind in compost heap

camera at f22 6951

6952 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 29 53 07 N 100 59 37 W 07-Jun-1999 09-Jun-1999 C. R. Nelson # 6952 & class: Jason Nelson, Marcio Cardoso (ta), Jessica Bostick, Nikki Hanegan, Bryan Wofford, Peter Hinh, Mary Jakob, Priscilla Tan, Julie Warr, Julie Sweeney, Darren Boyer, Chris Beacom, Bessie Green, Marta DeBarba, Steve Wiswell, Jeff Eaton, Sadie Barrs, and Shann Stringer down from Kansas. 32 cabins near Dolan Falls: 29 53 08 N 100 59 39 W, 1244 feet elev.

10 June 1999: photos swimming in the falls 7 June 1999:
photos: green Cerambycidae

Microstylum galactodes
Promachus bastardii
Eumenidae
Gomphidae
Pseudoleon superbus
photos: Tettigoniidae on cactus

8 June 1999, hillside above cabins:
Promachus bastardii?
Efferia argyrosoma
Efferia zonata
Efferia tuberculata
Efferia argentifrons? only females
photos: colorful lubber grasshoppers

Vespidae
Bombyliidae
Pompilidae

9 June 1999, Blue Spring
photos: Meloidae & moths at light
Ichneumonidae, tapping on lily pad in Blue Springs
photos: bagworm, Psychidae 6952

6953 USA TEXAS: Val Verde Co. Devils River, below Dolan Falls, up side canyon, wall of petroglyphs 29 51 29 N 100 59 08 W 09-Jun-1999 C. R. Nelson # 6953 & class: Jason Nelson, Marcio Cardoso (ta), Jessica Bostick, Nikki Hanegan, Bryan Wofford, Peter Hinh, Mary Jakob, Priscilla Tan, Julie Warr, Julie Sweeney, Darren Boyer, Chris Beacom, Bessie Green, Marta DeBarba, Steve Wiswell, Jeff Eaton, Sadie Barrs, and Shann Stringer down from Kansas. 32 spent morning driving to Divide Ridge then down south to the first canyon south of the white oaks canyon, (which are near Grassy Patch Spring). The petroglyph alcove is just below the lip of the plateau. Collected specimen of a holly fern, with dimorphic fronds.

on plateau, parking: 29 51 25 N 100 59 11 W, 1472 feet.

at alcove: 29 51 29 N 100 59 08 W, 1403 feet. photos: people & petroglyphs 6953

6954 USA TEXAS: Val Verde Co. Leon Springs above Devils River & Dolan Falls in side canyon 09-Jun-1999 C. R. Nelson # 6954 & class: Jason Nelson, Marcio Cardoso (ta), Jessica Bostick, Nikki Hanegan, Bryan Wofford, Peter Hinh, Mary Jakob, Priscilla Tan, Julie Warr, Julie Sweeney, Darren Boyer, Chris Beacom, Bessie Green, Marta DeBarba, Steve Wiswell, Jeff Eaton, Sadie Barrs, and Shann Stringer down from Kansas. 32 dead animal: deer? in tank.

Only collected: Ranatra & a few beetles 6954

6955 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 29 53 14 N 100 59 31 W 09-Jun-1999 C. R. Nelson # 6955 & class: Jason Nelson, Marcio Cardoso (ta), Jessica Bostick, Nikki Hanegan, Bryan Wofford, Peter Hinh, Mary Jakob, Priscilla Tan, Julie Warr, Julie Sweeney, Darren Boyer, Chris Beacom, Bessie Green, Marta DeBarba, Steve Wiswell, Jeff Eaton, Sadie Barrs, and Shann Stringer down from Kansas. 32 set up light trap distance experiment. Ran from 9:00 pm to 10:00 pm, distances to 15Watt BioQuip UV light were: 1 m; 10 m; 30 m; 70 m. All in a straight line perpendicular to the stream.

Shann Stringer supervised a similar experiment on the next night, 10 June from 9:00 pm to 10:00 pm, but the traps were each distance perpendicular to the stream, but staggered so the straight line flight path to the traps was not intercepted by another trap.

See map drawn in hand notes. saw Bufo valliceps 6955

6956 USA TEXAS: Val Verde Co. Devils River, below Dolan Falls, walk to Mexican White Oaks 29 52 21 N 100 59 31 W 10-Jun-1999 C. R. Nelson # 6956 & class: Jason Nelson, Marcio Cardoso (ta), Jessica Bostick, Nikki Hanegan, Bryan Wofford, Peter Hinh, Mary Jakob, Priscilla Tan, Julie Warr, Julie Sweeney, Darren Boyer, Chris Beacom, Bessie Green, Marta DeBarba, Steve Wiswell, Jeff Eaton, Sadie Barrs, and Shann Stringer down from Kansas. 32 1292 ft. elev. Photos: Protoneuridae male, Protoneura cara, near Grassy Patch Spring, orange head & thorax.

photos: Nemestrinidae

photos: Acmaeodera

Chrysomelidae on Juglans microcarpa

photos: Efferia argyrosoma

Efferia n. sp. near wilcoxi

Bombyliidae

bees on Salvia farinosa

photos: grasshopper nymph on Opuntia

photos: Scincidae near Grassy Patch 6956

6957 USA TEXAS: Val Verde Co. Devils River, above Dolan Falls, braided channels below 1883 Pool 29 53 N 100 59 W 11-Jun-1999 C. R. Nelson # 6957 & class: Jason Nelson, Marcio Cardoso (ta), Jessica Bostick, Nikki Hanegan, Bryan Wofford, Peter Hinh, Mary Jakob, Priscilla Tan, Julie Warr, Julie Sweeney, Darren Boyer, Chris Beacom, Bessie Green, Marta DeBarba, Steve Wiswell, Jeff Eaton, Sadie Barrs, and Shann Stringer down from Kansas. 32 I called this 1883 Pool because of cave nearby with writing, "July 24, 1883" on walls. Hetaerina titia, new record, at surber riffle.

sweepings of Juncus sp. & Justicia americana.

small acalypterates.

photos: Sciomyzidae (shots at home, last of trip) 6957

6958 USA ARIZONA: Phoenix to Utah flight 15-Jun-1999 C. R. Nelson # 6958 32

Maricopa County:

Photo: round developments near Phoenix (Sun City or Surprise).

photo: clouds & jet trail, near Prescott, Yavapai Co.

photo: clouds & ground.

photo: Coral Pink Sand Dunes, Utah: Kane Co.

photo: Tushar Mtns., Utah: Piute Co. 6958

6959 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97 46 41 W 22-Jun-1999 C. R. Nelson # 6959 32 Gomphidae 6959

6960 USA TEXAS: Hardin Co. 3 mi W of Silsbee, Hwy 397, Sandylands Preserve 30 20 57 N 94 14 16 W 23-Jun-1999 24-Jun-1999 C. R. Nelson # 6960 & class 32 25 June 1999, group photo in the rain just before we headed home through bad storms in Houston on way to Austin. Proctacanthus near longus, one with scarab

Mydidae

Bombyliidae

Coenagrionidae, several spp., 1 Argia sp. male, white face & thorax

Hetaerina titia?

macromia

Libellulidae

photos: Stictia or Stizus? in flight

photos: Passalidae adult & larvae (shot at home in Austin)

photos: horned Tenebrionidae

photos: Bombyliidae

photos: caddisfly, colorful 6960

6961 USA TEXAS: Jeff Davis Co. Davis Mountains Preserve, Hwy 118, Madera Canyon 30 41 54 N 104 06 59 W 28-Jun-1999 C. R. Nelson # 6961 & class 32 rattlesnake near Jones Tank: 30 41 45 N 104 07 04 W, 5863 feet.

Bunkhouse: 30 41 54 N 104 06 59 W 5866 feet.

photos: Mt. Livermore from end of good road near windmill photos: black tail rattlesnake
photos: *Plusiotis gloriosa*, at light,

many large beetles 6961

6962 USA TEXAS: Jeff Davis Co. Davis Mountains Preserve, Hwy 118, peak above Jones Tank 30 40 49 N 104 06 42 W 29-Jun-1999 C. R. Nelson # 6962 & class 32 top of peak was 6580 feet. GPS (top of peak) cicadas

Efferia, 3 spp.

photos: ants dragging white grub

photos: short horned lizard

green & purple scarabs

Cicindelidae

Odonata (10 spp. of dragonflies)

Culicidae

afternoon walk to 48 Tank:

Pompilidae

Chrysomelidae: Cassidinae larvae on *Solanum elaeagnifolium*

photos: caterpillars & parasites

around camp: Cassidinae on *Solanum elaeagnifolium*

6962

6962.1 USA TEXAS: Jeff Davis Co. McDonald Observatory 29-Jun-1999 C. R. Nelson # 6962.1 & class 32 photos: group at Observatory star show. 6962.1

6963 USA TEXAS: Jeff Davis Co. Davis Mountains Preserve, Hwy 118, bunkhouse area 30 41 54 N 104 06 59 W 30-Jun-1999 C. R. Nelson # 6963 & class 32 5866 feet sweeping, some especially of *Solanum elaeagnifolium* 6963

6964 USA TEXAS: Ward Co. Monahans Sandhills State Park 31 38 11 N 102 49 01 W 01-Jul-1999 02-Jul-1999 C. R. Nelson # 6964 & class 32 photos: early morning on dunes

Two readings, same place, one day apart:

31 38 11 N 102 49 01 W 2721 feet

31 38 12 N 102 49 01 W 2663 feet Proctacanthus near longus

Stichopogon

Laphystia

Megaphorus

Mydidae, black wings

Berytidae, 2 spp. on shrubby "Gaura"

Curculionidae, on shrubby "Gaura"

Sphecidae

Sympetrum

photos: Cicindelidae, white

photos: Mydidae 6964

6965 USA TEXAS: Reeves Co. Sandia Springs Preserve, Balmorhea 30 59 26 N 103 43 41 W

02-Jul-1999 C. R. Nelson # 6965 & class 32 3123 feet 2 First 100 samples, nearly all
amphipods

adults:

Libellula

Myrmeleontidae

Chrysops 6965

6966 USA TEXAS: Reeves Co. Balmorhea State Park, San Solomon Springs, campground 30

56 37 N 103 46 55 W 02-Jul-1999 C. R. Nelson # 6966 & class 32 3304 feet Meloidae

Embiidina

Scarabs

photos: Musca domestica on picnic table after chicken feast

saw: Pseudoleon superbus 6966

6967 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 msl 30 17 03 N 97

46 41 W 21-Jul-1999 C. R. Nelson # 6967 32 inventory of specimens going to Utah:

dry: 12 cases, 144 drawers, + 4 drawers(new, pro tem), + 3 drawers Odonata.

wet: Cornell long unit boxes: colleciton: 96; 1 medium box + 24-32 units; pro tem flats: 74;

Easley caddis: 32

if surbers: 31 canning jar boxes; malaise: 11 canning jar boxes. 6967

6968 USA TEXAS: Travis Co. Austin, 7104 Bill Hughes Road 30 11 32 N 97 47 16 W 22-Jul-

1999 C. R. Nelson # 6968 32 I saw at least 18 big gulf coast toads in my pond (roughly 15
feet by 5 feet). Eight pairs were in amplexus.

It rained hard yesterday and they have met to mate. The single males are calling loudly.

males are light colored and females dark! It held in all pairs. The difference is striking.
photos: Bufo valliceps in backyard pond 6968

6969 USA OKLAHOMA : Carter Co. Ardmore 27-Jul-1999 C. R. Nelson # 6969 & family 32
Cicadidae, at gas station lights, 3:00 am on our Marthon drive toward Utah. 6969

6970 USA COLORADO: Kit Carson Co. 2 miles East of Stratton, milemarker 422 39 17 42 N
102 33 33 W 27-Jul-1999 C. R. Nelson # 6970 & family 32 photos: sunflowers 6970

6971 USA UTAH: Utah Co., Provo, 500 East 4525 North N 40.29343°W 111.64922° 20-
Aug-1999 C. R. Nelson # 6971 32 first collection from new house, in wading pool set up for
turtles and plants. Mosquitoes colonized within 3 days.

4343 feet photos: Culicidae adults emerging from pupae in wading pool.
photos: Culicidae egg Masses
6971

6972 USA UTAH: Utah Co., Provo, 500 East 4525 North N 40.29343°W 111.64922° 22-
Aug-1999 C. R. Nelson # 6972 32
4343 feet photos: Mantidae: mantis religiosus 6972

6973 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, Lower Calf
Creek Falls, 15 mi NE of Escalante 37 49 43 N 111 24 53 W 04-Sep-1999 C. R. Nelson #
6973 & family 32 photos: Falls. Efferia benedicti female with Tachinidae prey
Coenagrionidae
Meloidae 6973

6974 USA UTAH: Garfield Co. Boulder 37 54 35 N 111 25 27 W 04-Sep-1999 C. R. Nelson #
6974 & family 32 Lestidae

saw stoneflies, Nemouridae running on cottonwood tree in State Park parking lot, long
distance from any sign of a creek;

later visits revealed that the creek was in an irrigation ditch across the highway. 6974

6975 USA UTAH: Garfield Co. Boulder 37 46 09 N 111 36 05 W 3-5 September 1999 C. R.
Nelson # 6975 & family 32 5750 feet from GPS, published 5800 feet.

family vacation:

Nelsons: Riley, Kaye, Andrea, and Amy.

Smiths: Tracy, Penny, and Erin.

Parrishes: Blair, Cynthia, Jessica, Kjersten, and Carly.

Ponds: Hank, Rex, Meagan, Brian, (friend, Mike), and Anna. 6975

6976 USA UTAH: Garfield Co. Kodachrome Basin State Park 37 31 52 N 111 59 35 W 05-Sep-1999 C. R. Nelson # 6976 & family 32 walk to Eagle View; photos

5725 feet 6976

6977 USA UTAH: Garfield Co. Kodachrome Basin State Park, Shakespeare Arch 37 30 27 N 111 58 54 W 05-Sep-1999 C. R. Nelson # 6977 & family 32 photos: arch, group, Andrea took 1 shot of broad landscape, several shots by me afterwards. 6977

6978 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, Grosvenor Arch 37 27 22 N 111 49 54 W 05-Sep-1999 C. R. Nelson # 6978 & family 32 photos: arch, people.

6310 feet?? too high, GPS is never too reliable. Efferia, male 6978

6979 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, North End of Cockscomb, slot canyon 37 24 06 N 111 50 51 W 05-Sep-1999 C. R. Nelson # 6979 & Tracy Smith 32 5542 feet dead Cerambycidae: Monilema red Pompilidae 6979

6980 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, view to Aquarius Plateau from about 2 mi W of Butler Valley 37 29 05 N 111 53 55 W 05-Sep-1999 C. R. Nelson # 6980 & Tracy Smith 32 6470 feet

photos: broad landscape Efferia female 6980

6981 USA NEW MEXICO: Socorro Co. I-25 Rest Area, Fort Craig, 12 mi N of Sierra Co. line 33 37 21 N 107 08 19 W 16-Sep-1999 C. R. Nelson # 6981 & Brad D. Jessop 32 4900 feet.

9:15 am, saw no asilids, didn't look hard.

saw yellow headed blackbirds, Phainopepla female, house sparrow

stop: 706

Sierra Co. line: 718

Truth or Consequences: 740 miles off buildings:

Meloidae

Reduviidae

Scarabaeidae

Mantidae: Stagmomantis

Cerambycidae 6981

6982 USA TEXAS: Culberson Co. 2 mi E of Van Horn, I-10 rest area 31 02 37 N 104 45 21 W
16-Sep-1999 C. R. Nelson # 6982 & Brad D. Jessop 32 3990 feet.

3:28 pm Megaphorus

Buprestidae

lubber grasshoppers: Brachystega? 6982

6983 USA TEXAS: Pecos Co. Fort Stockton 30 53 34 N 102 52 36 W 16-Sep-1999 C. R.
Nelson # 6983 & Brad D. Jessop 32 3038 feet.

6:14 pm Cerambycidae, caught at sign at gas station at 6 pm, (daylight) 6983

6984 USA TEXAS: Sutton Co. Sonora 30 34 31 N 100 39 12 W 16-Sep-1999 C. R. Nelson #
6984 & Brad D. Jessop 32 2002 feet

On motel wall at night:

Embiidina

Tramea

Myrmeleontidae: Vela

Scarabaeidae 6984

6985 USA TEXAS: Randall Co. Palo Duro Canyon State Park, Hackberry Campground 20-
Sep-1999 C. R. Nelson # 6985 & Brad D. Jessop & W. David Sissom 32 6:00 pm, cold!

on way back to Canyon (town) on TX 217

102.1 tarantula

108.8 FM 1541 Diogmites

Cophura

Proctacanthella

Ospricerus

Conopidae

Coenagrionidae

photos: Tipulidae with pseudoscorpion 6985

6986 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Bull Valley Gorge, Skutumpah Road 37 28 19 N 112 06 37 W 29-Sep-1999 C. R. Nelson # 6986 & R. W. Baumann & Kim & Ron Huntzinger & Harry Barber 32 5820 feet.

This is the gorge with the truck wedged in it. The road now uses the truck as a base for the bridge. Asilidae: Efferia

Tachinidae

Vespidae

Cicindelidae 6986

6987 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Sheep Creek, Skutumpah Road 37 29 43 N 112 03 59 W 29-Sep-1999 C. R. Nelson # 6987 & R. W. Baumann & Kim & Ron Huntzinger & Harry Barber 32 open area. Sheep Creek pours over a cement causeway then over a rock wall. A nice salt grass/sedge wet meadow lies on an adjacent terrace in the floodplain.

5531 feet. Aeshna

Sympetrum, 2 spp.

Corduliidae

Coenagrionidae, 2 spp.

Bombyliidae

Asilidae

Cicindelidae, 2 spp.

Dolichopodidae 6987

6988 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, stock tanks on S side of Pine Point near Nephi Pasture Road 37 10 49 N 112 17 19 W 29-Sep-1999 C. R. Nelson # 6988 & R. W. Baumann & Kim & Ron Huntzinger 32 photos: scenery toward Kaibab Plateau.

6478 feet.

turnoff Johnson Creek Road, be careful, up to six miles of deep sand on road, at about 5 miles "main" road veers south, continue N or NE another 1 or 2 miles to base of pink streaked white cliffs. Find there two new metal stock tanks, on much larger (25 feet diameter) than the other. Machimus

bees

Bombyliidae, small

photos: Phymatidae

photos: Vespula

photos: Lygaeidae 6988

6989 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, edge Smoky Mountain 37 09 17 N 111 27 07 W 30-Sep-1999 C. R. Nelson # 6989 & R. W. Baumann & Kim & Ron Huntzinger 32 photos: scenery

4281 feet. 6989

6990 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, burning coal seam on top 37 12 50 N 111 27 05 W 30-Sep-1999 C. R. Nelson # 6990 & R. W. Baumann & Kim & Ron Huntzinger & Harry Barber 32 photos: coal seam & Navajo Mountain & Aquarius Plateau.

5623 feet. Tenebrionidae 6990

6991 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, 1 mi S of Drip Tank Canyon, Smoky Mountain Road 37 18 50 N 111 31 51 W 30-Sep-1999 C. R. Nelson # 6991 & R. W. Baumann & Kim & Ron Huntzinger & Harry Barber 32 5231 feet. photos: whipsnake, *Masticophis taeniatus* 6991

6992 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Last Chance Creek, Drip Tank Canyon, Smoky Mountain Road 37 19 23 N 111 31 54 W N 37.32306 W 111.53167 1500 m 30-Sep-1999 C. R. Nelson # 6992 & R. W. Baumann & Kim & Ron Huntzinger & Harry Barber 32 5182 feet. Asilidae:
Promachus
Backomyia?
Efferia

bees on *Chrysothamnus nauseosus*

Aeshna

Archilestes

Enallagma

Libellula saturata 6992

6993 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Big Sage 37 29 51 N 111 35 13 W 30-Sep-1999 C. R. Nelson # 6993 & R. W. Baumann & Kim & Ron Huntzinger 32 5935 feet. beetles on jackrabbit carcass:
Histeridae
Staphylinidae 6993

6993.1 USA UTAH: Kane Co., Kanab 01-Oct-1999 C. R. Nelson # 6993.1 & R. W. Baumann & Kim & Ron Huntzinger 32 meeting, Grand Staircase offices in Kanab, BLM

Dennis, BLM

Mark Vinson, & Jennifer (BLM)

David

47 sites, expanded to 110 mostly in Escalante Canyons.

Ron Rodriguez is a good contact (not at meeting) with the USFS in Cedar City, check for cooperation.

George Oliver is doing herps. He got bitten recently by a midget faded rattlesnake road kill. Not quite dead enough. 6993.1

6994 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, 2 mi E of Alton/Glendale Bench Road, Road 1879, section 32, NE corner of GSENM 37 17 40 N 112 27 14 W 01-Oct-1999 C. R. Nelson # 6994 & R. W. Baumann & Kim & Ron Huntzinger 32 6189 feet.

Skutumpah Terrace:

site: 95.2

monument boundary: 96.2

road to Alton: 97.7 Sphecidae

Heteropogon

Tachinidae & bees on *Chrysothamnus nauseosus*

6994

6995 USA UTAH: Utah Co., Provo, 500 East 4525 North N 40.29343°W 111.64922° 05-Oct-1999 C. R. Nelson # 6995 32 5030 feet. photos: black widow, large female photos: black widow, variegated, male?, juvenile?, escaped capture.

photos: Salticidae, jumping spider., *Phiddipus*

photos: Rhopalidae: *Boisea trivittata*

photos: Lactuca

Monomorium pharaonis, pharaoh's ants

photos: rose, orange & pink

photos: Coccinelidae, adult on walnut

photos: Coccinelidae, pupa on rose of sharon

photos: fly (Tephritidae?), on walnut

NO: Pallopteridae, Palloptera, if Sc is unbroken then Otitidae, but no angular extension.

6995

6996 USA UTAH: Garfield Co. Boulder Mountain, Hwy 12 07-Oct-1999 C. R. Nelson # 6996 & family 32 both sites about 8500 feet.

photos: conifer/aspen hillside, Wildcat Creek

photos: open aspen hillside, over the top, on the Boulder side, milemarker 100. 6996

6997 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, Devils Garden, 12 mi SE of Escalante 37 35 09 N 111 24 51 W 07-Oct-1999 C. R. Nelson # 6997 & family 32 5161 feet. bees

Efferia

Tenebrionidae 6997

6998 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, Chimney Rock, 42 mi SE of Escalante 37 24 43 N 111 06 27 W 07-Oct-1999 C. R. Nelson # 6998 & family 32 5545 feet. Backomyia, good series 6998

6999 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Sooner Rocks, 46 mi SE of Escalante 37 19 40 N 111 03 30 W 08-Oct-1999 C. R. Nelson # 6999 & family 32 4121 feet. rattlesnake

Monilema

Backomyia

Promachus 6999

7000 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Dry Fork Gulch, Peek-A-Boo & Spooky Canyons, 31 mi SE of Escalante 37 28 52 N 111 12 42 W 08-Oct-1999 C. R. Nelson # 7000 & family 32 Peek A Boo: 37 28 52 N 111 12 42 W 4195 feet

Spooky: 37 29 08 N 111 12 34 W 4610 feet bees

wasps

Promachus

photos: rattlesnake

7000

7001 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, 40 mile Ridge turnoff, 41 mi SE of Escalante 08-Oct-1999 C. R. Nelson # 7001 & family 32 photos: leopard lizard 7001

7002 USA UTAH: Garfield Co. Boulder Mountain, Larb Hollow 25-Oct-1999 C. R. Nelson # 7002 & R. S. Hansen 32 photos: Henry Mountains and Capitol Reef

818 miles round trip from Provo on this trip with Robert Hansen, at .33 per mile the cost was \$269.94 for the motorpool vehicle. 7002

7003 USA UTAH: Garfield Co. Boulder Mountain, Steep Creek view area 25-Oct-1999 C. R. Nelson # 7003 & R. S. Hansen 32 photos: view to 50 mile Mountain & Navajo Mountain, 7003

7004 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, Harris Wash Trailhead, 23 mi SE of Escalante 26-Oct-1999 C. R. Nelson # 7004 & R. S. Hansen 32 photos of scenery Tenebrionidae small fly 7004

7005 USA UTAH: Kane Co., Hole In The Rock Road, Hole in the Rock Plaque and arch 37 15 30 N 110 57 41 W 26-Oct-1999 C. R. Nelson # 7005 & R. S. Hansen 32 photos of scenery, Navajo Mountain, bad road, turned back. 1998 GMC Jimmy had low clearance.

4200 feet. 7005

7006 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Dance Hall Rock, 42 mi SE of Escalante 37 21 23 N 110 06 05 W 26-Oct-1999 C. R. Nelson # 7006 & R. S. Hansen 32 photos of scenery.

4865 feet.

almost all the rabbitbrush is past flowering. Winter is arriving, although the temperature is 65 degrees F Backomyia saw Promachus 7006

7007 USA UTAH: Kane Co., Glen Canyon National Recreation Area, Coyote Gulch, near jct Escalante River, 45 mi SE of Escalante 26-Oct-1999 27-Oct-1999 C. R. Nelson # 7007 & R. S. Hansen 32 photos of scenery. Beautiful shots!

First 100 sample

access from Forty Mile Ridge Trailhead, through the Notch, let gear over edge by rope. 7007

7008 USA UTAH: Kane Co., Glen Canyon National Recreation Area, Escalante River jct Coyote Gulch, 45 mi SE of Escalante 37 25 42 N 110 58 52 W 26-Oct-1999 27-Oct-1999 C. R. Nelson # 7008 & R. S. Hansen 32 photos: evening of 26 October 1999, Stevens Arch & surroundings, Fantastic!

photos: 27 October 1999

First 100 sample

3310 feet. I think this reading is lower than reality. Simuliidae adults
Agapostemon (prey of crab spider) 7008

7009 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Forty Mile Ridge Trailhead to rim of Escalante Canyon 37 24 13 N 111 00 32 W 26-Oct-1999 27-Oct-1999 C. R. Nelson # 7009 & R. S. Hansen 32 coordinates are for parking lot, where we stayed the night after hiking out on 27 October 1999.

4524 feet. in tinaja:
tadpole shrimp
clam shrimp
Corixidae 7009

7010 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Hole in the Rock Road, Red Well, 4477 feet 37 25 47 N 111 08 47 W 28-Oct-1999 C. R. Nelson # 7010 & R. S. Hansen 33 Asilidae: Backomyia, photos on navajo sandstone. Promachus. Phasmida, photo; thrips, thysanoptera on rabbitbrush, Chrysothamnus nauseosus, Ericameria; Tenebrionidae for pets. 7010

7011 USA UTAH: Garfield Co. Lake Powell, North Bullfrog Basin Campground 37 34 52 N 110 46 30 W 29-Oct-1999 C. R. Nelson # 7011 & R. S. Hansen 33 3742 feet photos of lake and rock 7011

7012 USA UTAH: Emery Co. San Rafael Swell, Buckhorn Wash, 20 mi SE of Castledale 29-Oct-1999 C. R. Nelson # 7012 & R. S. Hansen 33 photos: pictograph panels, of snakes and "beetles" 7012

7013 USA UTAH: Utah Co., Provo, 30-Oct-1999 C. R. Nelson # 7013 33 photos: Mount Timpanogos from near end of Canyon Road, from house north of BYU Tanner Building, from lawn across road from BYU Maeser Building, from 8th floor of Widtsoe Building. For coordinates see CRN# 7023 7013

7014 USA UTAH: Cache Co. Hardware Ranch, Blacksmith Fork Canyon 41 36 07 N 111 33 51 W 23-Dec-1999 C. R. Nelson # 7014 33 photos: people, Nelson & Mandy Seamons; Randy, Jean, Chris, Kaye, Riley, Andrea, and Amy Nelson.
5500 feet. photos: elk, Cervus elaphus 7014

7015 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E 24-Dec-1999 C. R. Nelson # 7015 33 photos: Jason, house, and ice puddle. 7015

7016 USA UTAH: Salt Lake Co. Salt Lake Airport 40 47 06 N 111 58 37 W 26-Dec-1999 C. R. Nelson # 7016 33 photos: planes, airport, and Elizabeth (Beth) Oliver's arrival. 4200 feet 7016

7017 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E 26-Dec-1999 C. R. Nelson # 7017 33 other coordinates for our house: 40 17 36 N 111 38 52 W; 4900 feet photos: house finches at feeder 7017

7018 USA UTAH: Utah Co., Provo, BYU, Bean Museum 40 15 12 N 111 38 49 W 27-Dec-1999 C. R. Nelson # 7018 33 photos: people, Pearce's family, Bean Museum. 4700 feet 7018

7019 USA UTAH: Salt Lake Co. Salt Lake City, Temple Square 40 46 14 N 111 53 30 W 27-Dec-1999 C. R. Nelson # 7019 33 photos: temple, lights, people, seagull monument; people & Temple from Joseph Smith Building; reflecting pools near Church Office Building; with Pearces and Parkers. 4250 feet. 7019

7020 USA UTAH: Utah Co., Tucker Rest Area, Hwy 6/50 39 56 08 N 111 11 55 W 28-Dec-1999 C. R. Nelson # 7020 33 photos: tubing on hillside with Parkers and Pearces. 7020

7021 USA UTAH: Box Elder Co. Brigham City, Peach City Drive In 41 31 02 N 112 00 53 W 29-Dec-1999 C. R. Nelson # 7021 33 photos: people, with Pearces and Parkers. 4400 feet. 7021

7021.1 USA UTAH: Cache Co. Hardware Ranch, Blacksmith Fork Canyon 41 36 07 N 111 33 51 W 29-Dec-1999 C. R. Nelson # 7021.1 33 photos: people, elk, tubing with Pearces and Parkers. 5500 feet. photos: elk, Cervus elaphus 7021.1

7021.2 USA UTAH: Salt Lake Co. Salt Lake City, Temple Square 40 46 14 N 111 53 30 W 29-Dec-1999 C. R. Nelson # 7021.2 33 photos: people, with Pearces and Parkers. 4250 feet. 7021.2

7022 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E 30-Dec-1999 C. R. Nelson # 7022 33 photos: living room, yard & views, people. 4900 feet. 7022

7023 USA UTAH: Utah Co., Provo, BYU Campus 40 15 12 N 111 38 49 W 30-Dec-1999 C. R. Nelson # 7023 33 photos: views, bike racks, pine, maple, sumac, Karl Maeser statue. 4700 feet. 7023

7024 USA UTAH: Utah Co., Provo, 400 East 4525 North, Nelson home 04-Jan-2000 C. R. Nelson # 7024 33 photos: Mount Timpanogos 7024

7025 USA UTAH: Salt Lake Co. Saltair, 15 mi W of Salt Lake City 40 45 58 N 112 09 32 W 15-Jan-2000 C. R. Nelson # 7025 33 photos: Great Salt Lake, Antelope Island, Magna Smelter Stack, Saltair building. 4200 feet. photo: dead carp 7025

7026 USA UTAH: Utah Co., Rock Canyon, Provo 18-Jan-2000 C. R. Nelson # 7026 33 photos by C.R. Nelson, on 19 January 2000, photos actually caught by I. S. Winkler, K. Huntzinger, and T. Waite. more photos on snow, 23 Jan 2000. photos: Boreidae: *Boreus coloradensis*, F100 P 60 TTL with SB22S 7026

7027 USA UTAH: Utah Co., Provo River, Canyon View Park near mouth of canyon 40 19 26 N 111 38 41 W 22-Jan-2000 C. R. Nelson # 7027 33 just below Murdock Diversion Dam. 4850 feet. benthic samples to show at ward party, only specimens retained were Baetidae. Saw *Pteronarcys*, *Pteronarcella*, *Hesperoperla* nymphs. 7027

7028 USA UTAH: Utah Co., Big Spring Hollow, jct South Fork, 3.3 mi S of Vivian Park & Hwy 189 40 20 08 N 111 31 23 W 22-Jan-2000 C. R. Nelson # 7028 33 5700 feet. kept: *Drunella doddsi*, Perlodidae; photos *Capnia nana* adults. 7028

7029 USA UTAH: Utah Co., Spring Creek, Springville, at state fish hatchery near headwaters 03-Feb-2000 C. R. Nelson # 7029 matthew Simmons and Jared Durtschi. 33 matt is a range science graduate student. Jared is in my Biology 100 class, matt is his teaching assistant. matt is from Chicago, Illinois. Jared from near Lethbridge, Alberta. looking for gammarus, found none. watercress and stringy macrophyte, name?; huge numbers of snails and a few Gerridae, none kept. 7029

7030 USA UTAH: Utah Co., Spring Creek, Springville, another channel, runs between drive in theater and Johnson Tire 03-Feb-2000 C. R. Nelson # 7030 matthew Simmons and Jared Durtschi. 33 few gammarus, kept by matt for his predator prey study. Baetidae also present in good numbers. gammarus in stranded watercress beds. Dace, speckled? or longnose; gerridae 7030

7031 USA UTAH: Utah Co., spring run along road, draining into Hobble Creek at mouth of canyon 03-Feb-2000 C. R. Nelson # 7031 matthew Simmons and Jared Durtschi. 33 Found enough for matt's experiment, also saw one large *Hesperoperla* nymph. gammarus!

In good numbers in shallow borrow pit channel along road between Springville and mapleton. 7031

7032 USA UTAH: Utah Co., Hobble Creek, Kellys Grove, E of Springville 03-Feb-2000 C. R. Nelson # 7032 matthew Simmons and Jared Durtschi. 33 I took live specimens and snow to my lab to photograph, but never got it done. the specimens were still alive the next day. Capnia and Utacapnia walking on snow. many Baetidae in the stream. matt kept some for his study. 7032

7033 USA UTAH: Utah Co., Big Spring Hollow, jct South Fork, 3.3 mi S of Vivian Park & Hwy 189 40 20 08 N 111 31 23 W 19-Feb-2000 C. R. Nelson # 7033 & family 33 5700 feet. photos: Capnia nana, Zapada cinctipes, mountains toward Timpanogos, Kaye & kids, Riley & Kaye. Saw herd of turkeys 7033

7034 USA UTAH: Utah Co., Chimney Rock, W of Utah Lake, 7 mi N of Elberta 40 03 43.1 N 112 02 11.4 W 26-Feb-2000 C. R. Nelson # 7034 & scouts 33 photos: scenery at sunrise 7034

7035 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 27-Feb-2000 C. R. Nelson # 7035 33 photos: mites and webbing on norfolk island pine; sumac seeds, Cali's nose with digital camera; rose hips; aspen catkins, Trichoceridae flying; Artemesia tridentata; Chironomidae; Baetidae male subimago; Pentatomidae; Pollenia 7035

7036 USA UTAH: Utah Co., Diamond fork at Three Forks, 10 mi NE of Hwy 6 40 05 04.3 N 111 21 19.0 W 18-Mar-2000 C. R. Nelson # 7036 J. K. Nelson 33 photos: Capnia gracilaria 3m 1f; Empididae Roederiodes; Zapada NO! Prostoia besametsa 1f; chironomidae 7036

7037 USA UTAH: Utah Co., Diamond Fork, 6 mi NE of Hwy 6 40 04 36.5 N 111 25 03.9 W 18-Mar-2000 C. R. Nelson # 7037 J. K. Nelson 33 photos: Isocapnia crinita? NO! Capnia gracilaria 1f; Taenionema uinta 2 f; Taenionema uinta 1m, short wings. Chironomidae 7037

7038 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 25-Mar-2000 C. R. Nelson # 7038 33 4900 feet Simulium adults swarming near house. 7038

7039 USA UTAH: Salt Lake Co. Salt Lake City, Nutmeg Drive 08-Apr-2000 C. R. Nelson # 7039 33 photos: Camill Larsen's 90th birthday party. John Larsen age 92 or 93, he was born in 1907. Married in 1931. I also took photos of Cleoann and Roger Brimhall as well as Ned & Melanie Young. 7039

7040 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 09-Apr-2000 C. R. Nelson # 7040 33 on 10 April 2000 I took photos of my family in the orchard. photos: Simulium, peach blossoms, turkeys, geese, peacock. 7040

7041 USA UTAH: Utah Co., Springville, 161 East 200 south 23-Apr-2000 C. R. Nelson # 7041 33 photos: syrphidae, tachinidae, plum blossoms, Acer negundo female flowers, Lonicera? blossoms, lilacs 7041

7042 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 24-Apr-2000 C. R. Nelson # 7042 33 4900 feet. ants, with inquiline Orthoptera 7042

7043 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, Wolverine Creek Wash 37 48 13 N 111 12 26 W 02-May-2000 C. R. Nelson # 7043 & Wendy Mendel, Kim Huntzinger, Harry Barber, & Bill Falvey. 33 Wolverine Trailhead: 37 48 13 N 111 12 26 W, 5389 ft. Petrified Forest: 37 47 48 N 111 13 14 W, 5296 ft. wet narrows of Wolverine: 37 46 41 N 111 14 21 W, 5135 ft. lowest spot we reached on Wolverine: 37 46 13 N 111 15 07 W, 5089 ft. photos: collared lizard, bee & wasps on Berberis; Asilidae: Efferia mating pair; Micropezidae on legume, Psoralidium lanceolatum; Raphidiidae; bees on Cryptantha; bees on fishhook cactus; aquatics in sandy ephemeral creek bottom seep; saw Papilio rutilus; Danaus plexippus; photos petrified wood; Mariposa lily, yellow. 7043

7044 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, Deer Creek, jct Burr Trail 03-May-2000 C. R. Nelson # 7044 & Wendy Mendel, Kim Huntzinger, & Harry Barber. 33 ran UV light over water pan trap, last night. Sat around campfire 2 May 2000 and talked with Harry's BLM friends from Vernal: Diane Bostick, Bonanza graphic artist; Steve Strong, BLM hydrologist, missing finger; Trina, tech at hospital, BYU graduate; Brian Bellew, rec planner, wants Kanab spot; Sue Bellew, dinosaur museum, blonde runner. They used a term, "dinks" dual income no children. 7044

7045 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Early Weed Bench, Brimstone Gulch 37 31 15 N 111 11 28 W, 03-May-2000 C. R. Nelson # 7045 & Wendy Mendel, Kim Huntzinger, & Harry Barber. 33 reading taken at "green oak patch mesa" 37 31 15 N 111 11 28 W, 5277 feet. At the end of the collecting day we met Terry Griswold, from USU USDA bee Lab and his crew. Kim & Wendy's cell phone: 801-361-8080. Harry Barber home 644-5068; work 435 - 644-4311; GSENM front desk 4300 Cryptantha, bees; "Lepidium" bees; & wasps; Sphaeralcea bees; Poliomenantha bees; Miridae on Yucca 7045

7046 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, cattle trough, base of Vermillion Cliffs, isolated mesa Kitchen Corral area 37 10 33 N 112 04 48 W 04-

May-2000 C. R. Nelson # 7046 & Wendy Mendel, Kim Huntzinger, & Harry Barber. 33 Missld casing tank: CASTAN: 5339 ft. missile casing tank!
flies! Diptera; tachinidae, therevidae; sepsidae; chloropidae; acrididae; tipulidae; muscidae 7046

7047 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, up and down Double Ring Tanks 37 10 34 N 112 03 19 W 04-May-2000 C. R. Nelson # 7047 & Wendy Mendel, Kim Huntzinger, & Harry Barber. 33 turn off hwy 89 on Kitchen corral Canyon Road, turn right after 3.3 miles to ge to ring tanks. 3 mi # of Kitchen Corral Canyon Road, 5510 ft. At Double Tank mileage 0.0, at fence & gate 0.6, at CASTAN Missile Tank 1.3, then up Kitchen Corral 8.3 to Anasazi ruins, Rock House 12.0; turnoff back to Double Tank 14.2; Hwy 89 17.5. See the crude map drawn in notes. Asilidae: Ablautus, photographed back at BYU lab; sphecidae; vespidae; muscidae; tachinidae; sepsidae; rhagionidae; checkerspot butterfly 7047

7048 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Indian Dwelling, Kitchen Corral Canyon 37 14 43 N 112 07 36 W 04-May-2000 C. R. Nelson # 7048 & Wendy Mendel, Kim Huntzinger, & Harry Barber. 33 9.2 mi N of Hwy 89; turn off hwy at Marker 37 Asilidae: small black & gray dasypogoninae, on broad flat rocks; photographed on red sandstone back in BYU lab. 7048

7049 USA UTAH: Millard Co. I-15 rest area, southbound, 1 mi N of Cover Fort 08-May-2000 C. R. Nelson # 7049 33 I-70 exit 19726, Cove Fort exit 19723; rest area at 19722. Anabrus simplex, mormon cricket. some in 70% EtOH some in 100% EtOH 7049

7050 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, head of Lick Wash Narrows, below Skutumpah Road 37 21 42 N 112 11 09 W 9-10 May2000 C. R. Nelson # 7050 & Wendy Mendel, Kim Huntzinger, & Harry Barber. & Jeff Chenoweth, pronounced Chenoth. 33 set up 5 blue pan traps; set up malaise trap, 10 May 2000 4:30 pm bees & syrphids on Rhus aromatica flowers 7050

7051 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, narrows of Lick Wash, below Skutumpah Road, on barely wet seeps 37 21 42 N 112 11 09 W 9-10 May2000 C. R. Nelson # 7051 & Wendy Mendel, Kim Huntzinger, & Harry Barber. & Jeff Chenoweth, pronounced Chenoth. 33 therevidae; calypterates; bibionidae; butterflies 7051

7051.1 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, narrows of Lick Wash, below Skutumpah Road, cattle trough at Park Wash cabin, upstream from Lick Wash jct 10-May-2000 C. R. Nelson # 7051.1 & Wendy Mendel, Kim Huntzinger, & Harry Barber. 33 Limnephilidae 7051.1

7052 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, No mans Mesa, 48 mi NE of Kanab 37 20 43 N 112 07 44 W 9-10 May 2000 C. R. Nelson # 7052 & Wendy Mendel, Kim Huntzinger, & Harry Barber. 33 set up malaise trap 6 pm on 9 May took down noon on 10 May. photos: scenery, trogossitidae, aradidae on conch fungus, great basin rattlesnake; manzanita, *Arctostaphylos pungens* in bloom, *Cercocarpus montana* in bloom near malaise trap. 16 Aug 2000 photos of small beetles on the same conch fungus, Ciidae 7052

7053 USA UTAH: Kane Co., Coral Pink Sand Dunes State Park 37 02 05 N 112 43 37 W 11-May-2000 C. R. Nelson # 7053 & Wendy Mendel, Kim Huntzinger 33 5879 ft. Tenebrionidae; sphecidae; otitidae; micropezidae; pipunculidae; therevidae 3-4 spp.; *Ablautus* photo of teneral; *Cophura*?; *Sacrophagidae*, *miltogramminae*; large myrmeleontidae larvae; large asilidae larvae; therevidae larvae; *cicindelidae* limited range 7053

7054 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, head of Lick Wash Narrows, below Skutumpah Road 37 21 42 N 112 11 09 W 12-May-2000 C. R. Nelson # 7054 & Wendy Mendel, Kim Huntzinger 33 emptied pan traps set up pit fall traps; cold morning! photos: blue pan traps froze with bugs; talked with Bay area hikers. photos: short horned lizard 7054

7055 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Sheep Creek, jct Skutumpah Road 12-May-2000 C. R. Nelson # 7055 & Wendy Mendel, Kim Huntzinger 33 damselflies: *Coenagrionidae*; sedge sweepings; *Ablautus*; *Efferia carinata* group; *Syrphidae*; *Thevenomyia* bee fly?; *Empididae*; wandering garter snake; sagebrush lizard 7055

7056 USA UTAH: Utah Co., Wheeler Sawmill, 12 mi e of Thistle, Hwy 6/50 39 57 22 N 111 16 03 W 20-May-2000 C. R. Nelson # 7056 & scouts: Riley Nelson & Brent Gibson leaders, Kevin Myers, Jairus Gibson, Ryan Loveless, Brady Harris; visitor Jordan Gibson, age 11. 33 scout overnight.

Later Howard Hutchinson of Escalante, retired from Berkeley identified the turtle as: *Chelonia*: *Dermatemydidae*: *Baptemys wyomginensis*, from the Eocene, approximately 50 million years ago. fossil hunting found: turtle chest bone, with Ryan Loveless; I found posterior half of underside of large turtle. The fragment is 8.5 inches long and 12 inches wide, in good condition. Estimated actual length is 21 inches. I took digital photos. I also kept a slab of plant parts. Jordan Gibson found bird foot prints. cicadas, pinned photo of cicada nymph. 7056

7057 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°W 21-May-2000 C. R. Nelson # 7057 33 4900 feet. photos: Cantharidae on domestic rose; chrysopidae on domestic rose; coccinelidae on domestic rose; pentatomidae on domestic rose; cerambycidae on sumac, probably from cherry firewood; apricots; pentatomidae on columbine; geranium; rose; sumac; maples; red japanese maple; orchard grass; grape leaf; raspberry flowers; allium 7057

7058 USA UTAH: Utah Co., Provo, Bean Museum 25-May-2000 C. R. Nelson # 7058 & SNAPS folks 33 photos from other's live specimens:
Isogenoides frontalis: WI: Bayfield Co., Rocky Run Creek, 1 mi N of Brule, trib to Brule bois, 10 April 2000, John Sandberg, S. W. Szczytko, K. W. Stewart, as nymph, emerged 24 May 2000 in Provo. Photo on bark of ponderosa pine.
Isogenoides colubrinus (on shale & quartz in photos): CO: Moffat co., Yampa River, Cross Mtn., Cyn. at 12 mile Gulch, NPS Public Access, 21 May 2000, John Sandberg, as nymph, emerged 25 May 2000.
photos: people Isogenoides 7058

7059 USA UTAH: Utah Co., Mount Timpanogos, Little North Fork at Timp Lodge 40 23 21 N 111 35 10 W 26-May-2000 C. R. Nelson # 7059 & SNAPS folks 33 gravel for photos; also 27 May 2000, photos from Timp Lodge parking lot. TIMPLO in GPS. 1930 m photos: Blephariceridae: Bibiocephala grandis larvae 7059

7060 USA UTAH: Utah Co., Mount Timpanogos, Stewarts Cascade, Little North Fork 40 23 11 N 111 36 14 W 26-May-2000 C. R. Nelson # 7060 & SNAPS folks 33 STEWAR in GPS. 2070 m photos: Megarcys, Ameletus, Baetis bicaudatus 7060

7061 USA UTAH: Wasatch Co. Cascade Springs N 40.4583 W 111.5489, 27-May-2000 C. R. Nelson # 7061 & SNAPS folks 33 photos: habitat photos. CASCAD in GPS. 7061

7062 USA UTAH: Wasatch Co. Little Deer Creek at Cascade Springs 40 27 30 N 111 32 56 N 27-May-2000 C. R. Nelson # 7062 & SNAPS folks 33 photos: Ptychopteridae adults; Isoperla fulva including drumming; fogged photos: Sweltsa coloradensis 7062

7063 USA UTAH: Summit Co. South Fork Provo River above Woodland 40 33 32 N 111 10 24 W 27-May-2000 C. R. Nelson # 7063 & SNAPS folks 33 WOODLA in GPS Carabidae, Blephariceridae; Diura? skin 7063

7064 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°W 21-May-2000 C. R. Nelson # 7064 & family, Kaye Andrea Amy 33 4900 feet. Pika our gray calico having kittens . Contractions started 11:00 pm or earlier. First baby born 12:26 am gray calico white right foot white nose; 1:11 am second water burst gray

calico white left eye born 1:49 am; 2:23 #3 yellow white ears & cheeks; 2:38 am #4 yellow darker cheeks?; 3:40 am #5 yellow. kittens 7064

7065 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, head of Lick Wash Narrows, below Skutumpah Road 37 21 53 N 112 11 19 W 29-May-2000 C. R.

Nelson # 7065 & Wendy Mendel, Kim Huntzinger

Jessica Bostick; Nikki Hanegan; Chris Beacom; Marta DeBarba; Jeff Eaton; Andrew Chang; Bessie Green; Sarah Simmonds. 33 also collected at mercury vapor lamp. LICKWA in GPS. Texas group arrives! malaise traps: flies; therevidae, tachinidae; bees; wasps; butterflies 7065

7066 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Bull Valley Gorge at Skutumpah Road 30-May-2000 C. R. Nelson # 7066 & Wendy Mendel, Kim Huntzinger

Jessica Bostick; Nikki Hanegan; Chris Beacom; Marta DeBarba; Jeff Eaton; Andrew Chang; Bessie Green; Sarah Simmonds. 33 little beetle; sphingidae; wasps; bees; asilidae; cicindelidae; scarab; bombyliidae; elateridae; buprestidae 7066

7067 USA UTAH: Garfield Co. Escalante, Golden Loop Cafe 37 46 16 N 111 26 29 W 30-May-2000 C. R. Nelson # 7067 & Wendy Mendel, Kim Huntzinger

Jessica Bostick; Nikki Hanegan; Chris Beacom; Marta DeBarba; Jeff Eaton; Andrew Chang; Bessie Green; Sarah Simmonds. 33 also photos in Cannonville Nelson's store. Calliphoridae, dead in sugar shaker. 7067

7068 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, 3 mi W of Egypt 37 34 21 N 111 15 31 W 31-May-2000 C. R. Nelson # 7068 & Wendy Mendel, Kim Huntzinger

Jessica Bostick; Nikki Hanegan; Chris Beacom; Marta DeBarba; Jeff Eaton; Andrew Chang; Bessie Green; Sarah Simmonds. 33 photos: early morning; Photos GPS; arrowhead GPS; Chris Beacom leaves us, heads back to Texas.

3EGYPT GPS Asilidae: Efferia benedicti; Promachus; 7068

7068.1 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, Hole in the Rock Road, Egypt turnoff, 22 mi SE of Escalante 31-May-2000 C. R. Nelson # 7068.1 & Wendy Mendel, Kim Huntzinger

Jessica Bostick; Nikki Hanegan; Chris Beacom; Marta DeBarba; Jeff Eaton; Andrew Chang; Bessie Green; Sarah Simmonds. 33 Chris leaves some stuff with Texas folks 7068.1

7069 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Dance Hall Rock 37 21 23 N 111 06 05 W 31-May-2000 C. R. Nelson # 7069 & Wendy Mendel, Kim Huntzinger

Jessica Bostick; Nikki Hanegan; ; Marta DeBarba; Jeff Eaton; Andrew Chang; Bessie Green; Sarah Simmonds. 33 miridae on Fraxinus anomala, singleleaf ash; on Yucca angustissima: Nitidulidae?, Cleridae; Chalcididae; Homoptera 7069

7070 USA UTAH: Kane Co., Glen Canyon National Recreation Area, trail to canyon rim below 40 Mile Ridge 37 24 14 N 111 00 32 W 31-May-2000 C. R. Nelson # 7070 & Wendy Mendel, Kim Huntzinger

Jessica Bostick; Nikki Hanegan; ; Marta DeBarba; Jeff Eaton; Andrew Chang; Bessie Green; Sarah Simmonds. 33 collected between 40HEAD parking lot and NOTCH 37 35 10 N 110 59 07 W, to drop into Coyote Gulch. 7070

7071 USA UTAH: Kane Co., Glen Canyon National Recreation Area, Coyote Gulch 37 25 32 N 110 59 39 W 01-Jun-2000 C. R. Nelson # 7071 & Wendy Mendel, Kim Huntzinger

Jessica Bostick; Nikki Hanegan; ; Marta DeBarba; Jeff Eaton; Andrew Chang; Bessie Green; Sarah Simmonds. 33 COYOTE GPS. photos: Crack in the Wall Coenagrionidae; Libellulidae; Aeshnidae; Cicadidae 7071

7072 USA UTAH: Kane Co., Glen Canyon National Recreation Area, trail, Coyote Gulch to 40 Mile Ridge trailhead 37 24 14 N 111 00 32 W 02-Jun-2000 C. R. Nelson # 7072 & Wendy Mendel, Kim Huntzinger

Jessica Bostick; Nikki Hanegan; ; Marta DeBarba; Jeff Eaton; Andrew Chang; Bessie Green; Sarah Simmonds. 33 collected between 40HEAD parking lot 37 24 14 N 111 00 32 W and NOTCH 37 35 10 N 110 59 07 W, to drop into Coyote Gulch. Also ESC COY (rim near Notch, Crack in the Wall) 37 25 09 N 110 59 03 W sand: Apioceridae, Bombus, Scleropogon 7072

7073 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, Calf Creek, trail to lower Calf Creek falls 37 47 37 N 111 24 54 W 02-Jun-2000 C. R. Nelson # 7073 & Wendy Mendel, Kim Huntzinger & Brad Jessop.

Jessica Bostick; Nikki Hanegan; ; Marta DeBarba; Jeff Eaton; Andrew Chang; Bessie Green; Sarah Simmonds. 33 GPS reading CALFCR at trailhead. We met Brad Jessop at the trailhead at the beginning of our hike. We left Calf Creek at 6:30 pm arrived in Kanab for dinner at 9:15 pm. We had dinner at Houston's, spent night in motel: Quail Park Lodge. I bid goodbye to Texas folks in the morning of 3 June 2000. Megachile on Opuntia polyacantha, bees, wasps, Coenagrionidae, Silphidae 7073

7074 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, trail to Mollies Nipple, by way of South Swag 37 16 52 N 112 05 49 W 05-Jun-2000 C. R. Nelson # 7074 & Wendy Mendel, Kim Huntzinger & Bessie Green & Harry Barber 33 GPS reading above is MOLTR1 at trailhead on the road. I also took readings along the way: MN1ANA at some indian ruins in the South Swag 37 16 45 N 112 05 05 W; malaise trap #1 no reading;

MOLBAS trap 2 at base of Mollies Nipple 37 16 18 N 112 03 32 W; MOLTR3 trap 3 at 27 16 19 N 112 03 38 W; MOLTR4 trap 4 at 37 16 20 N 112 03 41 W; MOLEND, truck at end on Kitchen Corral Road, should be same as beginning, 37 16 52 N 112 05 50 W. Set up four malaise traps on sandy ridge flanking Mollies Nipple on the northwest. photos of interesting 4 petaled plant, tall Gentianaceae, *Swertia albomarginata* or *utahensis*. Notes have rough drawing of route map. *Proctacanthus* with large calypterate as prey, *Holopogon*, *Stichopogon trifasciatus*, *Stichopogon fragilis?*, *Machimus*, *Efferia*, photos: *Therevidae* and *Holopogon*. Hymenoptera 7074

7075 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Mollies Nipple, 7271 feet 37 16 15 N 112 03 16 W 05-Jun-2000 C. R. Nelson # 7075 & Wendy Mendel, Kim Huntzinger & Bessie Green & Harry Barber 33 didn't carry GPS, coordinates from map photos: little bird, people, scenery

Muscoid flies

Raphidiidae

saw *Coccinellidae* 7075

7076 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E 10-Jun-2000 C. R. Nelson # 7076 33 *Cerambycidae* from wood pile 7076

7077 USA UTAH: Garfield Co. Boulder Mountain, Lower Bowns Reservoir 38 06 22 N 111 16 36 W 12-Jun-2000 C. R. Nelson # 7077 & scouts 33 GPS is BOWNS. This was the beginning of scout camp. Those travelling were: Ryan Loveless, Kevin Myers, Ken Myers, and Daniel Parker. *Asilidae*: *Promachus albifacies*, *Stenopogon inquinatus*, *Efferia benedicti*, *Efferia carinata* group female, *Machimus griseus*, *Machimus* sp., *Proctacanthus micans*. *Megachile* *Pompilidae* *Sphecidae* 7077

7078 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, Hole in the Rock Road, Devils Garden 13-Jun-2000 C. R. Nelson # 7078 & scouts & Kim Huntzinger & Wendy Mendel 33 Those travelling were: Ryan Loveless, Kevin Myers, Ken Myers, and Daniel Parker. given to Kim & Wendy to pin 7078

7079 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Hole in the Rock Road, Dry Fork near Spooky Canyon 37 28 39 N 111 12 09 W 13-Jun-2000 C. R. Nelson # 7079 & scouts & Kim Huntzinger & Wendy Mendel & Bessie Green & Jamie Miles 33 Those travelling were: Ryan Loveless, Kevin Myers, Ken Myers, and Daniel Parker.

DRY FOR for GPS above. Also SPOOKY for top of Spooky narrows 37 29 06 N 111 12 34 W *Tenebrionidae* *Proctacanthus nearno* *Efferia benedicti* *Sphecidae* photos of young owl *cerambycidae* wings near owl nest *Mantidae* 7079

7080 USA UTAH: Kane Co., Glen Canyon National Recreation Area, Coyote Gulch 37 25 35 N 110 59 29 W 14-Jun-2000 C. R. Nelson # 7080 & scouts & Kim Huntzinger & Wendy Mendel & Bessie Green & Jamie Miles 33 Those travelling were: Ryan Loveless, Kevin Myers, Ken Myers, and Daniel Parker. COYALC grand alcove 37 25 20 N 111 00 01 W; COYFAL 2nd falls up Coyote Falls above Grand Alcove 37 25 18 N 111 00 01 W; NOTCH (Crack in the Wall) of 1 June 2000 37 35 10 N 110 59 07 W; COYCAM main camp above flood plain in cottonwoods giving a wonderful view of Stevens Arch 37 25 35 N 110 59 29 W Gerridae Asilidae Philonicus, Tabanidae Chrysops Silvius; Lampyridae glow! Scolidae Annelida leech, Hirudo medicinalis Tropisternus Veliidae large Microvelia Saldidae hemips on rocks of splash zone of waterfall #1. 7080

7081 USA UTAH: Kane Co., Glen Canyon National Recreation Area, Escalante River near Stevens Arch and Coyote Gulch 37 25 40 N 110 58 51 W 14-Jun-2000 C. R. Nelson # 7081 & scouts & Kim Huntzinger & Wendy Mendel & Bessie Green & Jamie Miles 33 Those travelling were: Ryan Loveless, Kevin Myers, Ken Myers, and Daniel Parker. COYESC listed above; STEVEN confluence of Escalante River and Stevens Canyon 37 26 08 N 110 58 66 W Schistocerca shoshone nymph, Bombus, Sphecidae Nyssoninae, Reduviidae, Chrysomelidae on Populus fremontii 7081

7082 USA UTAH: Kane Co., Glen Canyon National Recreation Area, trail from Crack in the Wall to 40 Mile Ridge trailhead 37 24 13 N 111 00 32 W 15-Jun-2000 C. R. Nelson # 7082 & scouts 33 Those travelling were: Ryan Loveless, Kevin Myers, Ken Myers, and Daniel Parker. Site listed above is 40 MITR on GPS same site as that of 2 June 2000 listed as 40HEAD 37 24 14 N 111 00 32 W, note the slight deviation! Cicadidae Asilidae: Efferia benedicti & sp 1.; Proctacanthus nearno, Scleropogon, Laphystia, Stichopogon, saw and missed Cerotainiops abdominalis, Bombyliidae, Tettigoniidae Capnobotes female. 7082

7083 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Dance Hall Rock 37 21 23 N 111 06 05 W 15-Jun-2000 C. R. Nelson # 7083 & scouts 33 Those travelling were: Ryan Loveless, Kevin Myers, Ken Myers, and Daniel Parker. Site DANCE of 31 May 2000 used above. Sphecidae, very large; Acrididae 7083

7084 USA UTAH: Garfield Co. Dixie National Forest, Posey Lake, 16 mi N of Escalante 37 56 06 N 111 41 39 W 15-16 June 2000 C. R. Nelson # 7084 & scouts 33 Those travelling were: Ryan Loveless, Kevin Myers, Ken Myers, and Daniel Parker. Joined on afternoon of 15 June by Brent & Jairus Gibson and Steve & Adam Crowley. POSEY GPS given above is campground. POSEY2 is boat ramp 37 56 10 N 111 41 41 W; We collected in the morning of 16 June on trail to Posey Lake Overlook. We collected in the afternoon of 16 June by walking around the lake. photos: Coenagrionidae abundant. Libellulidae, Papilionidae; Asilidae: Cyrtopogon 1, Cyrtopogon 2, photos Laphria fernaldi, photos Laphria vultur?, Laphria gilva

red legs, photos Laphria sp. red & black, photos Andrenosoma. saw Machimus sp., Syrphidae, Buprestidae, Cerambycidae, Chrysidae, bees 7084

7085 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 18-Jun-2000 C. R. Nelson # 7085 33 end of book 33! photos: Cerambycidae on daisy, on aspen, on firewood log. 7085

7086 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 20-Jun-2000 C. R. Nelson # 7086 34 start of book 34 photos: Rhagoletis on ripe sweet cherries, under fruit; maggots in same fruit; photos cherries & cherry slugs (Tenthredinidae); photo oak gall 7086

7087 USA UTAH: Salt Lake Co. Salt Lake City International Airport 21-Jun-2000 C. R. Nelson # 7087 & family 34 photos of Jason getting on plane heading to Taiwan on his mission. He has matured much while at the Missionary Training Center. 7087

7088 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 21-Jun-2000 C. R. Nelson # 7088 34 photos: peacock on roof 7088

7089 USA UTAH: Utah Co., Mount Timpanogos, 2 mi above Mutual Dell 23-Jun-2000 C. R. Nelson # 7089 & family & ward 34 Julie Andrews Meadow at head of Bear Canyon; Youth Conference. Jacob Nichols and Ryan Loveless helped me collect Syrphidae; Euclyptopogon; Meloidae, Lytta; Raphidiidae; Cyrtopogon 2 spp. orange & small; Laphria fernaldi; Buprestidae; Elateridae; Cerambycidae; Therevidae; Bombyliidae 7089

7090 USA UTAH: Utah Co., Squaw Peak Road, Rock Canyon Overlook 29-Jun-2000 C. R. Nelson # 7090 & family 34 photos: Coluber constrictor, mormon racer, a snake 7090

7091 USA UTAH: Utah Co., Springville, 161 East 200 South 40 09 47 N 111 36 29 W 03-Jul-2000 C. R. Nelson # 7091 & family 34 also here at Wheeler home for the Fourth of July. Cyrtopogon on fence; 7091

7092 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, "Henrieville Spring", tributary of Henrieville Creek, 8 mi SE of Henrieville 37 36 42 N 111 53 42 W 05-Jul-2000 C. R. Nelson # 7092 & Wendy Mendel & Bessie Green & Danny Drysdale & Britta Sappington & Muriel Moody 34 Called HENSPPR in GPS. This spring has no official map name. Park at the broad parking area off Hwy 12, walk down to SE on a dirt road less than 100 m to a primitive camp/fire ring, cross Henrieville Creek. Two wet areas enter creek on east side, one flat one steep. Steep area has a 3 inch pipe dumping water but malaise trap is in minor canyon above pipe outlet. Philonicus; Villa; Chrysops; emptied malaise trap 7092

7093 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Drip Tank, jct Smoky Mountain Road, 1550 m 37 19 22 N 111 31 58 W 5-6 July 2000 C. R. Nelson # 7093 & Wendy Mendel & Bessie Green & Danny Drysdale & Britta Sappington & Muriel Moody & Larisa Hardy & Catherine Viana 34 Called DRIP1 in GPS. Pompilidae; Efferia benedicti; Efferia sp. females zonata?; Proctacanthus nearno; Machimus griseus; Buprestidae; Bombyliidae; Therevidae; Sphecidae; Baetidae; Hydrophilidae Berosus; Lestidae Archilestes grandis; Veliidae Microvelia; Gerridae 7093

7094 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Last Chance Creek, jct Drip Tank Creek 06-Jul-2000 C. R. Nelson # 7094 & Wendy Mendel & Bessie Green & Danny Drysdale & Britta Sappington & Muriel Moody & Larisa Hardy & Catherine Viana 34 no GPS, could be easy to get site from map. Ephydridae 7094

7095 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Right Hand Collet Canyon jct Smoky Mountain Road, 1900 m 37 32 33 N 111 38 25 W 07-Jul-2000 C. R. Nelson # 7095 & Wendy Mendel & Bessie Green & Danny Drysdale & Britta Sappington & Muriel Moody & Larisa Hardy & Catherine Viana 34 COLLET in GPS above is at camp; I met Jamie & Meagan Miles (bird interns from Kanab) at 9:30 am. High point where bones were was 2163 m on map.

Then we got stuck in the sand in Alvey Wash heading back to Escalante. There was a parting of the ways at the end of the day. Some headed north, some headed south. early morning walk to high point ridge due north of junction. road and wash then high point. Dinosaur bones evident. just west of pinnacle on ridge at a bearing of 344 deg. from camp found skull and scapula of hadrosaur. bones white, wood castings purple. skull? (May be a small pelvis?) is about 10 m West of tallest pinnacle on ridge, on a bearing of 250 deg from pinnacle top. then clavicle (actually scapula) is to the right about 10 m. Good collecting on tamarisk, also Clematis and rabbitbrush. photos of people in wash 7095

7096 USA UTAH: Kane Co., Coral Pink Sand Dunes State Park, 0.7 mi NE of Visitor's Center 37 02 41 N 112 43 19 W 08-Jul-2000 C. R. Nelson # 7096 & Bessie Green 34 photos scenery collected on Wyethia scabra and Asclepias welshi and Chrysothamnus nauseosus photos Hippoboscidae; Asilidae: Proctacanthus micans?, Stichopogon trifasciatus, Laphystia, Machimus, Cophura 7096

7097 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, "Henrieville Spring", tributary of Henrieville Creek, 8 mi SE of Henrieville 37 36 42 N 111 53 42 W 10-Jul-2000 C. R. Nelson # 7097 & Wendy Mendel & Bessie Green & Muriel Moody 34 changed bottle on malaise trap, last changed 5 July 2000. Stichopogon 7097

7098 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, Boulder mail Trail, from Hwy 12 to Sand Creek 10-Jul-2000 C. R. Nelson # 7098 & Wendy Mendel & Bessie Green & Muriel Moody & Larisa Hardy & Catherine Viana. 34 SAND6 up top to get to rim above Sand Creek on mail Trail: N 37 51 58 W 111 29 02; SAND7 rim above Sand Creek on mail Trail: N 37 52 12 W 111 28 45; SAND 8: turn from McGath Road on to Boulder mail Trail N 37 52 20 W 111 28 22; SAN9: trailhead near Boulder Air strip N 37 53 01 W 111 27 52. *Proctacanthus micans*; *Laphystia*; *Apiocera*; *Diogmites grossus*; *Asilidae* 7098

7099 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, Sand Creek near jct Sweetwater Creek N 37 51 46 W 111 29 25 10-12 July 2000 C. R. Nelson # 7099 & Wendy Mendel & Bessie Green & Muriel Moody & Larisa Hardy & Catherine Viana. 34 SANDMT, malaise traps & camp on Sand Creek. yellow pan traps and malaise traps. *Coenagrionidae*, *Tetraopes*, *Efferia benedicti*, *Stichopogon*, *Philonicus*, *Proctacanthus micans*, *Tricorythodes* adults. 7099

7100 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, Boulder mail Trail between Sand Creek and Death Hollow 11-Jul-2000 C. R. Nelson # 7100 & Wendy Mendel & Bessie Green & Muriel Moody 34 DEATH4 sandy area on mail Trail on slickrock Saddle Bench good insect spot: N 37 50 58 W 111 30 51; DEATH5, flat spot above Sand Creek: N 37 51 11 W 111 30 31; SAND4, gnrl'd aspen on mail trail out of Sand Creek on way to Death Hollow N 37 51 38 W 111 29 58; SAND5 point on Sand Creek to cut up hillside on mail Trail to Death Hollow; SLICK1 slickrock, first pass out of Sand Creek on way to Death Hollow N 37 51 33 W 111 30 03. Also I scrawled a simple map in the notes. *Asilidae*, *Apioceridae*, ant at lunch, tuna not granola; photo *Efferia* sp. 7100

7101 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, Death Hollow, jct Boulder mail Trail 37 50 37 N 111 31 07 W 11-Jul-2000 C. R. Nelson # 7101 & Wendy Mendel & Bessie Green & Muriel Moody 34 EPA First 100 sample from creek; photos: scenery, lush canyon, much water. Pumped water for drinking tastes better in Death Hollow than Sand Creek. I drew a small map. DEATH1 at Range Corner Marker on east rim of Death Hollow on mail Trail N 37 50 35 W 111 30 52; DEATH2, used above N 37 50 37 W 111 31 07, at creek junction with mail Trail; DEATH3 at sighting of falcons, on top of south Hoodoo south of the range corner Marker N 37 50 33 W 111 30 52. *Philonicus*, *Argia*, *Hetaerina*, photos: *Chrysochus auratus* on *Apocynum cannabinum*; phtos: orchid, *Epipactis giganteus*; 7101

7102 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, head of Calf Creek basin, above Upper Calf Creek Falls 37 51 18 N 111 27 07 W 12-Jul-2000 C. R. Nelson # 7102 & Wendy Mendel & Bessie Green & Muriel Moody 34 photo: scenery; CALF1, broken white spear point near mail Trail turnoff from McGath Road to Sand Creek: N 37 52

17 W 111 28 18; CALF2, brink of Upper Calf Creek Falls, given above N 37 51 18 W 111 27 07; small map drawn. Apioceridae and Therevidae around plunge pools 7102

7103 USA UTAH: Garfield Co. Grand Staircase Escalante National Monument, Boulder mail Trail between Hwy 12 and Sand Creek 12-Jul-2000 C. R. Nelson # 7103 & Wendy Mendel & Bessie Green & Muriel Moody 34 Proctacanthus, Acrididae, Cicindela 2 spp., Laphystia 7103

7104 USA UTAH: Utah Co., Wheeler Sawmill, 12 mi E of thistle, Hwy 6/50 39 57 22 N 111 16 03 W 15-Jul-2000 C. R. Nelson # 7104 & family & Vivian Fisher. Andrea Amy Kaye 34 mileage: sawmill 0; Sheep Creek 4; cave at Red Narrows 8.4; turnoff to manti (hwy 89) 11.8; Covered Bridge Canyon 17.0; Springville turn 21.5; Spanish Fork & I-15 30; Provo Univ. I-15 32. I think this last reading is faulty. Oestridae: Cuterebra, photos; Myrmeleontidae, Asilidae: Ospreocerus abdominalis, Machimus, Diogmites, saw Megaphorus. Sphecidae, Therevidae, Bombyliidae Mythicomys, Syrphidae, Chloropidae. 7104

7105 USA TEXAS: Val Verde Co. Devils River, Dolan Falls 29 53 04 N 100 59 37 W 500 m 17-20 July 2000 C. R. Nelson # 7105 & A. W. Hook & J. L. Neff 34 430 msl at Falls Efferia argyrosoma, some with prey; Cicadidae Cacomis valvata?; Promachus; Tabanidae; Sphecius; moths; ticks on Riley after return to Utah

Road kill armadillo, 20 July 2000, approximated as N 30.0 W 1200.8, using Google Earth. It was actually somewhere between Dolan Falls and Highway 277, about 500 m elevation. 7105

7106 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 29 53 24 N 100 59 13 W 17-20 July 2000 C. R. Nelson # 7106 & A. W. Hook & J. L. Neff 34 19 July: 8:00 am, temporary pools, air temp 28 C; ET leg pool surface 26C depth 5.2 cm 26C; 26 Oecetis visible, harvested 10 for gut contents. Chara Pool surface 25 C, depth 4.2 cm 26 C with 0 Oecetis; Rock Pool surface 25 C depth 2.4 cm 25 C with 6 Oecetis. Rock Pool was merely moist mud at 4:30 pm; 4:30 pm air 43 C, surface 38 C, depth of ET 36C and 9:00am air at ET was 32 C. 10 Oecetis visible at 4:30 pm, in other words 6 disappeared. many of these notes were transcribed into the book from the back of a glassine envelope. picked up dead dried armadillo pieces on road back to highway Microstylus galactodes, Efferia argyrosoma several with prey, Mutillidae, Saropogon, Bombus, Mydidae, Alticinae Chrysomelidae on Polanisia dodecandra. Buena and snails in ephemeral pools. 7106

7107 USA TEXAS: Val Verde Co. Devils River, below Dolan Falls at mexican oaks, Grass Patch Spring no gps 19-Jul-2000 C. R. Nelson # 7107 & A. W. Hook & J. L. Neff 34
Protoneuridae; Coenagrionidae; Asilidae, Perasis? 7107

7108 USA TEXAS: Guadalupe Mountains no gps 20-Jul-2000 C. R. Nelson # 7108 34 from air: photos Guadalupe Peak, photo Gypsum Dunes to SW of peak 7108

7109 USA UTAH: Utah Co., Wheeler Sawmill, 12 mi E of thistle, Hwy 6/50 39 57 22 N 111 16 03 W 22-Jul-2000 C. R. Nelson # 7109 & family Amy Andrea Kaye 34 found balloon with card attached, Emalee Pixton, launched 20 October 1999 from Sprucewood Elementary in Sandy, Utah. I returned the card. photos hummingbirds, photos: Machimus griseus with myrmeleontidae; Diogmites grossus; Sphecidae, prey of male Diogmites grossus; Bombyliidae; 7109

7110 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Seaman Wash, at spring 03-Aug-2000 C. R. Nelson # 7110 & Wendy Mendel & Bessie Green & Muriel Moody & John Clements & Maria Dahmus 34 check Wendy's GPS Diogmites grossus 7110

7111 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Deer Trails Bench, trail to jct Snake Creek & Paria River 03-Aug-2000 C. R. Nelson # 7111 & Wendy Mendel & Bessie Green & Muriel Moody & John Clements & Maria Dahmus 34 route to canyon bottom, loop around the bowl to avoid cliffs; OILWELL Oil well at end of road N 37 19 55 W 112 01 57.7; SN1 N 37 20 09 W 112 02 09.6 and many other points, our camp on the Paria River was at SN9 N 37 20 45.9 W 112 00 32.8 Efferia benedicti, ants 7111

7112 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Snake Creek, above jct Paria River 3-4 August 2000 C. R. Nelson # 7112 & Wendy Mendel & Bessie Green & Muriel Moody & John Clements & Maria Dahmus 34 malaise trap. SNAKE mouth, jct Paria River N 37 20 44.4 W 112 00 29.2; SNAKE2 Dinosaur Tracks N 37 20 48.5 W 112 00 21.4 Scoliidae, bees, Bombyliidae, Sphecidae, Tabanidae, Dolichopodidae, Philonicus, Lygaeidae, Rhopalidae, Efferia benedicti, Nematocera on Oenothera, tall yellow; Tachinidae, Tenthredinidae, Columbine, purple mustard. 7112

7113 USA UTAH: Kane Co., Grand Staircase Escalante National Monument, Paria River, jct Snake Creek N 37 20 48.5 W 112 00 21.4 04-Aug-2000 C. R. Nelson # 7113 & Wendy Mendel & Bessie Green & Muriel Moody & John Clements & Maria Dahmus 34 water & silt sample. SNAKE2 N 37 20 48.5 W 112 00 21.4 Diogmites grossus, some mating; Cicindela 7113

7114 USA UTAH: Washington Co. St. George 04-Aug-2000 C. R. Nelson # 7114 34 scarabaeidae, green 7114

7115 USA NEVADA: Clark Co. Logandale 04-Aug-2000 C. R. Nelson # 7115 & family 34 Paul & Kathy Wheeler home in Logandale, Wendy & Ryan's wedding in Las Vegas on 5 August 2000. 7115

7116 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, base of Straight Cliffs above Sooner Wash, Lake Canyon Trail 37 18 13.1 N 111 06 50.2 W 7-9 August 2000 C. R. Nelson # 7116 & Wendy Mendel & Bessie Green & Muriel Moody & Harry Barber. 34 gps way points of this trip are 50MIxx or 50 xx. malaise trap at corral at base of trail, very few specimens. 50 29 CORRL corral on the way down N 37 18 13.1 W 111 06 50.2; 50 30 TURN, turn from 50 mile Bench down Sooner Slide 37 16 07.2 N 111 04 12.8 W; 50 31 HOLE jct Sooner Slide Road jct Hole in the Rock Road; 50MI1 N 37 18 11.9 W 111 06 49.5; This trip looped up to Lake Pasture, the head of Pleasant Grove Canyon over the ridge into Pinto Mare Canyon, down to jct Steer Canyon, down to jct Pleasant Grove Canyon, looking SW into beautiful desolation, up Pleasant Grove Canyon to pump water and back to Lake Pasture cabin, Griffin cabin. 7116

7117 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, top of Straight Cliffs, Lake Trail 37 17 53.5 N 111 06 46.2 W 7-8 August 2000 C. R. Nelson # 7117 & Wendy Mendel & Bessie Green & Muriel Moody & Harry Barber. 34 malaise trap, empty, blew over, no specimens. 50MI02 TOP! top of trail on way in N 37 17 53.5 W 111 06 46.2; 50MI19 top of trail on way out N 37 17 55.3 W 111 06 47.1. these two readings were from the same spot. I read on the corners of the switchbacks going down using 50 21 through 50 31. bees flies on "clump" Eriogonum. 7117

7118 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, Georgie Hollow 37 17 41.5 N 111 07 21.2 W 7-8 August 2000 C. R. Nelson # 7118 & Wendy Mendel & Bessie Green & Muriel Moody & Harry Barber. 34 malaise trap in stand of Chrysothamnus nauseosus. Chrysothamnus nauseosus in bloom: Tachinidae, Braconidae, Ichneumonidae 7118

7119 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, Lake Pasture near Griffin Cabin 37 17 41.5 N 111 07 21.2 W 7-8 August 2000 C. R. Nelson # 7119 & Wendy Mendel & Bessie Green & Muriel Moody & Harry Barber. 34 photos sunrise on Lake Pasture, sweeping was good in meadow. 50MI05 FORK fork of Lake Pasture upslope (n) from cabin N 37 17 55.4 W 111 08 39.7; 50MI18 cabin, Griffin Cabin N 37 17 48.3 W 111 08 27.8 Leptogaster Ocyptamus Anthomyiidae Tephritidae Satyridae 7119

7120 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, Pleasant Grove Canyon and upper springs 37 17 51.1 N 111 09 14.2 W 08-Aug-

2000 C. R. Nelson # 7120 & Wendy Mendel & Bessie Green & Muriel Moody & Harry Barber. 34 malaise trap; sweeping small stream; 50MI15 & PLESP, biggest spring N 37 17 51.1 W 111 09 14.2; 50MI06 PLEAS N 37 17 53.4 W 111 09 12.9; 50MI07 RIDGE - ridge between Pleasant Grove & Pinto Mare Canyons N 37 17 52.1 W 111 09 20.2; 50MI14 PLEA1 - somewhere in Pleasant Grove Canyon, lower spring? N 37 17 39.0 W 111 09 38.0; 50MI16 TRAIL - trail down into Pleasant Grove Canyon across from cabin N 37 17 44.4 W 111 09 07.5; 50MI17- trail across to Lake Pasture Cabin N 37 17 43.8 W 111 08 46.2. aspens; heleomyzidae; satyridae, coenagrionidae; hesperiidae 7120

7121 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, Pinto Mare Canyon 37 18 02.9 N 111 09 13.6 W 08-Aug-2000 C. R. Nelson # 7121 & Wendy Mendel & Bessie Green & Muriel Moody & Harry Barber. 34 50MI08 PINTO N 37 18 02.9 111 09 13.6; 50MI09 CAVE - alcove 37 18 02.5 N 111 09 18.6 W; 50MI10 PMOUT (Pinto Mouth), junction Pinto Mare & Steer Canyons 37 17 56.3 111 09 36.9 W pool in alcove, Culiseta; photos: Gerridae, not collected; oystershell scale on Populus tremuloides 7121

7121.1 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, Steer Canyon jct Pinto Mare Canyon 08-Aug-2000 C. R. Nelson # 7121.1 & Wendy Mendel & Bessie Green & Muriel Moody & Harry Barber. 34 photos: indian ruins; photos views & pictographs at big pour off. 7121.1

7122 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, lower pools of Pleasant Grove Creek near jct Steer Creek 37 17 30.1 111 09 56.8 W 08-Aug-2000 C. R. Nelson # 7122 & Wendy Mendel & Bessie Green & Muriel Moody & Harry Barber. 34 50MI13 PLEAS, check map? jct Pleasant Grove Canyon and Steer Canyon N 37 17 30.1 W 111 09 56.8; 50MI14 PLEA1 - somewhere in Pleasant Grove Canyon, lower pool? N 37 17 34.0 W 111 09 38.0. Gyrinidae; Gerridae; Hydrophilidae; Limnephilidae? cases; Aeshnidae, Aeshna multicolor? 7122

7123 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, Steer Canyon above jct Pleasant Grove Creek 37 17 54.6 N 111 09 44.1 W 08-Aug-2000 C. R. Nelson # 7123 & Wendy Mendel & Bessie Green & Muriel Moody & Harry Barber. 34 50MI11 PUEBL indian dwelling in alcove on north wall of steer Canyon near jct Pinto Mare Canyon N 37 17 54.6 W 111 09 44.1; 50MI12 STEER N 37 17 33.5 W 111 10 00.5 Xylocopa; Arphia; Trimerotropis; Efferia, 2 spp.; Ammoniphila; Promachus, yellow; Poecilanthrax; Villa 7123

7124 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, top of Straight Cliffs, Lake Trail 8-9 August 2000 C. R. Nelson # 7124 & Wendy

Mendel & Bessie Green & Muriel Moody & Harry Barber. 34 photos: sunset then sunrise
7124

7125 USA UTAH: Kane Co., Hole in the Rock, Lake Powell 09-Aug-2000 C. R. Nelson #
7125 & Wendy Mendel & Bessie Green 34 photos: Hole, Lake, chiseling. 4331 ft elev. at top
of Hole in the Rock. HOLEIN, end of the Hole in the Rock Road N 37 15 23.3 W 110 54 00.4;
HOLERK LAKE Hole in the Rock at Lake Powell N 37 15 15.9 W 110 53 46.1 7125

7126 USA UTAH: Garfield Co. Grand Staircase-Escalante National Monument, Calf Creek
at Campground 37 47 37 N W 111 24 54 9-10 August 2000 C. R. Nelson # 7126 & Wendy
Mendel & Bessie Green 34 CALFCR N 37 47 37 W 111 24 54 uv blacklight: Mutillidae;
moths; myrmeleontidae; chrysopidae; hemerobiidae; berrothidae; photos: Polyphagidae;
hunted with blacklight: photos small and large scorpions 7126

7127 USA UTAH: Garfield Co. Grand Staircase-Escalante National Monument, Calf Creek
between upper and lower falls 37 51 18 N 111 27 07 W 10-Aug-2000 C. R. Nelson # 7127 &
Wendy Mendel & Bessie Green 34 CALF2, upper falls, brink N 37 51 18 W 111 27 07;
CALFLO, lower falls brink N 37 49 46 W 111 25 14.

I collected between the brinks of the two falls but I spent more collecting time nearer the
upper falls. photos: coenagrionidae; tachinidae; tipulidae; psychodidae; scoliidae;
dolichopodidae; skin of cordulegastridae. gomphidae; tipulidae; calopterygidae;
Hetaerina; oystershell scale on "yellow" willow. 7127

7128 USA UTAH: Garfield Co. Grand Staircase-Escalante National Monument, temporary
pools on Navajo sandstone, Upper Calf Creek Falls Trail N 37 51 06 W 111 26 48 10-Aug-
2000 C. R. Nelson # 7128 & Wendy Mendel & Bessie Green 34 coordinates estimated from
map, not GPS: N 37 51 06 W 111 26 48 Dytiscidae; salidae; dolichopodidae; Efferia
female on slickrock 7128

7129 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, Right Hand
Collett Canyon jct Smoky Mountain Road 37 32 58 N 111 38 20 W 11-Aug-2000 C. R.
Nelson # 7129 & Wendy Mendel & Bessie Green & Howard "Hutch" Hutchinson & Mary
Poteet & Chris Bell 34 COLLET, jct with Smoky Mtn. Road N 37 32 33 W 111 38 25. DINO, at
hadrosaur skull 37 33 03 N 111 38 26 W; RHCOLLET camping spot, use for insect labels 37
32 58 N 111 38 20 W. Photos: I showed the dinosaur skull and bones - Hutch will excavate.
It is a hadrosaur! As Hutch puts it, the cows of the dinosaur world.
I also collected on two species of Chrysothamnus (or two subspecies of nauseosus) in full
bloom: rich.
tamarisk had some things.

bees

Mythicomyia, many, several colors. Efferia; Proctacanthus; neat mini Bombyliidae. 7129

7130 USA UTAH: Garfield Co. Grand Staircase-Escalante National Monument, Left Hand Collett Canyon about 2 mi SW of the Hole in the Rock Road 11-Aug-2000 C. R. Nelson # 7130 & Wendy Mendel & Bessie Green & Howard "Hutch" Hutchinson & Mary Poteet & Chris Bell 34 no GPS; Saw several trackways of dinosaurs, three toed and sauropods, in white Entrada sandstone. They were eroded to concentric circles of light and dark in the sandstone. This is a good camping spot. We came down from Collet Top through the Left hand. It is a very rough road, could easily be impassable in wet weather. I don't want to go on that road again, unless absolutely necessary. 7130

7131 USA UTAH: Garfield Co. 4 mi NE of Henrieville 37 35 52 N 111 56 50 W 11-Aug-2000 C. R. Nelson # 7131 34 photo: Powell Point and the Blues (or some Gray Cliffs in the late afternoon sun. Goodbye to the Staircase for this season. Hope to see you again next year. Coordinates from map: 37 35 52 N 111 56 50 W

Left Escalante at 6:30 pm, home in Provo at 12:20 am 7131

7132 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 12-Aug-2000 C. R. Nelson # 7132 34 4950 feet elev. photos: large spider, male giant crab spider? Is there any chance this specimen came as a hitchhiker with Jan Pearce and Marie Jones who came from Austin, Texas and stayed at our house this week, while I was away? 7132

7133 BRAZIL Paraná State Iguassu Falls National Park, Iguassu Falls trails 19-Aug-2000 C. R. Nelson # 7133 & matthew Terry 34 photos: falls. photos: Chrysomelidae, Salticidae, Ithomiidae, Nymphalidae - 88
Saw magpie tanager and black vultures. 7133

7134 BRAZIL Paraná State Iguassu Falls Convention Center, xx km NE of Foz do Iguaçu S 25 36 10.4 W 54 29 38.3 20-Aug-2000 C. R. Nelson # 7134 & matthew Terry 34 FOZCON S 25 36 10.4 W 54 29 38.3 photos: insects, tephritidae, Lepidoptera; Mycetophilidae 7134

7135 BRAZIL Paraná State Iguassu Falls National Park, Iguassu Falls trails S 25 41 26.1 W 54 26 12.4 21-Aug-2000 C. R. Nelson # 7135 & matthew Terry 34 photos: scenery. Bottom of falls IFALLS: S 25 42 30.1 W 54 26 16.6. 1FALL top of falls: S 25 41 26.1 W 54 26 12.4 photos: insects; Heliconius; Chrysomelidae; Tachinidae; Lauxaniidae 7135

7136 BRAZIL Paraná State Iguassu River, jct Paraná River S 25 41 26.1 W 54 26 12.4 22-Aug-2000 C. R. Nelson # 7136 & Diane mathis & Wayne mathis & guide 34 photos: river &

banks. On a boat looking for fish. from GPS map, triple nation point! Argentina, Paraguay, and Brazil: S 25 35 42 W 54 35 47.6 7136

7137 PARAGUAY Paraná River below Ciudad del Este S 25 41 37.8 W 54 39 19.4 22-Aug-2000 C. R. Nelson # 7137 & Diane mathis & Wayne mathis & guide 34 photos: river & banks. On a boat looking for fish. PARA1 S 25 41 37.8 W 54 39 19.4 7137

7138 ARGENTINA Misiones State Paraná River below Ciudad del Este and Foz do Iguaçu S 25 42 07.9 W 54 38 59.6 22-Aug-2000 C. R. Nelson # 7138 & Diane mathis & Wayne mathis & guide 34 photos: river & banks. On a boat looking for fish. PARA2 S 25 42 07.9 W 54 38 59.6 7138

7138.1 PARAGUAY Ciudad del Este 23-Aug-2000 C. R. Nelson # 7138.1 & Diane mathis & Wayne mathis & Lloyd Morrison & matt Terry 34 photos city 7138.1

7139 BRAZIL Paraná • Foz do Iguaçu, Bourbon Hotel S25 33 35 W 54 33 46 25-Aug-2000 C. R. Nelson # 7139 34 photots: stingless bees, yellow; ant; caterpillar? 7139

7139.1 ARGENTINA Misiones State Iguassu Falls, Iguassu Falls National Park S 25 42 33 W 54 26 32 26-Aug-2000 C. R. Nelson # 7139.1 Wayne & Diane mathis; Alessandra Baptista; Mark "Bennett" 34 photos: falls and people 7139.1

7140 BRAZIL Paraná • Bird Park near Iguassu Falls S 25 38 56 W 54 26 30 27-Aug-2000 C. R. Nelson # 7140 Mike Whiting and matt Terry 34 caged birds: greater rhea, crowned crane, red breasted toucan, blue faced curassow (brown) endangered; razor billed curassow, endangered; red legged Seriema; toco toucan; Dolichopodidae; Reduviidae; Tephritidae; small toucan; toucanet, green bill; cassowary 7140

7141 BRAZIL Paraná • Iguassu Falls, Iguassu Falls National Park S25 41 30 W 54 26 17 27-Aug-2000 C. R. Nelson # 7141 Mike Whiting and matt Terry 34 IFALLS, bottom: gps photos: Chrysomelidae; Bibionidae; Culicidae; Membracidae; Hesperidae? 7141

7142 BRAZIL Paraná • Foz do Iguaçu, town 28-Aug-2000 C. R. Nelson # 7142 34 photos: town 7142

7143 BRAZIL Amazonas Amazon river at night 29-Aug-2000 C. R. Nelson # 7143 34 gps, flying over Amazon River 7143

7144 USA UTAH: Salt Lake Co. Great Salt Lake, delta of Jordan River 29-Aug-2000 C. R. Nelson # 7144 34 photos: from air near airport 7144

7145 USA UTAH: Utah Co., Wheeler Sawmill, 12 mi E of Thistle, Hwy 6 02-Sep-2000 C. R. Nelson # 7145 34 collecting on: Chrysothamnus nauseosus; photos: Sphe

ichneumonineus, Lestes, Megachile, Bombyliidae, Syrphidae on Grindelia, Cercopidae on Chrysothamnus nauseosus 7145

7146 USA UTAH: Box Elder Co. Brigham City, 211 North 300 West N 41.5155 W 112.0198 09-Sep-2000 C. R. Nelson # 7146 34 photos: Tephritidae, Rhagoletis completa on leaves and fruit of english walnut, some in 70% ethanol to move to 100% when back in lab; Calliphoridae 7146

7146.1 USA UTAH: Utah Co., Provo, 650 East 4525 North 11-Sep-2000 C. R. Nelson # 7146.1 & A. L. Nelson 34 bristletails, Microcoryphia 7146.1

7147 USA UTAH: Utah Co., Goshen Ponds 12-Sep-2000 C. R. Nelson # 7147 & A. L. Nelson 34 4600 feet elevation photos: Eumenidae, Cerambycidae on Gutierrezia sarothrae, Braconidae on Helianthus annuus; Haliplidae; Naucoridae; Hydrometridae 7147

7148 USA UTAH: Utah Co., Provo, BYU 13-Sep-2000 C. R. Nelson # 7148 34 photos: Lehi Hintze and Keith Rigby photos: fossil Hexactinellid, Protospongia hicksi, from Cambrian, 500 mya; Oneida Narrows, Idaho by Lloyd Gunther 7148

7149 USA UTAH: Summit Co. Uintah Mountains, Notch Lake, 2 mi NW of Bald Mountain Summit, Hwy 150 16-Sep-2000 C. R. Nelson # 7149 & scouts 34 photos: scenery and people; scout overnight camp Acrididae; photos: mountain goat 7149

7150 USA UTAH: Utah Co., Provo, East Center Street 20-Sep-2000 C. R. Nelson # 7150 & William Crandall & Daniel Jensen 34 CRN did not collect, brought to him by other collectors photos: mantispidae: Climaciella brunnea 7150

7151 USA CALIFORNIA: Orange Co. Anaheim Hills 28-Sep-2000 C. R. Nelson # 7151 34 in California for the funeral of my brother, Winston Randall Nelson, age 53, actually would have been 53 on 29 September 2000. 1077 feet elevation photos: lacebugs Tingidae on sycamore; snails on purple flowers 7151

7152 USA UTAH: Utah Co., Provo River, Nunns Park N 40 20 13 W 111 36 40 03-Oct-2000 C. R. Nelson # 7152 & Amy Leah Nelson 34 for Amy's insect collection in water: Isoperla, Pteronarcys, Pteronarcella, Atherix, Hirudinea leech, Oligochaeta, Brachycentridae Brachycentrus, Hydropsychidae, Simuliidae, Skwala 7152

7153 USA UTAH: Tooele Co. Five Mile Pass, Rush Valley 14-Oct-2000 C. R. Nelson # 7153 & scouts 34 photos: bike outing with scouts and older boys 7153

7154 USA UTAH: Box Elder Co. Brigham City N 41.5155 W 112.0198 19-Oct-2000 C. R. Nelson # 7154 34 photos: funeral of John & Camille Larsen and participants; photos of Amy Hansen at the Old Larsen home on 5th West 7154

7155 BRAZIL Pará State manaus 27-Oct-2000 C. R. Nelson # 7155 & Jack Sites & Mark Belk and Mindy Wallentine and David Gonzales 35 start of Amazon trip. Stayed at home of Tania Sanaiotti. Toured INPA, Instituto Nacional de Pesquisas Amazonas, with Jose Gomez; photos of electric eel, *Electrophorus electricus*, knife fish *Sternopygus* sp. and dead candiru catfish.

before arriving in manaus I took photos from the air of manaus on 26 Oct 2000 and Brasilia and Porto Velho 7155

7156 BRAZIL Pará State Rio Trombetas Biological Reserve 28-Oct-2000 C. R. Nelson # 7156 & Jack Sites & Mark Belk and Mindy Wallentine and David Gonzales 35 photos of people in class: Vitor Hugo Cantarelli, Dalmo, Ronildo, Ivan, Claudiano, Heloisa, Alessandra, Vilian, Sergio, Newton, Adriano, Renata (added on later day), Erica (grad student working with turtles). We were in Porto Trombetas on 27 Oct 2000. I tried to find where this spot is using Google Earth on 28 March 2013 and my best estimate is at S 1.370 W 56.853, 65 m elev. photos people, turtles, cat margay on night walk: Blattaria roaches, frogs: Leptodactylidae and Hylidae Hyla boans, millipede, Fulgoridae. spider from bathroom, butterflies, ants, army ants, Eciton. Ameiva lizard; pupal net of Sisyridae?; 7156

7157 BRAZIL Pará State Rio Trombetas Biological Reserve 29-Oct-2000 C. R. Nelson # 7157 & Jack Sites & Mark Belk and Mindy Wallentine and David Gonzales 35 photos: fishermen's catch, pirarara - big red tail catfish, surubim or pintada - migratory catfish, aruanã; photos forest pool; photos Fulgoridae with wax, fish from forest pond, saw dark boto (river dolphin); photos sunset over river; lizard Tropicuridae; photos Characidae glass fish and head and tail light; photos Rivulus? night: more fish on dock Sciaenidae called pescado; photos Riley with caiman, photos Eciton biting Riley's foot 7157

7158 BRAZIL Pará State Rio Trombetas Biological Reserve 30-Oct-2000 C. R. Nelson # 7158 & Jack Sites & Mark Belk and Mindy Wallentine and David Gonzales 35 emptied malaise trap in afternoon photos tarantula, army ants, Scutellaridae 7158

7159 BRAZIL Pará State Rio Trombetas Biological Reserve, sandy beach on left bank of Rio Trombetas 30-Oct-2000 C. R. Nelson # 7159 & Jack Sites & Mark Belk and Mindy

Wallentine and David Gonzales 35 15 ponds seined photos Amphibian nest, tamandua, scenery; photos fish from beach, small pacu, tetra 7159

7160 BRAZIL Pará State Rio Trombetas Biological Reserve, Lago Jacar√©, 2 km N of station 31-Oct-2000 C. R. Nelson # 7160 & Jack Sites & Mark Belk and Mindy Wallentine and David Gonzales 35 jumping tucunar√©, photos king vultures above black caiman carcasses, photos igapo (inundation forest), castanha brazil nut trees, fish lice on traíra (Hoplias fish). Also morning fish on the dock. 7160

7161 BRAZIL Pará State Rio Trombetas Biological Reserve, turtle beach on west bank of Rio Trombetas 31-Oct-2000 C. R. Nelson # 7161 & Jack Sites & Mark Belk and Mindy Wallentine and David Gonzales 35 gill netting in oxbox connected to river, only a couple cichlids, beating water; seining deep pools: few fish, but cichlids. 7161

7162 BRAZIL Pará State Rio Trombetas Biological Reserve 01-Nov-2000 C. R. Nelson # 7162 & Jack Sites & Mark Belk and Mindy Wallentine and David Gonzales 35 photos: Tettigoniidae on tree trunk, Blattaria - large, Passalidae, Carabidae, Diplopoda, moth - Geometridae, Mantidae 7162

7163 BRAZIL Pará State Rio Trombetas Biological Reserve, west beach 02-Nov-2000 C. R. Nelson # 7163 & Jack Sites & Mark Belk and Mindy Wallentine and David Gonzales 35 on dock, fishes: bit by piranha, a seemingly dead one. It took quite a chunk. Very quick and painless, but much blood. photos: nymphalidae, Coenagrionidae 7163

7164 BRAZIL Pará State Rio Trombetas Biological Reserve 02-Nov-2000 C. R. Nelson # 7164 & Jack Sites & Mark Belk and Mindy Wallentine and David Gonzales 35 photos: workers arranging candles in sand for a ceremony for the Day of the Dead, All Souls Day fishing with Ronildo from Manaus: matupiri, a big scale pacu; pacu; aracu - Leporinus fasciatus, a banded tetra 7164

7165 BRAZIL Pará State Rio Trombetas Biological Reserve 03-Nov-2000 C. R. Nelson # 7165 & Jack Sites & Mark Belk and Mindy Wallentine and David Gonzales 35 walk in the woods with students. Start in igapo (inundation forest) move up in to terra firme. photos: Bothrops viper snake venomous (jararaca), grasshopper, class picture, scarabaeidae - large; later walk in terra firme: photo bromeliad, in bloom; photos: forest & river in clouds, dock, child, Cerambycidae, Psocoptera, Ceiba tree & people, piranha jaw, cachorro dog fish, termites, Riley, Anolis. photos of red footed tortoise, taken on 4 November 2000. 7165

7166 BRAZIL Pará State Rio Trombetas Biological Reserve, Lago Jacar√© 04-Nov-2000 C. R. Nelson # 7166 & Jack Sites & Mark Belk and Mindy Wallentine and David Gonzales 35 photos boat ride on river and in Lake Jacar√©. Tried to see king vultures but the black caiman carcasses were completely gone. Photos: at station, mango tree, of party, cashew

trees, ants with head shields; photos of party Churrasco.

on 28 March 2013, Lake Jacare, Lago Jacare shows up on Google Earth at:
S 1.3378 W 56.8342, elev. 42 m. 7166

7167 BRAZIL Pará State Rio Trombetas Biological Reserve, Lago Jacaré © 05-Nov-2000 C. R. Nelson # 7167 & Jack Sites & Mark Belk and Mindy Wallentine and David Gonzales 35 photos ant mimic membracid 7167

7168 BRAZIL Pará State Rio Trombetas, Porto Trombetas 06-Nov-2000 C. R. Nelson # 7168 & Jack Sites & Mark Belk and Mindy Wallentine and David Gonzales 35 photos: dock at Porto Trombetas, bauxite loading facility; photos forest from air near Porto Trombetas 7168

7169 BRAZIL Amazonas State rainforest near manaus 06-Nov-2000 C. R. Nelson # 7169 & Jack Sites & Mark Belk and Mindy Wallentine and David Gonzales 35 photos: rain forest. photos: joining of the Rio Solimoes and Rio Negro to form the Amazon River! White water and black water meet. City of manaus. 7169

7170 BRAZIL Amazonas State manaus 06-Nov-2000 C. R. Nelson # 7170 & Jack Sites & Mark Belk and Mindy Wallentine and David Gonzales 35 fish museum, commercial endeavor. photos: pirarucu, Arapaima gigas in aquarium. more fish 7170

7171 BRAZIL Amazonas State manaus 07-Nov-2000 C. R. Nelson # 7171 & Jack Sites & Mark Belk and Mindy Wallentine and David Gonzales 35 photos: forest and river from the air. 7171

7172 BRAZIL Acre State Rio Branco 07-Nov-2000 C. R. Nelson # 7172 & Jack Sites & Mark Belk and Mindy Wallentine and David Gonzales 35 photos: forest and river 7172

7173 BRAZIL Rondonia State Porto Velho 07-Nov-2000 C. R. Nelson # 7173 & Jack Sites & Mark Belk and Mindy Wallentine and David Gonzales 35 photos: forest and clearings from the air. 7173

7174 USA UTAH: Salt Lake Co. Great Salt Lake, Antelope Island, and Oquirrh Mountains 08-Nov-2000 C. R. Nelson # 7174 35 photos: scenery 7174

7175 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°W 12-Nov-2000 C. R. Nelson # 7175 35 photos: mealworms on special plate 7175

7176 USA UTAH: Utah Co., Provo, BYU 01-Dec-2000 C. R. Nelson # 7176 35 CRN did not collect, he photographed the owl brought to school by Dr. Hal Black photos: pygmy owl 7176

7177 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°W 05-Dec-2000 C. R. Nelson # 7177 35 photos healed piranha bite on finger of CRN; misnumbered as 7277 on field labels photos: Guida the cat, fish, and turtles 7177

7178 USA UTAH: Utah Co., Provo 14-Dec-2000 C. R. Nelson # 7178 35 photos: Andrea at Central Utah Surgical Center to have a cyst removed from her wrist; misnumbered as 7278 on field labels 7178

7179 USA UTAH: Utah Co., Provo, BYU 22-Dec-2000 C. R. Nelson # 7179 35 misnumbered as 7279, fix it. photos: zoology aquarium, blenny, "wolf eel", crab, sea stars, and sea anemones 7179

7180 USA COLORADO: Adams Co. Westminster Butterfly and Insect Center 28-Dec-2000 C. R. Nelson # 7180 & family 35 misnumbered as 7380, fix it. photos: butterflies, bees 7180

7181 USA COLORADO: Boulder Co. Eldora Ski Area 29-Dec-2000 C. R. Nelson # 7181 & family 35 photos: people tubing; misnumbered as 7381, fix it. 7181

7182 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home and BYU N 40.29343°W 111.64922°W 05-Jan-2001 C. R. Nelson # 7182 & family 35 photos: frost on trees, shrubs, bikes, buildings - Widtsoe; misnumbered as 7382, fix it. home on 4, Amy with lego Eiffel Tower. 7182

7183 USA UTAH: Utah Co., Payson Canyon, maple Dell 27-Jan-2001 C. R. Nelson # 7183 & scouts 35 photos: scouts; misnumbered as 7383, fix it. 7183

7184 USA UTAH: Utah Co., Rock Canyon above Provo 17-Feb-2001 C. R. Nelson # 7184 & family 35 misnumbered as 7384, fix it. photos: Boreidae - vouchers; Trichoceridae - vouchers; beetle larva. Staphylinidae 7184

7184.1 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°W 17-Feb-2001 C. R. Nelson # 7184.1 & family 35 misnumbered as 7384A, fix it. photos: peacock 7184.1

7185 USA UTAH: Washington Co. Red Cliffs Creek, Red Cliffs Recreation Area 21-Feb-2001 C. R. Nelson # 7185 & Russell B. Rader & Kody F. Kuehnl & John D. Rothlisberger 35 misnumbered as 7385, fix it. Mesocapnia; galls on Chrysothamnus nauseosus 7185

7186 USA UTAH: Washington Co. North Fork Virgin River, Springdale River Park N 37 10 36 W 113 00 31 23-Feb-2001 C. R. Nelson # 7186 & Russell B. Rader & Kody F. Kuehnl & John D. Rothlisberger 35 misnumbered as 7386, fix it. GPS called ZION photos: Taenionema ,

adults and nymphs,

Baetidae, Leptophlebiidae, Corydalus all in 100% ethanol 7186

7187 USA UTAH: Kane Co., Mount Carmel Junction 23-Feb-2001 C. R. Nelson # 7187 & Russell B. Rader & Kody F. Kuehn & John D. Rothlisberger 35 misnumbered as 7387, fix it. I drew a map to the fossil site. The fossil site is on the first bench on the north west corner above the junction of Hwy 89 and the Zion highway. crinoid stems (fossils) on first bench 7187

7188 USA UTAH: Kane Co., East Fork Virgin River, Rest area Hwy 89, 14 mi N of Glendale N 37 22 46 W 112 35 08 23-Feb-2001 C. R. Nelson # 7188 & Russell B. Rader & Kody F. Kuehn & John D. Rothlisberger 35 misnumbered as 7388, fix it. GPS site called EFKVIR Long Valley Junction: 58158.0

Alton Turnoff: 58153.3

Rest Area: 58148.6 = 9.4 (-23 = 14) all in 100% ethanol: Baetidae; Zapada cinctipes adults and nymphs; Rhyacophila; Hydropsychidae; and Drunell 7188

7189 USA UTAH: Garfield Co. Sevier River, jct Hwy 12 near Hwy 89 N 37 44 58 W 112 22 28 23-Feb-2001 C. R. Nelson # 7189 & Russell B. Rader & Kody F. Kuehn & John D. Rothlisberger 35 misnumbered as 7389, fix it. GPS site called SEVIER all in 100% ethanol: Isogenoides, Tricorythodes, Gomphidae, Hydropsychidae, Brachycentridae, Athericidae, Isoperla, Eucapnopsis? 7189

7190 USA UTAH: Garfield Co. Paria River, jct Hwy 12, Cannonville 23-Feb-2001 C. R. Nelson # 7190 & Russell B. Rader & Kody F. Kuehn & John D. Rothlisberger 35 kicked in good flow, no insects seen. misnumbered as 7390, fix it. 7190

7191 USA UTAH: Garfield Co. Henrieville Creek, 8 mi NE of Henrieville N 37 36 45 W 111 53 48 23-Feb-2001 C. R. Nelson # 7191 & Russell B. Rader & Kody F. Kuehn & John D. Rothlisberger 35 misnumbered as 7391, fix it. GPS at spring nicknamed Henrieville Spring HENSPR.

site: 58217.4

Henrieville: 58209.3 in 100% ethanol: Baetidae, 3 specimens 7191

7192 USA UTAH: Garfield Co. spring tributary of Henrieville Creek, 8 mi NE of Henrieville N 37 36 45 W 111 53 48 23-Feb-2001 C. R. Nelson # 7192 & Russell B. Rader & Kody F. Kuehn & John D. Rothlisberger 35 photos: people. misnumbered as 7392, fix it. GPS at spring nicknamed Henrieville Spring HENSPR.

site: 58217.4

Henrieville: 58209.3 in 100% ethanol: Tipulidae larvae & 1 adult, Nemouridae, Baetidae, Hydrophilidae, Hydropsychidae, caddis cases Limnephilidae, Simuliidae 7192

7193 USA UTAH: Garfield Co. Escalante River jct Birch Creek Road, just above jct North Creek N 37 45 56 W 111 40 59 24-Feb-2001 C. R. Nelson # 7193 & Russell B. Rader & Kody F. Kuehn & John D. Rothlisberger 35 misnumbered as 7393, fix it. GPS called ESCNOR in 100% ethanol: Isogenoides, Baetidae, Dytiscidae, Chironomidae, Hydropsychidae, Simuliidae. few specimens. 7193

7194 USA UTAH: Garfield Co. Escalante River just below jct North Creek N 37 45 56 W 111 40 59 24-Feb-2001 C. R. Nelson # 7194 & Russell B. Rader & Kody F. Kuehn & John D. Rothlisberger 35 misnumbered as 7394, fix it. GPS called ESCNOR in 100% ethanol: Isogenoides, Baetidae, Taenionema, Chironomidae, Limnephilidae, Simuliidae. 7194

7195 USA UTAH: Garfield Co. North Creek just above jct Escalante River N 37 45 56 W 111 40 59 24-Feb-2001 C. R. Nelson # 7195 & Russell B. Rader & Kody F. Kuehn & John D. Rothlisberger 35 photos: scenery. misnumbered as 7395, fix it. GPS called ESCNOR in 100% ethanol: Baetidae, Taenionema, Chironomidae. 7195

7196 USA UTAH: Garfield Co. Pine Creek, jct The Box lower trailhead, weir on stream N 37 51 45 W 111 38 09 24-Feb-2001 C. R. Nelson # 7196 & Russell B. Rader & Kody F. Kuehn & John D. Rothlisberger 35 photos: scenery. misnumbered as 7396, fix it. GPS called PINECR in 100% ethanol: Isogenoides, Drunella, Helichus, Oligophlebodes, Elmidae, Brachycentrus, Heptageniidae, Baetidae, Pteronarcella. Chironomidae on snow 7196

7197 USA UTAH: Garfield Co. Escalante River, trailhead jct Calf Creek, Hwy 12 N 37 10 36 W 113 00 31 24-Feb-2001 C. R. Nelson # 7197 & Russell B. Rader & Kody F. Kuehn & John D. Rothlisberger 35 photos: scenery and sign, "yup, gotta get wet". misnumbered as 7397, fix it. GPS called ESCTR. in 100% ethanol: Taenionema was super abundant, Hydropsychidae, Baetidae, Helichus, and Dolophilodes. No adults. 7197

7198 USA UTAH: Garfield Co. Calf Creek Campground N 37 47 37 W 111 24 55 24-Feb-2001 C. R. Nelson # 7198 & Russell B. Rader & Kody F. Kuehn & John D. Rothlisberger 35 misnumbered as 7398, fix it. GPS called CALFCM. in 100% ethanol: Baetidae, Hydropsychidae, Hyaella 7198

7199 USA UTAH: Garfield Co. Dry Hollow, tributary of Boulder Creek, below Calf Creek scenic viewpoint off Hogback N 37 49 46 W 111 24 30 24-Feb-2001 C. R. Nelson # 7199 & Russell B. Rader & Kody F. Kuehn & John D. Rothlisberger 35 misnumbered as 7399, fix it. GPS called BOULCR at creek; BOULHD N 37 49 48 W 111 24 42 at turnout a quarter of a mile S of Calf Creek overlook. We thought we were hiking in to Boulder Creek. On closer consultation with a map we were not quite there, we were on Dry Hollow a quarter mile upstream from Boulder Creek. This was a narrow entrenched stream. I couldn't figure how Boulder Creek could get so small after seeing it up higher. Of course it didn't get small, we

were on the wrong tributary. in 100% ethanol: Baetidae, Hydropsychidae, caddis in cases, Tipulidae, Dixidae 7199

7200 USA UTAH: Garfield Co. Boulder Creek, jct Hwy 12, Boulder N 37 54 03 W 111 26 15 24-Feb-2001 C. R. Nelson # 7200 & Russell B. Rader & Kody F. Kuehnl & John D.

Rothlisberger 35 misnumbered as 7400, fix it. GPS called BOUL12 in 100% ethanol: Isogenoides; kept galls of Chrysothamnus nauseosus live 7200

7201 USA UTAH: Garfield Co. Deer Creek Campground, Burr Trail N 37 51 21 W 111 21 16 24-Feb-2001 C. R. Nelson # 7201 & Russell B. Rader & Kody F. Kuehnl & John D.

Rothlisberger 35 misnumbered as 7401, fix it. GPS called DEER in 100% ethanol: Isogenoides, Baetis, Hydropsychidae, Helichus, Taenionema 7201

7202 USA UTAH: Garfield Co. Pleasant Creek, Hwy 12 above Pleasant Creek Campground N 38 06 12 W 111 20 13 24-Feb-2001 C. R. Nelson # 7202 & Russell B. Rader & Kody F. Kuehnl & John D. Rothlisberger 35 misnumbered as 7402, fix it. GPS called PLEAS in 100% ethanol: Megarcys?, Zapada, Capniidae, Rhyacophila, Ameletus, Heptageniidae, Baetidae, Drunella doddsi 7202

7203 USA UTAH: Wayne Co. Loa - Wanda's Cafe N 38 23 50 W 111 38 19 24-Feb-2001 C. R. Nelson # 7203 & Russell B. Rader & Kody F. Kuehnl & John D. Rothlisberger 35 Ate Loa burgers. Wanda Oyler wasn't there, it was 7:30 pm. photos: Russ Rader with black licorice shake blackened mouth. misnumbered as 7403, fix it. GPS called WANDAS 7203

7204 USA UTAH: Tooele Co. Rush Valley, juniper ridge, 1 mi SE of Faust Railroad station N 40 10 40 W 112 22 39 17-Mar-2001 C. R. Nelson # 7204 & scouts 35 photos: scenery & people. Riley Nelson, Brent Gibson, Jairus Gibson, Ryan Loveless, Sam Parkinson, Justin Barlow, and Jordan Gibson. GPS: FAUST1 (1 mi SE) 7204

7205 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E 18-Mar-2001 C. R. Nelson # 7205 35 Formicidae in house, Camponotus, small black with reddish pedicel 7205

7206 USA TEXAS: Travis Co. Garfield, Caldwell Lane N 30 12 19 W 97 32 29 22-Mar-2001 C. R. Nelson # 7206 35 photos: Pearce home, Post oak trees, stock tank, donkeys; GPS: PEARCE 7206

7207 USA TEXAS: Burleson Co. Caldwell N 30 32 06 W 96 41 44 22-Mar-2001 C. R. Nelson # 7207 35 photos: sculptures in metal and wood by Dr. Joe Smith in his yard. he also has one at an entrance to Texas A & M University. photos: Kolache Capital Bakery with counter help: Diana Strickland and Virginia Sowders. GPS: CALDWE 7207

7208 USA TEXAS: Blanco Co. Pedernales Falls State Park, falls area N 30 19 54 W 98 15 07
22-Mar-2001 C. R. Nelson # 7208 & A. W. Hook & J. L. Neff & Mariana Tenorio 35 GPS:
PEDERN all specimens to Al Hook. Therevidae, Efferia snowi, photos: lichen, liverwort,
Lycaenidae, Nymphalidae 7208

7209 USA UTAH: Box Elder Co. Brigham City, spring 0.2 mi N of Forest Street on 1200 West,
elevation 1306 m N 41 30 47 W 112 02 41 24-Apr-2001 C. R. Nelson # 7209 & J. K. Nelson
35 GPS: BRIGSP. photos: silty spring run. I looked for crayfish in these spots where I caught
them as a kid, but they are much more silted in. fish, 1: speckled dace. large amphipods,
snails, leeches, flatworms 7209

7210 COSTA RICA Heredia Province La Selva Biological Station, Cantarana Swamp, 75 m
elev. N 10 25 52 W 84 00 13 29-Apr-2001 C. R. Nelson # 7210 35 GPS: LASELV (at
cafeteria). viewed things with Drew and Laurel. photos: frogs, especially Agalychnus
callidryas; walkingsticks, spiders. saw margay cat. Smilisca "puma"? brown frog. 7210

7211 COSTA RICA Heredia Province La Selva Biological Station, 75 m elev. N 10 25 52 W 84
00 13 30-Apr-2001 C. R. Nelson # 7211 & class 35 GPS: LASELV (at cafeteria). morning:
OTS course, took trail to some second growth (successional plots) collected insects with
members of the class photos: sloth on bridge. 7211

7212 COSTA RICA Heredia Province La Selva Biological Station, Arboretum 01-May-2001
C. R. Nelson # 7212 & class 35 Ant trees: 1: numbered 93 small and 94 large, Unonopsis
pittieri. 2: 345. 3 Cordia alliodora #381 tag half red. 4: 207. 5: 1340. 6: 1184 small, buttress
#89. Afternoon was spent back at station analyzing the data. Paraponera clavata foraging
experiment

photos: Hydropsychidae, green 7212

7213 COSTA RICA Heredia Province La Selva Biological Station, Arboretum 02-May-2001
C. R. Nelson # 7213 35 morning:
photos: Paraponera, Cicadellidae, Atta, Tabanidae or Stratiomyidae, stingless bees.

back at station: Coreidae on Passiflora pittieri; photos: Staphylinidae in Cantarana Swamp
7213

7214 COSTA RICA Heredia Province La Selva Biological Station, Trails CCL 550 and
surrounding area 02-May-2001 C. R. Nelson # 7214 35 talked to the La Selva Community
at night about biomonitoring on the Devils River. afternoon:
photos: Eciton army ants, Chrysomelidae Cassidinae, Eumastacidae; bushmaster snake:
Lachesis stenophrys. Asilidae: Glaphropyga? 7214

7215 COSTA RICA Heredia Province La Selva Biological Station, Sendero Tres Rios 03-May-2001 C. R. Nelson # 7215 35 afternoon was spent resting and photographing around the lab morning:

photos: Dendrobates pumilio including a dead one; Reduviidae with sawdust; Andrenosoma? with prey; Asilidae: Amyblonychus?; mating Nematocera; flat millipede; Elateridae yellow and black 7215

7216 COSTA RICA Heredia Province La Selva Biological Station, CCC trail, Quebrada El Saltito 04-May-2001 C. R. Nelson # 7216 & Mahmoud Sasa 35 morning:

photos: Nymphalidae caterpillar on weak vine; creek & scenery; Asilidae: Senobasis corsair. collected: Atomosia; Anacroneuria nymphs; Megaloptera larvae; photos: Nymphalidae? large with tails. 7216

7216 COSTA RICA Heredia Province La Selva Biological Station, lab area 04-May-2001 C. R. Nelson # 7216 35 afternoon:

photos: Coreidae on Passiflora pittieri; Phengodidae larva 7216

7217 COSTA RICA Heredia Province La Selva Biological Station, Cantarana Swamp 04-May-2001 C. R. Nelson # 7217 35 afternoon:

photos: Coreidae on Passiflora pittieri; Phengodidae larva 7217

7218 COSTA RICA Heredia Province La Selva Biological Station, Cantarana Swamp 04-May-2001 C. R. Nelson # 7218 35 evening:

photos: glass frog, Hyalinobatrachium fleishmanni; red eyed frog & eggs & tadpoles; molting Tettigoniidae, Phasmida, small red eyed frog Agalychnus saltator 7218

7219 COSTA RICA Heredia Province La Selva Biological Station, Rio Puerto Viejo bridge 04-May-2001 C. R. Nelson # 7219 35 morning:

Megaloptera larva, Coenagrionidae nymph 7219

7220 COSTA RICA Heredia Province La Selva Biological Station, Lindero Occidental 05-May-2001 C. R. Nelson # 7220 35 morning:

spider monkeys; peccary; paca; squirrel; Senobasis corsair; Amyblonychus; acalypterates on fungus; Asilidae; lizards Anolis capito and Ameiva festiva; Rhadinaea decorata, a red bellied snake. 7220

7221 COSTA RICA Heredia Province La Selva Biological Station, Arboretum 06-May-2001 C. R. Nelson # 7221 35 morning:

tried Mark and recapture on Paraponera ants. It failed. limited, useless data pencil written in book, not recorded here.

evening: Pantophthalmidae fly from cafeteria wall 7221

7222 COSTA RICA Heredia Province La Selva Biological Station, Quebrada El Saltito crossing on CCC 07-May-2001 C. R. Nelson # 7222 35 collected with Canadians from Toronto area. Kellie emailed me later for photos. morning:

Anacroneuria in 100% ethanol 7222

7223 USA UTAH: Garfield Co. stock tank 1.6 mi W of Hole in the Rock Road, 0.3 mi N of Collet Top Road, base of white Entrada Sandstone N 37 33 27 W 111 25 00 14-May-2001 C. R. Nelson # 7223 & Kody Kuehnl & Dan Cavan & Justin C. Shields 35 gps: COLTAN photos: stock tank with many toad tadpoles.

Asilidae: Efferia; Acrididae. 7223

7224 USA UTAH: Garfield Co. white Entrada Sandstone, 2.4 mi W of Hole in the Rock Road, 0.2 mi NW of Collett Top Road N 37 33 05 N 111 25 22 14-May-2001 C. R. Nelson # 7224 & Kody Kuehnl & Dan Cavan & Justin C. Shields 35 GPS: COLTA2

Hole in the Rock Road: 59.4; turnoff to #7223 57.8; CT road 57.0; #7224 arrow 56.8 photos: dinosaur tracks, bees in yucca flowers. Yucca moth in yucca flowers. Pentatomidae. large bee on Asteraceae, Coreopsis? 7224

7225 USA UTAH: Garfield Co. Henrieville Spring, Hwy 12, 8 mi NE of Henrieville N 37 36 42 W 111 53 42 15-May-2001 C. R. Nelson # 7225 & Kody Kuehnl & Dan Cavan & Justin C. Shields 35 GPS: HENSP2 Tenthredinidae; Chrysopidae; Tipulidae, beautiful black and yellow; Cicindelidae; Chrysomelidae, like Donacia; Sciomyzidae; photo: Cordulegastridae, Cordulegaster with exuviae. 7225

7226 USA UTAH: Garfield Co. wet meadow just upstream from Henrieville Spring, Hwy 12, 8 mi NE of Henrieville N 37 36 42 W 111 53 42 15-May-2001 C. R. Nelson # 7226 & Kody Kuehnl & Dan Cavan & Justin C. Shields 35 GPS: HENSP2 Nemouridae in 100% ethanol. On flowers of Salix exigua: Osmia, Anthophoridae, more bees, Syrphidae, and Coccinelidae.

Under bark of dead Pinus ponderosa: photos: larvae and pupae of Nematocera: Sciaridae? Mycetophilidae? NO! see 7246, Ceratopogonidae!, some live, some in 70% some in 100% ethanol.

Diaspididae: oystershell scale on Salix exigua and on yellow willow, Salix (is it? lasiocarpa?) 7226

7227 USA UTAH: Garfield Co. The Blues Overlook, Hwy 12, 17.6 mi SW of Escalante N 37 38 15 W 111 50 27 15-May-2001 C. R. Nelson # 7227 & Kody Kuehnl & Dan Cavan & Justin C. Shields 35 GPS: BLUSPR on Berberis (Mahonia?) desert holly grape: Anthophora? and Osmia 7227

7228 USA UTAH: Garfield Co. spring east of The Blues Overlook, Hwy 12, 17.6 mi SW of Escalante N 37 38 15 W 111 50 27 15-May-2001 C. R. Nelson # 7228 & Kody Kuehnl & Dan Cavan & Justin C. Shields 35 GPS: BLUSPR in alcohol: Veliidae: Microvelia, Gerridae, sweeping, Tetragnathidae spider 7228

7229 USA UTAH: Garfield Co. Scenic Overlook, Hwy 12, 12 mi E of Escalante 15-May-2001 C. R. Nelson # 7229 & Kody Kuehnl & Dan Cavan & Justin C. Shields 35 Raphidiidae, 7 pm 7229

7230 USA UTAH: Garfield Co. Calf Creek Campground N 37 47 42 W 111 24 50 16-May-2001 C. R. Nelson # 7230 & Kody Kuehnl & Dan Cavan & Justin C. Shields 35 GPS: CALFTR (Calf Creek at trailer) UV light: moths & Trichoptera.

photos: Nycteribiidae on bat. 7230

7231 USA UTAH: Kane Co., Dry Fork Wash, Spooky and Peek A Boo Canyons check from last year 16-May-2001 C. R. Nelson # 7231 & Kody Kuehnl & Dan Cavan & Justin C. Shields 35 on Sphaeralcea: Perdita, Meloidae, Bombyliidae, Miridae.

on Thelesperma??:

Mordellidae 7231

7232 USA UTAH: Garfield Co. Sand Creek, Boulder mail Trail N 37 51 46 W 111 29 25 17-May-2001 C. R. Nelson # 7232 & Kody Kuehnl & Dan Cavan & Justin C. Shields 35 GPS: SANCMP in 100% ethanol: Baetidae, Perlodidae: Isogenoides zionensis; Chloroperlidae: Sweltsa?; Pteronarcella badia; Formicidae, small ants.

Syrphidae, vespid mimic; Efferia benedicti; Lasiopogon; Simuliidae adults. 7232

7233 USA UTAH: Garfield Co. Sweetwater Creek, jct Sand Creek, 300 m N of Boulder mail Trail N 37 52 02 W 111 29 41 17-May-2001 C. R. Nelson # 7233 & Kody Kuehnl & Dan Cavan & Justin C. Shields 35 GPS: SANJCT in 100% ethanol: Perlodidae: Isogenoides zionensis; Pteronarcyidae: Pteronarcella badia; Ephemerellidae: Drunella grandis; Gomphidae 7233

7234 USA UTAH: Garfield Co. Death Hollow, jct Boulder mail Trail N 37 50 36 W 111 31 10 17-May-2001 C. R. Nelson # 7234 & Kody Kuehnl & Dan Cavan & Justin C. Shields 35 GPS: DEATH1 in 100% ethanol: Elmidae, 2 spp.; Helicopsychidae; Dryopidae, Helichus; Hydropsychidae (one emerged as adult in pan); Coenagrionidae, Argia.
photos: on wet wall: Tipulidae larvae and adults; Stratiomyidae larvae; Veliidae, Microvelia. 7234

7235 USA UTAH: Emery Co. Quitchipah Creek, 2.5 mi S of Emery, Hwy 10 N 38 52 34 W 111 17 27 18-May-2001 C. R. Nelson # 7235 & R. W. Baumann & Isaac Winkler & Justin C. Shields 36 photos: creek in rain. GPS: QUITCH photos: Perlodidae: Isogenoides zionensis adults, then preserved in 100% ethanol. 7235

7236 USA UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi E of Thistle N 39 57 22 W 111 16 03 19-May-2001 C. R. Nelson # 7236 & family 36 Amy caught: Buprestidae, green & purple. 7236

7237 USA UTAH: Garfield Co. Boulder Mountain, Steep Creek View area, Hwy 12 21-May-2001 C. R. Nelson # 7237 & Bessie Green & Justin C. Shields 36 photos: aspen clones 7237

7238 USA UTAH: Garfield Co. Calf Creek Campground N 37 47 42 W 111 24 50 21-May-2001 C. R. Nelson # 7238 & many 36 GPS: CALF Efferia, Cerambycidae 7238

7239 USA UTAH: Kane Co., Hurricane Wash, Willow Tank, 39 mi SE of Hwy 12 N 37 23 13 W 111 08 04 22-May-2001 C. R. Nelson # 7239 & many 36 GPS: Willow

many collectors: C. R. Nelson, Kody Kuehn, Dan Cavan, Elizabeth Green, Wayne & Dianne mathis. Ephyridae; Efferia; Diadasia, nests right in front of cabin; Bombyliidae. on dark purple flowered legume, Psorophora? Dalea?: Tephritidae, Miridae, Bombyliidae, Chrysopidae 7239

7240 USA UTAH: Kane Co., Dance Hall Rock, 42 mi SE of Hwy 12, Hole in the Rock Road N 37 21 24 W 111 06 05 22-May-2001 C. R. Nelson # 7240 & many 36 GPS: DANCE

many collectors: C. R. Nelson, Kody Kuehn, Dan Cavan, Elizabeth Green, Wayne & Dianne mathis. on rayless composite: Cerambycidae. Efferia; Megachilidae 7240

7241 USA UTAH: Kane Co., 40 Mile Spring, 42.5 mi SE of Hwy 12, Hole in the Rock Road N 37 20 59 W 111 04 53 22-May-2001 C. R. Nelson # 7241 & many 36 GPS: 40MISP

many collectors: C. R. Nelson, Kody Kuehn, Dan Cavan, Elizabeth Green, Wayne & Dianne mathis. Water! Ephyridae, Sphecidae, bees, Efferia. photos: lizard, Sceloporus magister 7241

7242 USA UTAH: Kane Co., 40 Mile Ridge trailhead, 41 mi SE of Hwy 12, Hole in the Rock Road 22-May-2001 C. R. Nelson # 7242 & many 36 photos: people

many collectors: C. R. Nelson, Kody Kuehnl, Dan Cavan, Elizabeth Green, Wayne & Dianne mathis. 7242

7243 USA UTAH: Kane Co., ring tank, 40 Mile Ridge trailhead, 41 mi SE of Hwy 12, Hole in the Rock Road N 37 23 33 W 111 02 55 22-May-2001 C. R. Nelson # 7243 & many 36 GPS: 40RING

many collectors: C. R. Nelson, Kody Kuehnl, Dan Cavan, Elizabeth Green, Wayne & Dianne mathis. Notonecta, Buena, Bombyliidae 7243

7244 USA UTAH: Kane Co., Grosvenor Arch, 18 mi SE of Cannonville N 37 27 21 W 111 49 55 23-May-2001 C. R. Nelson # 7244 & many 36 GPS: GROARC

many collectors: C. R. Nelson, Kody Kuehnl, Dan Cavan, Elizabeth Green, Wayne & Dianne mathis, Harry Barber cicada; Asilidae: Stenopogon inquinatus 7244

7245 USA UTAH: Kane Co., Wahweap Creek, The Gut, 5 mi SE of Grosvenor Arch N 37 27 21 W 111 49 55 23-May-2001 C. R. Nelson # 7245 & many 36 GPS: WAHWEA

many collectors: C. R. Nelson, Kody Kuehnl, Dan Cavan, Elizabeth Green, Wayne & Dianne mathis, Harry Barber good seeps! Tipulidae, Coenagrionidae, many Ephydriidae, Syrphidae, Stratiomyidae - Nemotelus, Scoliidae, Perdita on flowers of Salix exigua, Chloropidae, Gelastocoridae, Otitidae, Rhagionidae - Chrysopilus, some in 100% ethanol 7245

7246 USA UTAH: Garfield Co. Henrieville Spring, Hwy 12, 8 mi NE of Henrieville N 37 36 42 W 111 53 42 23-May-2001 C. R. Nelson # 7246 & many 36 GPS: HENSP2

many collectors: C. R. Nelson, Kody Kuehnl, Dan Cavan, Elizabeth Green, Wayne & Dianne mathis, Harry Barber under bark of downed dead Pinus ponderosa: Ceratopogonidae! adults, larvae, pupae. see #7226

photos: Pseudoscorpions, some guarding eggs; Buprestidae larvae

swept: Nemouridae, malenka?; Chrysomelidae, Donacia?, Tipulidae, Empididae 7246

7247 USA UTAH: Garfield Co. Escalante N 37 46 16 W 111 36 28 23-May-2001 C. R. Nelson # 7247 & many 36 GPS: ESCMOT (Prospector Motel in Escalante)

& Wayne & Dianne mathis Cerambycidae 7247

7248 USA UTAH: Garfield Co. Pine Creek, at lower Box trailhead N 37 51 44 W 111 38 14 24-May-2001 C. R. Nelson # 7248 & Wayne & Dianne mathis 36 GPS: PINMA Y

& Wayne & Dianne mathis in 100% ethanol: Dryopidae, Elmidae, Perlodidae - Isogenoides, Perlidae - Hesperoperla pacifica, Gomphidae, Bombyliidae - Thevenomyia 7248

7249 USA UTAH: Garfield Co. Posey Lake, 15 mi N of Escalante N 37 56 16 W 111 41 45 24-May-2001 C. R. Nelson # 7249 & Wayne & Dianne mathis 36 GPS: POSEYL
& Wayne & Dianne mathis Ptychopteridae adults, snails-Oreohelix, Baetidae - Callibaetis adults. 7249

7250 USA UTAH: Garfield Co. Hells Backbone, 15 mi NW of Boulder 24-May-2001 C. R. Nelson # 7250 & Wayne & Dianne mathis 36 photos: scenery
7250

7251 USA UTAH: Garfield Co. Escalante 24-May-2001 C. R. Nelson # 7251 & Wayne & Dianne mathis 36 photos: cemetery and barbershop sign

supplies for Calf Creek Crew when return: envelopes, black schmitt boxes, Mayfly jar, 12 volt battery charger. 7251

7253 USA TEXAS: El Paso Co. 3 mi N of Socorro (near Sparks), 1 mi N of I-10 on Hwy 126 N 31 40 07 W 106 13 44 31-May-2001 C. R. Nelson # 7253 36 GPS: OSPARK

field labels read T001, change! I left my official field book at home. Transcribed later start mileage 19553, mileage here 19584 Promachus 2 spp., Scleropogon, Efferia albibarbis, bees & wasps. 7253

7254 USA TEXAS: El Paso Co. I-10 Rest Area, eastbound, near Fabens N 30 31 19 W 106 07 14 31-May-2001 C. R. Nelson # 7254 36 GPS: FABENS

field labels read T002, change! I left my official field book at home. Transcribed later start mileage 19553, mileage here 19597 No asilids, wasps, bees, green lacewings. 7254

7255 USA TEXAS: Hudspeth Co. I-10 Picnic Area, eastbound, Sierra Blanca Mountains, 8 mi W of Sierra Blanca N 31 12 48 W 105 29 37 31-May-2001 C. R. Nelson # 7255 36 GPS: SBLANC

field labels read T003, change! I left my official field book at home. Transcribed later start mileage 19553, mileage here 19645, mileage in Van Horn 19689 photo: Promachus giganteus? on Larrea, Cicadidae Cacama valvata? abundant, white lined sphinx Hyles lineata in flight on Chilopsis, Bootettix on Larrea 7255

7256 USA TEXAS: Culberson Co. Van Horn, Los Nopales Fancy Junk Shop 01-Jun-2001 C. R. Nelson # 7256 36 photos: large metal insect sculptures by Gerald Scott (nest to Chuy's

Restaurant, John Madden Haul of Fame.

field labels read T004 change! I left my official field book at home. Transcribed later
start mileage 19553, mileage here 19689 7256

7257 USA TEXAS: Culberson Co. Van Horn, Rest Area I-10, 5 mi E of Van Horn 01-Jun-2001
C. R. Nelson # 7257 36 field labels read T005 change! I left my official field book at home.
Transcribed later

start mileage 19553, mileage here 19694 photos: bees on squash, Calypterates, no asilids
photo large Curculionidae on squash 7257

7258 USA TEXAS: Culberson Co. 18 mi E of Van Horn, I-10, Plateau, Feely Cemetery
Monument N 31 03 35 W 104 31 26 01-Jun-2001 C. R. Nelson # 7258 36 GPS: PLAT
I collected in mesquite and creosote thickets on frontage of I-10 eastbound. field labels
read T006 change! I left my official field book at home. Transcribed later
start mileage 19553, mileage here 19710

had to back track total of 2 miles, one mile back and one mile out Ospricerus, 2 spp.,
some in 100% Ethanol, Efferia, Proctacanthella, Promachus, NO PROCTACANTHUS!;
Acrididae on Larrea: Bootettix, some in 100% ethanol 7258

7259 USA TEXAS: Brewster Co. Alpine 01-Jun-2001 C. R. Nelson # 7259 36 field labels
read T007 change! I left my official field book at home. Transcribed later
Efferia, at night, tuberculata group female. 7259

7260 USA TEXAS: Jeff Davis Co. Musquiz Cabin Roadside Memorial, Hwy 118, 13 mi N of
Alpine N 30 31 40 W 103 49 47 02-Jun-2001 C. R. Nelson # 7260 & Lloyd R. Davis Jr. 36
field labels read T008 change! I left my official field book at home. Transcribed later
GPS: MUSQUIZ N 30 31 40 W 103 49 47
Lloyd's GPS: N 30 31.77 W 103 49.787

on Solanum eleagnifolium (silver leaf nightshade): Meloidae, Sepsidae, Tephritidae:
Zonostemata, Chrysomelidae 7260

7261 USA TEXAS: Jeff Davis Co. Davis Mountains State Park, campground N 30 35 43 W 103
56 10 02-Jun-2001 C. R. Nelson # 7261 & Lloyd R. Davis Jr. 36 field labels read T009
change! I left my official field book at home. Transcribed later
GPS: DAVISM Scarabaeidae: Euphoria, Holopogon, Efferia small female, Megaphorus,
Tephritidae Zonostemata on Solanum eleagnifolium, Apiomeris, Hermetia one on yucca
one on sotol, another Stratiomyidae, Lygaeidae colorful orange 7261

7262 USA TEXAS: Jeff Davis Co. Davis Mountains State Park, Skyline Drive summit N 30 35
45 W 103 55 23 02-Jun-2001 C. R. Nelson # 7262 & Lloyd R. Davis Jr. 36 field labels read

T010 change! I left my official field book at home. Transcribed later

GPS: DAVSUM photos: Efferia 2 spp. including tuberculata group perched on Yucca leaf tips, Holopogon, insects on Yucca 7262

7263 USA TEXAS: Jeff Davis Co. Davis Mountains State Park, Limpia Creek, Hwy 118, rock Picnic area at southeast park boundary 02-Jun-2001 C. R. Nelson # 7263 & Lloyd R. Davis Jr. 36 field labels read T011 change! I left my official field book at home. Transcribed later cicadas, Mydidae fly and Efferia in malaise trap; Odonata: Ischnura reamburi, Libellula saturata or croceipennis, Hetaerina, Argia 2 spp., Dythemis or Pachydiplax. 7263

7264 USA TEXAS: Presidio Co. Marfa Lights Viewing area, Hwy 90, 9 mi E of Marfa N 30 16 32 W 103 52 56 02-Jun-2001 C. R. Nelson # 7264 & Lloyd R. Davis Jr. 36 field labels read T012 change! I left my official field book at home. Transcribed later photos: mysterious Marfa lights.

GPS: MarfaL

Daylight photos taken 8 June 2001

another reading in Marfa: Marfa N 30 18 34 W 104 01 16. , radio tower 211 degrees, lights appear here. short telephone pole 232 degrees and move toward here. readings taken from picnic table near hwy Lloyd collected ants at cookie crumbs at night: Pheidole, Aphaenogaster, Solenopsis, Dorymyrmex, Forelius, Pogonomyrmex, Trachymyrmex, photos of ants. 7264

7265 USA TEXAS: Jeff Davis Co. Davis Mountains, Mitre Peak Camp, 1400 m, 13 mi NW of Alpine N 30 29 07 W 103 47 36 03-Jun-2001 C. R. Nelson # 7265 & Lloyd R. Davis Jr. 36 field labels read T013 change! I left my official field book at home. Transcribed later. Camp director, named Willow gave us permission to collect on this Girl Scout camp.

GPS: MITRE (at dammed pool high in canyon)

another MITREDN (Camp Mitre down at parking lot) N 30 28 48 W 103 47 30

mileages: Alpine 6759 or 60; side road jct: hwy 118 6751; and camp 6747 Efferia 2 spp. Odonata: Libellula saturata, Pachydiplax?, Dythemis, Argia 2 spp., Ischnura reamburi, Archilestes grandis, Perithemis tenera, saw Pseudoleon superbus, saw Anax junius, saw Anax walsinghami, saw Pantala flavescens?, Gomphidae. malaise traps: Ospricerus 2 spp., Scleropogon, Hermetia, Therevidae, Bombyliidae. 7265

7266 USA TEXAS: Brewster Co. county park, 5 mi S of Marathon N 30 09 09 W 103 17 16 04-Jun-2001 C. R. Nelson # 7266 & Lloyd R. Davis Jr. 36 field labels read T014 change! I left my official field book at home. Transcribed later.

GPS: MARPRK Odonata, Efferia albibarbis, sedge sweeping; saw orchard orioles, vermilion flycatchers 7266

7267 USA TEXAS: Val Verde Co. Pecos River high bridge, hwy 90 high bridge N 29 42 29 W 101 21 02 04-Jun-2001 C. R. Nelson # 7267 36 field labels read T015 change! I left my official field book at home. Transcribed later.

GPS: PECOS

photos: Pecos River 7267

7268 USA TEXAS: Val Verde Co. Devils River at Dolan Falls 04-Jun-2001 C. R. Nelson # 7268 & class 36 field labels read T016 change! I left my official field book at home. Transcribed later.

Nikki Hanegan, Robert Hansen, and i helped with a group of high school and middle school teachers learning more about the interdependence of life. Southwestern Educational Development Laboratory. Efferia 7268

7269 USA TEXAS: Val Verde Co. rock art, head of canyon above Grassy Patch Spring, above the Devils River 05-Jun-2001 C. R. Nelson # 7269 & class 36 field labels read T017 change! I left my official field book at home. Transcribed later.

photos: rock art.

Saropogon, some in 100% ethanol, Microstylum morosum with Saropogon prey. I think this is the first time I've collected this species at the Devils River. 7269

7270 USA TEXAS: Val Verde Co. Dolan Creek above jct Devils River 29 53 14 N 100 59 31 W 05-Jun-2001 C. R. Nelson # 7270 & class 36 field labels read T018 change! I left my official field book at home. Transcribed later.

Dispersal Experiment: 15 Watt UV light from BioQuip, pans at 1m, 10m, and 50m. ran from 9:08pm to 10:08pm. Specimens in 3 Qorpak bottles. one for each distance. many Lutrochidae, most in 1 m pan. 7270

7271 USA TEXAS: Val Verde Co. Dolan Creek above jct Devils River 06-Jun-2001 C. R. Nelson # 7271 & class 36 field labels read T019 change! I left my official field book at home. Transcribed later.

8:30 am Dispersal Experiment: set out 9 transects of pan traps, 1m, 10m, 50m, from stream, red, yellow, and blue pans. in linear array at each spot. Took many First 100 samples, students kept them, one for each class member. at riffle at springs of Church Painting Rock. many Belostoma with eggs. 7271

7272 USA TEXAS: Val Verde Co. Devils River at Dolan falls N 29 53 07 W 100 59 37 06-Jun-2001 C. R. Nelson # 7272 & class 36 field labels read T020 change! I left my official field

book at home. Transcribed later. Buprestidae, Cerambycidae, Asilidae; *Ospriocerus*, orange yellow. 7272

7273 USA TEXAS: Val Verde Co. Dolan Creek above Devils River 07-Jun-2001 C. R. Nelson # 7273 & class 36 field labels read T021 change! I left my official field book at home.

Transcribed later.

8:30 am: retrieved pan trap contents. a pebble in the bottle means the pan had blown over, an empty bottle means no specimens present. Label system: T 1(transect number).1(distance from stream).B(color of pan) B is blue, R is red, Y is yellow. Retrieved specimens again from pans on 8 June 2001 after about 24 hours (transects 5 & 6 labels are switched, 5 is 6 and 6 is 5). Also collected a scorpion eating a large wolf spider on 8 June 2001. 7273

7274 USA TEXAS: Val Verde Co. Devils River, below Dolan Falls, walk to Mexican White Oaks and Grassy Patch Spring N 29 53 07 W 100 59 37 07-Jun-2001 C. R. Nelson # 7274 & class 36 field labels read T022 change! I left my official field book at home. Transcribed later. *Promachus*, *Efferia* 3 spp., *Ospriocerus* 2 spp., Acrididae: clown lubber, mating pair; Mantidae: *Litaneutria* minor, fully winged. photos: Salticidae, *Ephippidipus*. many specimens ruined in schmitt box by a scarab crawling around. 7274

7275 USA TEXAS: Val Verde Co. Devils River, below Dolan Falls, Mexican White Oaks and Grassy Patch Spring 07-Jun-2001 C. R. Nelson # 7275 & class 36 field labels read T023 change! I left my official field book at home. Transcribed later. photos: Protoneuridae and *Ranatra* 7275

7276 USA TEXAS: Val Verde Co. Devils River, above Dolan Falls, first riffle on right above ford, (Camille's Riffle) 07-Jun-2001 C. R. Nelson # 7276 & class 36 field labels read T024 change! I left my official field book at home. Transcribed later.

Also temporary pools in first drainage north of Stewards Cabin, *Stenonema femoratum* in 100% ethanol collected by Robert Hansen. Sisyridae larvae on sponge in 100% ethanol.

Pyrilidae: aquatic larva, yellow, not *Petrophila*.

block of fossiliferous limestone that someone brought to the camp in years past, exact provenance unknown, but from the Devils River area. 7276

7277 USA TEXAS: Val Verde Co. Dolan Creek above Devils River N 29 53 14 W 100 59 31 07-Jun-2001 C. R. Nelson # 7277 & class 36 field labels read T025 change! I left my official field book at home. Transcribed later.

Ran 15 Watt UV light over white enamel pans, size of pans: 9.5 inch by 14 inch. randomized starting point of transects. Transect 2: started at 50m and rotated 50, 1, 10, 50, 1, 10.

running every 15 minutes starting at about 9:15 pm. Transect 4: started at 10 m then

rotated 10, 1, 50, 10, 1, 50, 10. first 10m sample failed (started at 9:25 pm) first 1 started at 9:45pm. transect 8: started at 1 (9:40 pm) then 10, 50, 1, 10, 50. finished all lights at 11:55 pm or so. specimens in 18 Qorpak bottles. some filed labels read: Tx.2 or 3 (10 or 50m).

Participants: Riley, Robert, Nikki, Sterling, Kevin, Cristie, and Bryan. 7277

7278 USA TEXAS: Culberson Co. 2-3 miles West of Van Horn, Hwy I-10 08-Jun-2001 C. R. Nelson # 7278 36 field labels read T026 change! I left my official field book at home.

Transcribed later.

Stopped briefly at scenic overlook a couple miles west of Van Horn on I-10. No insects in hot afternoon, Creosote bush was especially dry and brown. 7278

7280 USA TEXAS: Hudspeth Co. I-10 Rest Area, east of Fabens 08-Jun-2001 C. R. Nelson # 7280 36 field labels read T028 change! I left my official field book at home. Transcribed later.

Stopped at Rest Area East of Fabens? (westbound), again dry and brown, with no flies. no insects collected 7280

7281 USA TEXAS: Hudspeth Co. 0.3 mi N of I-10, Fort Hancock exit N 31 18 36 W 105 50 17 08-Jun-2001 C. R. Nelson # 7281 36 field labels read T029 change! I left my official field book at home. Transcribed later.

Success! End of Texas Trip.

GPS: HANCOCK photos: *Proctacanthus nigrofemoratus*! female, staged in motel room in El Paso then pickled in 100% ethanol. 7281

7282 USA UTAH: Utah Co., Provo River, Canyon Glen Picnic Area N 40 19 46 W 111 37 17 14-Jun-2001 C. R. Nelson # 7282 36 mislabeled as 7281, change!

GPS: CANGLE *Pteronarcys californica*, *Pteronarcella badia*, *Epeorus*, *Baetidae*, *Rhyacophila* 7282

7283 USA UTAH: Utah Co., Little North Fork of Provo River, 0.5 mi N of Hwy 189, on Hwy 92, below Sundance Ski Area N 40 22 11 W 111 32 52 14-Jun-2001 C. R. Nelson # 7283 36 mislabeled as 7282, change!

GPS: SUNDAN *Blephariceridae*, *Perlodidae*: *Megarcys*, *Chloroperlidae*: *Sweltsa coloradensis*. *Oreohelix* snail, live. 7283

7284 USA UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi E of Thistle N 39 57 22 W 111 16 03 16-Jun-2001 C. R. Nelson # 7284 36 mislabeled as 7283, change!

GPS: CABIN

bird tracks in Green River formation. Tracy & Penny Smith with Erin and Mikaela; Blair & Cynthia Parrish with Kiersten and Carly; Hank & Rexanne Pond with Bryan, Anna, and friend Heather Nelson.

High 6 landmarks:

manti Turnoff (split of highways 6 and 89): 31.4

Cave at mouth of Red Narrows: 34.9

tufa spring in Red Narrows: 36.8

Baers Bluff, second set of road cuts west of Sheep Creek: 38.2

Sheep Creek Road: 38.6

Sinclair Station: 38.9

milemarker 197: 41.0

Radio tower: 41.2

milemarker 198: 42.0

milemarker 199: 43.0

Gate to Sawmill and cabin: 43.4 Mutillidae, Oreohelix in pinyon juniper along west property line on top of ridge; soil was dry, live snails found near bases of mountain mahogany *Cercocarpus montanus* and snowberry *Symphoricarpos*.

cicadas 2 spp., photos of large; Dioctria. Empididae swarming at high point above spring(CABHIL N 39 57 30 W 111 16 16); *Stenopogon inquinatus*. 7284

7285 USA UTAH: Grand? or San Juan Co. Hole 'n Rock Rest Area, Hwy 191 18-Jun-2001 C. R. Nelson # 7285 & scouts 36 Cerambycidae: *Prionus* 7285

7285.1 USA UTAH: San Juan Co. Abajo Mountains, Dry Wash Reservoir 18-23 June 2001 C. R. Nelson # 7285.1 & scouts 36 around scout camp called Camp Bigfoot. Riley Nelson* Wilford Tolman*, Ryan Loveless, Justin Barlow, Sam Parkinson, Sam Fernstedt, Chase Morgan, Jordan Gibson, Gordon Osborne*, and Brent Gibson*. *adults. Asilidae around camp, *Stenopogon*.

In stream 0.5 mi above Dry Wash Reservoir: Nemouridae in 100% ethanol. Baetidae: *Callibaetis*. 7285.1

7286 USA UTAH: Utah Co., Big Spring Hollow Trailhead, South Fork (Provo River), 3.2 mi SE of Vivian Park & Hwy 189 N 40 19 57 W 111 31 30 28-Jun-2001 C. R. Nelson # 7286 & class 36 Zoology 330 class: John Carter, Melissa Coombs, Misty Rogers, Hillary Burt, Nathan Ross, Clare Tappen, Lynette Shirley, Betsy Ahlstrom, and Justin Shields. Collected during the afternoon: 2:30 to 4:30 pm. GPS: SFORK Bombyliidae, Asilidae: *Cyrtopogon* small, *Holopogon*, *Negasilus*?, *Efferia benedicti*, *Dioctria vera*?, *Laphria gilva*?, *Laphria fernaldi*, *Promachus albifacies*. Acalypterates: Lonchopteridae, Chamaemyiidae, Lauxaniidae *Minettia*, Heleomyzidae. Buprestidae. 7286

7287 USA UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi E of Thistle N 39 57 22 W 111 16 03 30-Jun-2001 C. R. Nelson # 7287 & family 36 Oreohelix snails under dry sticks and logs in pinyon juniper forest 7287

7288 USA UTAH: Tooele Co. Boulter, Hwy 36, 8.7 mi W of Eureka N 39 57 53 W 112 15 03 05-Jul-2001 C. R. Nelson # 7288 & class 36 collecting site was:

0.7 mi N of Tooele Co. line

5.7 mi N of junction Hwy 36 triangle with Hwy 6

7.1 mi NW of junction Hwys 6 and 36

8.7 mi W of Eureka post office Tettigoniidae: Anabrus simplex mormon crickets 7288

7289 USA UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi E of Thistle N 39 57 22 W 111 16 03 6-8 July 2001 C. R. Nelson # 7289 & family 36 photos family Eumenidae, Efferia, Machimus 7289

7290 USA: UTAH: Utah Co., summit, Alpine Loop, Hwy 92, 9 mi N of Hwy 189, Salamander Flat Trail N 40 25 51 W 111 36 51, 10-Jul-2001 C. R. Nelson # 7290 & class 36 Syrphidae, Empididae, Chamaemyiidae? NO!, Ephydriidae, Chloropidae: small on grass heads, Lauxaniidae: Minettia?, Chrysididae, Tipulidae, Mycetophilidae 7290

7291 USA: UTAH: Utah Co., Hobbie Creek Canyon, Hobbie Creek, Cherry Campground N 40 10 07 W 111 28 42 12-Jul-2001 C. R. Nelson # 7291 & class 36 First 100 samples with students, sorted in lab, 17 July 2001. photos: Amphizoidae; Haliplidae; Rhyacophilidae; Elmidae: Optioservus in 100% ethanol. Other taxa in 70% ethanol 7291

7292 USA UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi E of Thistle, milemarker 199 N 39 57 22 W 111 16 03

12-Jul-2001 C. R. Nelson # 7292 & family 36 snails: Oreohelix; Cerambycidae: Prionus; Scarabaeidae: Diplotaxis? 7292

7293 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°W 16-Jul-2001 C. R. Nelson # 7293 & family 36 on Oenothera in garden: bees, Berytidae, Ceratopogonidae, coming to flower 7293

7294 USA UTAH: Millard Co. Maple Grove Campground, 4 mi W of Hwy 50, 12 mi NW of Salina N 39 01 08 W 112 05 22 19-Jul-2001 C. R. Nelson # 7294 & class 36 class: Riley Nelson, Melissa Coombs, Betsey Ahlstrom, Clare Tappen, Lynette Shirley, Justin Shields, Nathan Ross, Hillary Burt, John Carter, Misty Rogers. GPS called: mapLGR
snails: Oreohelix some in 70% some in 100% ethanol, in maple leaf litter near woody debris; Stratiomyidae; moths at UV light last night 7294

7295 USA UTAH: Kane Co., Coral Pink Sand Dunes, Ponderosa Grove Campground N 38 05 23 W 112 40 18 19-Jul-2001 C. R. Nelson # 7295 & class 36 class: Riley Nelson, Melissa Coombs, Betsey Ahlstrom, Clare Tappen, Lynette Shirley, Justin Shields, Nathan Ross, Hillary Burt, John Carter, Misty Rogers. Kody Kuehnl, Bessie Green, Kristen Clarke, Dan Cavan. GPS called: CORPON

My friend, Bob Mower, from Orem, Utah, was collecting arctiid moths with his son at a powerful mercury vapor lamp late at night in the campground. They were on their way to southern Arizona. open & vegetated dunes: Bombyliidae; Stichopogon; "Bembix"; Acalypterates at moist sand dug up with net handle at dusk 7295

7296 USA UTAH: Kane Co., Coral Pink Sand Dunes State Park, 1.5 mi N of visitor's center N 37 30 02 W 112 42 59 19-Jul-2001 C. R. Nelson # 7296 & class 36 class: Riley Nelson, Melissa Coombs, Betsey Ahlstrom, Clare Tappen, Lynette Shirley, Justin Shields, Nathan Ross, Hillary Burt, John Carter, Misty Rogers. Kody Kuehnl, Bessie Green, Kristen Clarke, Dan Cavan. GPS called: CORDUN

My friend, Bob Mower, from Orem, Utah, was collecting arctiid moths with his son at a powerful mercury vapor lamp late at night in the campground. They were on their way to southern Arizona. Proctacanthus, Laphystia, Stichopogon, bees, & wasps 7296

7297 USA UTAH: Garfield Co. springs entering Henrieville Creek, 8 mi NE of Henrieville, Hwy 12 N 37 36 42 W 111 53 42 20-Jul-2001 C. R. Nelson # 7297 & class 36 class: Riley Nelson, Melissa Coombs, Betsey Ahlstrom, Clare Tappen, Lynette Shirley, Justin Shields, Nathan Ross, Hillary Burt, John Carter, Misty Rogers. Kody Kuehnl, Bessie Green, Kristen Clarke, Dan Cavan. GPS called: old, HENSP2

Rhagionidae: Chrysopilus, some in 100% ethanol. Proctacanthus; Lampyridae; Acalypterate flies 7297

7298 USA UTAH: Garfield Co. Calf Creek Campground, 15 mi E of Escalante N 37 47 38 W 111 24 41 20-Jul-2001 C. R. Nelson # 7298 & class 36 class: Riley Nelson, Melissa Coombs, Betsey Ahlstrom, Clare Tappen, Lynette Shirley, Justin Shields, Nathan Ross, Hillary Burt, John Carter, Misty Rogers. Kody Kuehnl, Bessie Green, Kristen Clarke, Dan Cavan. GPS called: CALFCP

scorpion hunting, small ones common; caught two large desert hairy scorpions, Hadrurus; six jerusalem crickets, gryllacrididae, Stenopelmatus. 7298

7299 USA UTAH: Garfield Co. Upper Calf Creek Trail and Falls, 18 mi E of Escalante N 37 51 18 W 111 27 07 20-Jul-2001 C. R. Nelson # 7299 & class 36 class: Riley Nelson, Melissa Coombs, Betsey Ahlstrom, Clare Tappen, Lynette Shirley, Justin Shields, Nathan Ross, Hillary Burt, John Carter, Misty Rogers. Kody Kuehnl, Bessie Green, Kristen Clarke, Dan Cavan. GPS called: CALFCP

trail: Laphystia, some in 100% ethanol; Diogmites; Efferia benedicti, Efferia n. sp. near zonatus.

Temporary pool near trail and creek: Ceratopogonidae, larvae & adults; Cicindelidae; Apioceridae.

creek: Lampyridae in 100% ethanol; acalyptrates. 7299

7300 USA UTAH: Utah Co., Goshen Ponds, near S end of Utah Lake N 39 57 34 W 111 51 20 26-Jul-2001 C. R. Nelson # 7300 & class 36 class: Riley Nelson, Melissa Coombs, Betsey Ahlstrom, Clare Tappen, Lynette Shirley, Justin Shields, Nathan Ross, John Carter, Misty Rogers. Visitor: Melissa Torrente. GPS called: GOSHEN Sphecidae; Stratiomyidae 7300

7301 USA UTAH: Summit Co. Wall Lake and Notch Mountain 28-Jul-2001 C. R. Nelson # 7301 & scouts 36 photos: boys fishing, sunrise, Wall Lake, Mount Watson, views from Notch Mountain.

present: Riley Nelson, Brent Gibson, Ryan Loveless, Sam Parkinson, Justin Barlow, Sam Fernstedt, and Jordan Gibson. 7301

7302 USA UTAH: Garfield Co. Grand Staircase-Escalante National Monument, Right Hand Collet Canyon, jct. Smoky Mountain Road N 37 32 33 W 111 38 25 30-31 July 2001 C. R. Nelson # 7302 & family 36 insects at mercury vapor lamp; photos dinosaur; two malaise traps. GPS called RTCOLL

present: Riley Nelson, Kaye Nelson, Andrea Nelson, Amy Nelson, Bessie Green, Kristin Clarke. photos: Mydidae. Bees & wasps. Eumastacidae; sweeping rabbitbrush, sweeping bitterbrush. Syrphidae, Cicindelidae, Asilidae: Megaphorus; Buprestidae: Agrilus walsinghami? 7302

7303 USA UTAH: Garfield Co. Grand Staircase-Escalante National Monument, Alvey Wash, Oak Spring, 5 mi S of Escalante, Smoky Mountain Road N 37 42 19 W 111 37 41 30-31 July 2001 C. R. Nelson # 7303 & family 36 Set up two malaise traps at GPS called OAKSP2 (side wash on W side of road and main wash called OAKSPR. Mileage at site: 68705.5, at Hwy 12 in Escalante 68711.7

present: Riley Nelson, Kaye Nelson, Andrea Nelson, Amy Nelson, Bessie Green, Kristin Clarke. Proctacanthus, one with bee; Mydidae; Sphecidae 7303

7304 USA UTAH: Garfield Co. Grand Staircase-Escalante National Monument, Boulder mail Trail, Sand Creek 01-Aug-2001 C. R. Nelson # 7304 & family 36 group of #7302 and Maria Dahmus. Left malaise trap upstream on Sand Creek. Tipulidae; moths; Vespula 7304

7305 USA UTAH: Garfield Co. Grand Staircase-Escalante National Monument, Boulder mail Trail, between Sand Creek and Death Hollow 01-Aug-2001 C. R. Nelson # 7305 & family 36 group of #7302 and Maria Dahmus. Xylacopa; Diogmites grossus, adults & pupal skins; Efferia near zonata; Efferia benedicti; Sphecidae; Asilidae: Laphystia; Eumastacidae. Asilidae: Diogmites and Proctacanthus in 100% ethanol. 7305

7306 USA UTAH: Garfield Co. Grand Staircase-Escalante National Monument, Boulder mail Trail, Death Hollow 01-Aug-2001 C. R. Nelson # 7306 & family 36 group of #7302 and Maria Dahmus

Left malaise trap in Death Hollow. Sphecidae; Asilidae: Efferia benedicti; Philonicus; Chrysochus auratus on Apocynum cannabinum; Rhopalidae, Boisea trivittatus; Tipulidae; Gyrinidae. In 100% ethanol: Hydropsychidae, Dryopidae: Helichus, Simuliidae. 7306

7307 USA UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi E of Thistle N 39 57 22 W 111 16 03 04-Aug-2001 C. R. Nelson # 7307 & family 36 set up malaise trap to be checked on Tuesday, 7 August.

present: Riley Nelson, Kaye Nelson, Andrea Nelson, Amy Nelson, Shirlene Wheeler, Paul Wheeler, Kathy Wheeler, Loni (Wheeler) Watson, Jed Wheeler & friend Joshlyn, Jessie Wheeler. Buprestidae 7307

7308 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 05-Aug-2001 C. R. Nelson # 7308 & family 36 photos: insects on tall yellow evening primrose, Oenothera sp.: Braconidae, Berytidae, Aphididae, and Dolichopodidae. 7308

7309 USA UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi E of Thistle N 39 57 22 W 111 16 03 07-Aug-2001 C. R. Nelson # 7309 & class; Riley Nelson, Kody Kuehn, Misty Rogers, Melissa Combs, Nathan Ross, Lynette Shirley, Clare Tappen, Justin Shields, Hillary Burt. 36 emptied malaise trap (4-7 August 2001); collected at UV and mercury vapor lights Diogmites, Oreohelix under oak leaves near spring; Oreohelix under pinyon duff on west high point; saturniidae Coloradia moths; Tipulidae; Trichoptera adults 7309

7310 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 10-Aug-2001 C. R. Nelson # 7310 36 evening primrose, easily identified using A Utah Flora as Oenothera elata H. B. K. pressed parts. on ditchbank, corner of Canyon Road and 4525 East Street 7310

7311 USA UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39 57 22 W 111 16 03 10-11 August 2001 C. R. Nelson # 7311 & family & Kaye Nelson & Andrea Nelson & Amy Nelson & John Pearce & Jan Pearce & Jacob Pearce 36 emptied malaise trap (7-10 August 2001); collected at \mercury vapor light. collected with Amy Nelson.

also Amy Nelson emptied malaise trap for me again on 31 August 2001 (11-31 August 2001). I prepared many nice specimens from this "20 day trap". Chrysopidae, Saturniidae moths Coloradia? 7311

7312 USA NEVADA: Nye Co. Tonopah 18-Aug-2001 C. R. Nelson # 7312 & family 37 photos: cemetery, 1901-1911.

talked with Pest control operator about ant problems. He helped us buy gas at a private card station then announced that when we should return to Provo we should proclaim that the BLM is an ex post facto group of foreigners. The gist being that they are illegal invaders. We also spoke briefly of ants. Again a conspiracy theory came up: horned lizards eat ants, the preferred ant species is disappearing, environmentalists boame ranching, etc. but shouldn't we consider that the invasive Argentine ant is the culprit? I left without revealing any of my thoughts. His timing scheme was wrong. 7312

7313 USA CALIFORNIA: Mono Co. Benton, Hwy 6 N 37 49 W 118 28 18-Aug-2001 C. R. Nelson # 7313 & family 37 Apioceridae on windshield. 7313

7314 USA CALIFORNIA: Mono Co. Mono Mills site, Hwy 120, 17 mi E of Lee Vining, 7380 ft. N 37 53 17 W 118 57 37 18-Aug-2001 C. R. Nelson # 7314 & family 37 GPS is MONOM photos: fire blackened ponderosa pine trees and Mono Mills sawmill remains 7314

7315 USA CALIFORNIA: Mono Co. Mono Lake Overlook, Hwy 120, 15 mi E of Lee Vining N 37 53 17 W 118 57 37 18-Aug-2001 C. R. Nelson # 7315 & family 37 photos: Mono Lake 7315

7316 USA CALIFORNIA: Mono Co. Mono Lake, South Tufa Area, Hwy 120, 6400 ft. N 37 56 25 W 119 01 42 18-Aug-2001 C. R. Nelson # 7316 & family 37 gps is MONOST photos: Mono Lake, Ephydriidae: Ephydra (specimens kept), California Gull, Mydidae, Tabanidae 7316

7317 USA CALIFORNIA: Mono Co. Warren Fork of Lee Vining Creek, Hwy 120, near Tioga Pass, 9080 feet N 37 57 08 W 119 13 34 18-Aug-2001 C. R. Nelson # 7317 & family 37 gps is WARREN Baetidae, Ephemerellidae, Heptageniidae, Hydropsychidae, all in 100% ethanol. 7317

7318 USA CALIFORNIA: Mariposa Co. Yosemite National Park, Curry Village N 37 44 W 119 33 18-Aug-2001 C. R. Nelson # 7318 & family & Kaye Nelson & Andrea Nelson & Amy Nelson & Jean Nelson & Nick Nelson & Christine Nelson. 37 gps is YOSCMP; photos of Half Dome 7318

7319 USA CALIFORNIA: Mariposa Co. Yosemite National Park, Curry Village, Upper Pines Campground N 37 44 03 W 119 33 44 19-Aug-2001 C. R. Nelson # 7319 & family & Kaye Nelson & Andrea Nelson & Amy Nelson & Jean Nelson & Nick Nelson & Christine Nelson. 37 gps is YOSCMP; photos of North Dome and Merced River. Morning. 7319

7320 USA CALIFORNIA: Mariposa Co. Yosemite National Park, Merced River, trail to Vernal Falls N 37 44 03 W 119 33 44 19-Aug-2001 C. R. Nelson # 7320 & family & Kaye Nelson & Andrea Nelson & Amy Nelson & Jean Nelson & Nick Nelson & Christine Nelson. 37 photos of falls 7320

7321 USA CALIFORNIA: Mariposa Co. Yosemite National Park, Curry Village, Upper Pines Campground N 37 44 03 W 119 33 44 19-Aug-2001 C. R. Nelson # 7321 & family & Kaye Nelson & Andrea Nelson & Amy Nelson & Jean Nelson & Nick Nelson & Christine Nelson. 37 photos & drawings of North Dome 7321

7322 USA CALIFORNIA: Mariposa Co. Yosemite National Park, Mariposa Grove near Wawona 20-Aug-2001 C. R. Nelson # 7322 & family & Kaye Nelson & Andrea Nelson & Amy Nelson & Jean Nelson & Nick Nelson & Christine Nelson. 37 photos: big tree Sequoiadendron gigantea, Sequoia, pines, fir, family 7322

7323 USA CALIFORNIA: Mariposa Co. Yosemite National Park, Washburn Point Overlook 20-Aug-2001 C. R. Nelson # 7323 & family & Kaye Nelson & Andrea Nelson & Amy Nelson & Jean Nelson & Nick Nelson & Christine Nelson. 37 photos: panoramas near sunset, Vernal and Nevada Falls 7323

7324 USA CALIFORNIA: Mariposa Co. Yosemite National Park, Glacier Point Overlook 20-Aug-2001 C. R. Nelson # 7324 & family & Kaye Nelson & Andrea Nelson & Amy Nelson & Jean Nelson & Nick Nelson & Christine Nelson. 37 photos: panoramas at sunset, Half Dome 7324

7325 USA CALIFORNIA: Mariposa Co. Yosemite National Park, Curry Village, Upper Pines Campground N 37 44 03 W 119 33 44 21-Aug-2001 C. R. Nelson # 7325 & family & Kaye Nelson & Andrea Nelson & Amy Nelson & Jean Nelson & Nick Nelson & Christine Nelson. 37 photos: Polystoechotidae, found at light in bathroom sink area. 7325

7326 USA CALIFORNIA: Mariposa Co. Yosemite National Park, Tunnel view, E end of Wawona tunnel 21-Aug-2001 C. R. Nelson # 7326 & family & Kaye Nelson & Andrea

Nelson & Amy Nelson & Jean Nelson & Nick Nelson & Christine Nelson. 37 photos , evening, Tunnel View of Yosemite Valley, E end of Wawona Tunnel 7326

7327 USA CALIFORNIA: Mariposa Co. Yosemite National Park, Sentinel Bridge, view of Half Dome & Sentinel Peak. 21-Aug-2001 C. R. Nelson # 7327 & family & Kaye Nelson & Andrea Nelson & Amy Nelson & Jean Nelson & Nick Nelson & Christine Nelson. 37 photos, later evening, Sentinel Bridge, view of Half Dome & Sentinel Peak. 7327

7328 USA CALIFORNIA: Mariposa Co. Yosemite National Park, El Capitan Meadow 22-Aug-2001 C. R. Nelson # 7328 & family & Kaye Nelson & Andrea Nelson & Amy Nelson & Jean Nelson & Nick Nelson & Christine Nelson. 37 photos, scenery 7328

7329 USA CALIFORNIA: Mariposa Co. Yosemite National Park, Valley View, mouth Yosemite Valley 22-Aug-2001 C. R. Nelson # 7329 & family & Kaye Nelson & Andrea Nelson & Amy Nelson & Jean Nelson & Nick Nelson & Christine Nelson. 37 photos, scenery 7329

7330 USA NEVADA: Nye Co. Berlin Ichthyosaur State Park, 22 mi e of Gabbs, 7000 feet. N 38 52 26 W 117 35 28 22-Aug-2001 C. R. Nelson # 7330 & family & Kaye Nelson & Andrea Nelson & Amy Nelson. 37 photos, Ichthyosaur fossil

gps is ICH Ichthyosaur, Shonisaurus popularis 7330

7331 USA NEVADA: Lander Co. Hickison Petroglyph & BLM Recreation Site, 6611 ft., 45 mi W of Eureka, Hwy 50 N 39 26 49 W 116 45 11 22-Aug-2001 C. R. Nelson # 7331 & family & Kaye Nelson & Andrea Nelson & Amy Nelson. 37 photos of petroglyphs, including a modern grafitti of a flying saucer.

gps is HICKIM

A mile or so east of Hickison Summit on north side of Hwy 50 7331

7332 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, walk to base of Blondie Knoll N 37 16 15 W 111 04 53 30-Aug-2001 C. R. Nelson # 7332 & Bessie Green & Julie Domeyer & Teralee Kemp. 37 gps 033CAM, camp for night at base of Blondie Knoll

also took gps reading at top of Middle trail 020TOP, N 37 17 58 W 111 06 47, top of switchbacks on Lake Pasture Trail. Efferia frewingi, Eumastacidae, Morseia female, Sphecidae: Bembix 7332

7333 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, Blondie Knoll N 37 16 01 W 111 04 46 31-Aug-2001 C. R. Nelson # 7333 & Bessie Green & Julie Domeyer & Teralee Kemp. 37 gps BLONDI

photos sunrise scenery, deer head, view to Harveys Fear.

Set up malaise trap in meadow of rabbitbrush and tall buckwheat. temporary pools: fairy shrimp, Chironomidae, and Ceratopogonidae? 7333

7334 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, walk from Blondie Knoll to Harveys Fear N 37 16 01 W 111 04 46 31-Aug-2001 C. R. Nelson # 7334 & Bessie Green & Julie Domeyer & Teralee Kemp. 37 gps as BLONDI (summit of Blondie Knoll)

campsite at edge of Harveys Fear gps called 075CAM N 37 13 49.5 W 111 04 27.3; bee nests in wash: 049 BEE N 37 14 55.3 W 111 03 49.6; nasty green water pool we pumped to drink, some: 054WAT N 37 14 35.9 W 111 04 27.6 *Efferia frewingi* including mating pair, *Machimus* male, Tettigoniidae, Calliphoridae: *Cochliomyia*, bees 7334

7335 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, Harveys Fear, maple Seep N 37 13 48.3 W 111 03 53.4 31-Aug-2001 C. R. Nelson # 7335 & Bessie Green & Julie Domeyer & Teralee Kemp. 37 pumped pinyon flavored potholes for water.

069map is the gps spot 7335

7336 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, Harveys Fear between Trail Canyon and Lake Canyon N 37 13 39.3 W 111 04 08.9 01-Sep-2001 C. R. Nelson # 7336 & Bessie Green & Julie Domeyer & Teralee Kemp. 37 photos: sunrise, sketch 9:45 am
gps site: 076PHO 7336

7337 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, maple Seep Canyon near Harveys Fear N 37 13 43.0 W 111 03 54.3 01-Sep-2001 C. R. Nelson # 7337 & Bessie Green & Julie Domeyer & Teralee Kemp. 37 gps 077map
potholes: Culicidae larvae, Dytiscidae, Notonectidae, Diptera: Asilidae, Muscidae, and Dolichopodidae. 7337

7338 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, walk from Harveys Fear to Trail Hollow cliff trailhead N 37 13 43.0 W 111 03 54.3 01-Sep-2001 C. R. Nelson # 7338 & Bessie Green & Julie Domeyer & Teralee Kemp. 37
burned meadow at head of Trail Canyon, much rabbitbrush, globemallow, herbaceous *Artemesia*, *Erigeron*, and *Aster*
start at 077map (given above), end with 087TOP: N 37 14 42.0 W 111 02 56.4

also the fire area was: 087FIR: N 37 14 37.2 W 111 02 58.4

I then photographed people at the cliff edge: 092CLF: N 37 15 01.7 W 111 03 25.6 *Efferia frewingi*, *Promachus*, *Xylacopa*, *Acrididae*, sweepings 7338

7339 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, Blondie Knoll N 37 16 01 W 111 04 46 01-Sep-2001 C. R. Nelson # 7339 & Bessie Green & Julie Domeyer & Teralee Kemp. 37 photos: sunset
gps BLONDI (as in CRN#7333) 7339

7340 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, Blondie Knoll N 37 16 01 W 111 04 46 02-Sep-2001 C. R. Nelson # 7340 & Bessie Green & Julie Domeyer & Teralee Kemp. 37 photos: sunrise, sketches; took down malaise trap
gps BLONDI (as in CRN#7333)
malaise trap was 100m L: N 37 16 05.9 W 111 04 48.8 temporary pools: fairy shrimp and *Chironomidae* in 100% ethanol. 7340

7341 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, walk from Blondie Knoll to Lake Pasturre Trailhead (Middle Trail) N 37 16 01 W 111 04 46 02-Sep-2001 C. R. Nelson # 7341 & Bessie Green & Julie Domeyer & Teralee Kemp. 37 start at BLONDI or 100BLO: 37 16 01.4 W 111 04 46.3 then top of cliff, Middle Trail (Lake Trail): 111TOP: N 37 17 53.9 W 111 06 47.4 then end, at trailhead corral on 50 mile Bench: 126END: N 37 18 12.5 W 111 06 49.7 *Efferia frewingi*, *Promachus aldrichii*, *Bomybliidae*, sweeping on *Eriogonum corymbosum* 7341

7342 USA UTAH: Kane Co., Grand Staircase-Escalante National Monument, 50 Mile Mountain, Middle Trailhead mileages 02-Sep-2001 C. R. Nelson # 7342 & Bessie Green & Julie Domeyer & Teralee Kemp. 37 3.6 miles from Middle Trailhead to Sooner Slide Road. 4.9 miles to Hole in the Rock Road. 2.3 miles from Sooner Slide Road to Lower Trailhead.
trailhead was 126END: N 37 18 12.5 W 111 06 49.7 7342

7343 USA UTAH: Garfield Co. Boulder Town 02-Sep-2001 C. R. Nelson # 7343 & Bessie Green & Julie Domeyer & Teralee Kemp. 37 road kill racoon provides meal for weary travellers, a joke in my notes by Teralee Kemp who was writing while I drove.
no gps reading racoon 7343

7344 USA CALIFORNIA: Tehama Co. 0.5 mi W of Wilson Lake, Wilsons Ice Cave N 40 20 13 W 121 25 24 04-Sep-2001 C. R. Nelson # 7344 & matthew Terry & Heath Ogden & Karl Jarvis. 37 photo session by C. R. Nelson, I was not present at the collection site! The collectors are listed below. The collection date was 22 August 2001. they hiked about a mile to a lava field then found the ice cave. They soon found many nymphs. I took many

good pictures with my film and digital cameras. Grylloblattaria: Grylloblatta sp. barberi?
7344

7345 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W
111.64922° 24-Sep-2001 C. R. Nelson # 7345 37 Tettigoniidae, photos, Microcentrum
7345

7346 USA UTAH: Utah Co., Provo, Brigham Young University 28-Sep-2001 C. R. Nelson #
7346 37 Measurements from Oregon: Lane Co., West Fork Willow Creek, Rathbone Lane,
(Simons), 26 Jan 1997, C. D. Kerst.

Measurements in hashes on SZX12 scope:

sex 20X 90x 20x front wing
interoc

#1 male 45 27 55, photo voucher

#2 female 48 28 60, photo voucher
photo subgenital plate p9280117.jpg

width 58 at apical margin 34h 90x

#3 female 48 32 65

#4 male 40 28 52

#5 female 45 25 58

#6 male 42 27 57

#7 male 42 28 63

#8 male 36 27 52

converted to mm

length interoc frontwing

#1 4.3 0.59 5.3

#2 4.6 0.61 5.8

#3 4.6 0.70 6.3

#4 3.8 0.61 5.0

#5 4.3 0.54 5.6

#6 4.0 0.59 5.5

#7 4.0 0.61 6.1

#8 3.5 0.59 5.0 Capnia n. sp. from Willow Creek, photo session on microscope. 7346

7347 USA UTAH: Utah Co., Provo, Brigham Young University 16-Oct-2001 C. R. Nelson #
7347 37 Hemiptera, dark: Lygaeidae? 7347

7348 USA UTAH: Utah Co., Goshen Ponds, South end of Utah Lake 20-Oct-2001 C. R.
Nelson # 7348 37 UV light: Limnephilidae, Tipulidae, Chironomidae, Ceratopogonidae;

fossils in dolomite: crinoid, coral (2 spp. including *Syringopora*, brachiopod; convict cichlids in second to the last pond; very large snails. 7348

7349 USA UTAH: Salt Lake Co. Salt Lake City, Hogle Zoo 03-Nov-2001 C. R. Nelson # 7349 & family 37 digital photos: golden lion tamarin, indian fruit bat, Colobus monkey, budgie parakeet, white pelican, new guinea side neck turtle, *Dendrobates auratus*, caracal cat, giraffe, gorilla, polar bear, squirrel monkey, tree shrew tupaia. 7349

7350 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°W 30-Nov-2001 C. R. Nelson # 7350 37 Photo session at SZX12 microscope:

mag frame hashes for head # shot species location

40 28 5depth 1 005 *Psilopa girscheri* 40 mile spring

40 27 5 2 006 *Psilopa compta* Drip Tank

32 26 6 3 007 *Hydrellia proclivata* lateral Kanab

90 25 36width 4 008 *Hydrellia proclivata* head Kanab

25 24 4 5 9 *Hydrellia griseola* springs at Coral Pink

90 23 33 6 10 *Hydrellia griseola* springs at Coral Pink

25 22 3 7 11 *Typopsilopa arnaudi* Sheep Creek

63 21 28 8 12 *Typopsilopa arnaudi* head Sheep creek

16 20 4 9 13 *Notiphila sicca* Deer Creek

63 19 41 10 14 *Notiphila sicca* head Deer Creek

32 18 5 11 15 *Mosillus tibialis* Drip Tank

90 ?18 54 12 16 *Mosillus tibialis* head Drip Tank

16 17 4 13 17 *Ochthera collina* Deer Creek

32 16 7 14 18 *Ochthera collina* closer Deer Creek

50 15 - 15 19 *Ochthera collina* leg Deer Creek

63 14 47 16 20 *Ochthera collina* head Deer Creek

40 13 7 17 21 *Discocerina obscurella* Sheep Creek

20 12 4 18 22 *Ephydra packardi* Willow Tank

63 11 43 19 23 *Ephydra packardi* head Willow Tank 7350

7351 USA CALIFORNIA: San Diego Co. La Jolla, Scripps Institution of Oceanography, Birch Aquarium 11-Dec-2001 C. R. Nelson # 7351 & Russell Rader 37 skinny bars bass, *Sebastes paucispinis*; copper rockfish *Sebastes caurinus*; wolf eel, *Anorichthys ocellatus*; convict fish, *Oxylebius pictus*; moon jellyfish *Aurelia aurita*; Sea nettles, *Chrysora fuscisceris* sic?; *Aurelia* "polyp"; Lions mane jellyfish, *Cyanea capillata*; Australian spotted jellyfish, *Phyllorhiza punctata*; kep forest; yellowtail, *Seriola lalandi*; Garden eel, *Taenioconger digueti*; Pacific lookdown, *Selene brevoorti*; Swell shark eggs, *Cephaloscyllium ventriosum*; Longhorn cowfish, *Lactaria cornuta*; Giant anemone,

Condylactis gigantea; Leathery sea anemone, Heteractis crispa; with Red saddleback anemonefish, Amphiprion leucokranos; Southern giant clam, Tridacna derasa; Banggai cardinal fish, Pterapogon kauderni sic?; sea disks, Actinodiscus sp.; tidepool outside with green anemone; flounder; "rockfish"; wolf eel, Anorichthys ocellatus; juvenile kelp fish Heterostichus rostratus; sailfin sculpin, Nautichthys oculofasciatus; spiny scallop, Chlamys hastata; moon jellyfish, Aurelia aurita; Sea nettles, Chrysora fuscisceris sic?; another jellyfish, Chrysora melanaster; moray eel, Gymnothorax mordax; California spiny lobster, Panulirus interruptus; lions mane jellyfish, Cyanea capillata; Longsnout sea horse, Hippocampus reidi; brittlestar; weedy sea dragon from Australia, Phyllopteryx taeniolatus; Barin coral, Favites sp. 7351

7351.1 USA CALIFORNIA: San Diego Co. Pacific Ocean between Point Lomas and Coronado Islands N 32 32.525 W 117 14.312 13-Dec-2001 C. R. Nelson # 7351.1 & Russell Rader 37 gps is SANDIE deep sea fishing:
photos:

sculpin, sand bass, Mackerel, swell shark, barracuda, saw skate 7351.1

7352 USA CALIFORNIA: San Diego Co. Banner Creek, jct Hwy 78, 0.5 mi W of Banner N 33 03.974 W 116 33.187 14-Dec-2001 C. R. Nelson # 7352 37 gps is JULIAN

site photos, digital

met Al Newton and Margaret Thayer (and one other) from the Field Museum in Chicago.

Julian mileage 8211

site mileage 8217

6 mi E of Julian

site was less than 0.5 mi W of Banner Mesocapnia, Baetidae, Philopotamidae Chimarra, Gerridae Gerris. 7352

7353 USA CALIFORNIA: San Diego Co. Scissors Crossing, jct Hwys 52 and 78, San Felipe Creek N 33 05.926 W 116 28.286 14-Dec-2001 C. R. Nelson # 7353 37 gps is SCIS

site photos, digital

met Al Newton and Margaret Thayer (and one other) from the Field Museum in Chicago.

mileage at site: 8222 Belostomatidae: Abedus, kept alive, at least for a few days.

saw Coenagrionidae nymphs, not collected.

no asilidae, it was too cold 7353

7354 USA CALIFORNIA: San Diego Co. Mount Palomar Observatory N 33 21.518 W 116 51.993 14-Dec-2001 C. R. Nelson # 7354 37 gps is PALOM

snowstorm! No collecting; saw Hale telescope.

elevation 5572 feet none 7354

7355 USA CALIFORNIA: San Diego Co. Mount Palomar , Fry Creek Campground N 33
20.673 W 116 52.805 14-Dec-2001 C. R. Nelson # 7355 37 gps is FRY
site photos, type locality of *Capnia valhalla*, no specimens seen on this trip. It was a driving
snowstorm. water beetles, Dytiscidae, Hydrophilidae; 7355

7356 USA CALIFORNIA: Orange Co. Anaheim Hills, Avenida de Santiago 15-Dec-2001 C.
R. Nelson # 7356 37 family photos 7356

7357 USA CALIFORNIA: Orange Co. Costa Mesa, Orange County Fairgrounds Swap Meet
15-Dec-2001 C. R. Nelson # 7357 37 family photos 7357

7358 USA: NEVADA: Clark Co. Logandale 16-Dec-2001 C. R. Nelson # 7358 & family 37
photos: people 7358

7360 USA: COLORADO: Denver Co. Denver, Colfax Blvd., Casa Bonita Restaurant 29-Dec-
2001 C. R. Nelson # 7360 & family & friends 37 photos of people at the Casa Bonita
Restaurant 7360

7361 USA: COLORADO: Boulder Co. Eldora Ski Resort, Peterson Lake, 3 mi W of Nederland
N 39.94deg W 105.575deg 31-Dec-2001 C. R. Nelson # 7361 & family & friends 37 photos
of people sledding and playing on the frozen lake. 7361

7362 USA: COLORADO: Adams Co. Westminster, Parker home N 39.84deg W 105.04deg
01-Jan-2002 C. R. Nelson # 7362 & family & friends 37 photos: Happy New Year 7362

7363 USA: UTAH: Utah Co., Spanish Fork, BYU Farm 09-Jan-2002 C. R. Nelson # 7363 &
Larry Gilbert 37 elk on wintering grounds; alfalfa fields on the BYU Dairy 7363

7364 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W
111.64922° 11-Jan-2002 C. R. Nelson # 7364 & Larry Gilbert 37 photos: Larry Gilbert
7364

7365 USA: UTAH: Utah Co., Provo, BYU 22-Jan-2002 C. R. Nelson # 7365 & family 37
photos: Dr. William Phillips, Physicist, Nobel Laureate in laser cooled atomic science
7365

7365.1 USA: UTAH: Utah Co., Camp mapledell, Payson Canyon 26-Jan-2002 C. R. Nelson
7365.1 & scouts 37 photos: people 7365.1

7366 USA: UTAH: Utah Co., Provo, Provo River Trail 02-Feb-2002 C. R. Nelson # 7366 & A.
L. Anderson & D. J. Cavan 37 collected by A. L. Anderson and D. J. Cavan. C. R. Nelson not
present, but I photographed the insects in the lab. A large Mass of the larvae were found in
a rotten mattress. photos: Bibionidae, Bibio larvae 7366

7367 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°W 04-Feb-2002 C. R. Nelson # 7367 37 Clubionidae: Chiracanthium male. spider 7367

7368 USA: UTAH - GEORGIA flight from Salt Lake City to Atlanta, Georgia 13-Feb-2002 C. R. Nelson # 7368 37 photos: Great Salt Lake, Wasatch Front, Uinta Mountains, Split Mountain, Green River, mountains near Vail, Colorado, Front Range near Denver, Shortgrass prairie. photos; nuclear power plant west of Atlanta, Georgia 7368

7369 USA: FLORIDA Alachua Co. Gainesville, University of Florida, USDA 14-Feb-2002 C. R. Nelson # 7369 37 photos: Sanford Porter and fire ant/phorid fly facility. 7369

7370 USA: FLORIDA Alachua Co. near Gainesville, Hatchet Creek 15-Feb-2002 C. R. Nelson # 7370 & Lloyd Davis & Lloyd Morrison 37 photos: blackwater of stream 7370

7372 USA: FLORIDA Alachua Co. near Gainesville, Hatchet Creek, Hwy 24 15-Feb-2002 C. R. Nelson # 7372 & Lloyd Davis & Lloyd Morrison 37 photos: people, fire ants, and blackwater of stream; I accidentally skipped #7371! good aquatic diversity; photos of Calopteryx, Eurylophella, and Nasiaeshna. I created a list of the insects of this site. 7372

7373 USA: FLORIDA Alachua Co. Gainesville Airport 15-Feb-2002 C. R. Nelson # 7373 37 photos: karst topography from the air photos: fossil shark display & Riley; Riley Nelson photos by a desk clerk 7373

7374 USA: GEORGIA: Atlanta Airport 15-Feb-2002 C. R. Nelson # 7374 37 photos: artwork, sculptures, Madora (Mupani worm) 7374

7375 USA: UTAH: Utah Co., Provo 17-Feb-2002 C. R. Nelson # 7375 37 photos: scouts 7375

7376 USA: UTAH: Wasatch Co. Soldier Hollow near Midway, Winter Olympics Ski Venue 18-Feb-2002 C. R. Nelson # 7376 37 photos: family; women's biathlon; 4 x 7.5 km 7376

7377 USA: UTAH: Utah Co., Provo, 500 East 4525 North N 40.29343°W 111.64922°W 25-Feb-2002 C. R. Nelson # 7377 37 photos: sunset on Cascade Mountains and moonrise. 7377

7378 USA: UTAH: Utah Co., Provo, 500 East 4525 North N 40.29343°W 111.64922°W 26-Feb-2002 C. R. Nelson # 7378 37 photos: Mount Timpanogos, Cascade Mountains, and Utah Valley. 7378

7379 USA: UTAH: Utah Co., Provo, 500 East 4525 North N 40.29343°W 111.64922°W 27-Feb-2002 C. R. Nelson # 7379 37 photos: moon. 7379

7380 USA: UTAH: Utah Co., Provo, BYU laboratory 28-Feb-2002 C. R. Nelson # 7380 37 photography session for new fossils from the Manning Canyon Shale. An insect, probably Megasecoptera. An animal, Vertebrate?, Echinoderm?

Collected by Brock Sisson, an 18 year old from Lehi, Utah, from a hillside near Saratoga Springs, west of Lehi, Utah. 7380

7381 USA: UTAH: Utah Co., Provo River, Vivian Park, Hwy 189 N 40.35606 W 111.57436 02-Mar-2002 C. R. Nelson # 7381 & L. Haladin, B. Ahlstrom, B. Ilam, D. Dade 37 VIVIAN: N 40.35606deg W 111.57436deg photos: Asellus isopod, Skwala americana, Isoperla fulva det CRN, Hirudo (no photos), Baetis det CRN, Hesperophylax det CRN. 7381

7382 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.8 mi S of Hwy 189 & Vivian Park N 40.34769 W 111.54797 02-Mar-2002 C. R. Nelson # 7382 & L. Haladin, B.

Ahlstrom, B. Ilam, D. Dade 37 SOFK: N 40.34769deg W 111.54797deg.

Hwy 189 3.4 miles from top (Big Springs); Park, 1.6 mi from top; check map for hwy to South Fork.

Kept some stream gravel for photographic backgrounds.

Zapada cinctipes adults; many aquatics; photos: Skwala americana det CRN, Oligophlebodes det CRN 7382

7383 USA: UTAH: Utah Co., South Fork Springs, South Fork Park, 1.5 mi S of Hwy 189 & Vivian Park N 40.34844 W 111.55090 02-Mar-2002 C. R. Nelson # 7383 & L. Haladin, B. Ahlstrom, B. Ilam, D. Dade 37 SFKSP: N 40.34844deg W 111.55090deg.

3.4 - 1.9 mi from top = 1.5 photos: beetle larva - Dytiscidae, Agabus det CRN 2002; Callibaetis (probably not, Acerpenna?; yes, det Callibaetis by Nick Wiersema); gammarus lacustris det CRN; Dixidae, Dixia! CRN; Chironomidae, Chironomus, CRN 2002, red & green chironomid; Dytiscidae, small chesnut colored, Hygrotus?; Clam, Sphaeriidae. 7383

7384 USA: UTAH: Utah Co., Big Springs Creek of South Fork, 3.4 mi S of Hwy 189 & Vivian Park N 40.33512 W 111.52329 02-Mar-2002 C. R. Nelson # 7384 & L. Haladin, B.

Ahlstrom, B. Ilam, D. Dade 37 BIGHOL: N 40.33512deg W 111.52329deg.

3.4 mi from highway

photos: Heptageniidae, Rhithrogena det CRN; Hydropsychidae, Parapsyche det CRN; Uenoidae, Neothremma det CRN. 7384

7385 USA: UTAH: Utah Co., Provo, BYU 07-Mar-2002 C. R. Nelson # 7385 37 photos: Jill Nielson face with spider bite; later in day Mount Timpanogos from near Nelson home 7385

7386 USA: UTAH: Utah Co., Provo, BYU N 40 17 34 W 111 38 58 8-9 March 2002 C. R. Nelson # 7386 37 photos: C. R. Nelson birthday cake; George Oliver, misshapen finger after bite of midget faded rattlesnake; Olivia Messinger (bees of USU). 7386

7387 USA: UTAH: Juab Co. Little Sahara Sand Dunes, 5400 feet. N 39.74839 W 112.32364
8-9 March 2002 C. R. Nelson # 7387 37 photos: dunes, cougar tracks, scouts & leaders.
6:16 am

JERICH N 39.74839deg W 112.32364deg 7387

7388 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 23-Mar-2002 C. R. Nelson # 7388 37 Formicidae: Mass of Tetramorium
caespitum (Linnaeus), pavement ants 7388

7389 USA: UTAH: Utah Co., clay pits, 0.5 mi W of Hwy 68, near Saratoga Springs N
40.32888 W 111.92805 23-Mar-2002 C. R. Nelson # 7389 & Betsey Ahlstrom, Clare
Tappen, Tyler Pinegar, Max Pinegar, Brock Sisson, and Jim Gentry. 37 GPS: PECPIT, for
Peck's Pit. fossils from manning Canyon Shale, shrimp, ferns, "cone" 7389

7390 USA: UTAH: Salt Lake Co. Salt Lake Airport to San Diego Airport, Delta Airlines flight
1449 27-Mar-2002 C. R. Nelson # 7390 37 to California: San Diego Co.,
photos: Jordan River, delta in Great Salt Lake, Kennecott, Salt Lake Valley, Oquirrh
Mountains, Timpanogos, Tooele Army Depot, Faust, Delta area, Cedar City area, Zion area,
Snow Canyon, Littlefield, Mormon Mountains, Lake Mead, Hoover Dam, Mohave Desert,
Salton Sea, and Mount Palomar? 7390

7390 USA: CALIFORNIA: San Diego Co. Salt Lake Airport to San Diego Airport, Delta Airlines
flight 1449 27-Mar-2002 C. R. Nelson # 7390 37 to California: San Diego Co.,
photos: Jordan River, delta in Great Salt Lake, Kennecott, Salt Lake Valley, Oquirrh
Mountains, Timpanogos, Tooele Army Depot, Faust, Delta area, Cedar City area, Zion area,
Snow Canyon, Littlefield, Mormon Mountains, Lake Mead, Hoover Dam, Mohave Desert,
Salton Sea, and Mount Palomar? 7390

7391 USA: CALIFORNIA: San Diego Co. San Diego, market Place, Harbor Blvd. N 33.996781
W 118.37576 27-30 March 2002 C. R. Nelson # 7391 37 photos: San Diego Harbor, Hyatt
Hotel, Room 3134.

GPS: SNDGHY 7391

7392 USA: CALIFORNIA: San Diego Co. Pacific Ocean, SW of San Diego, and Mexican
waters N 33.996781 W 118.37576 29-Mar-2002 C. R. Nelson # 7392 37 photos: people,
Coronado Islands, fish. The coordinates above are for San Diego Harbor; Coronado
Islands, N tip of North Island, CORON: N 32.42826 W 117.26693; Whale Island: WHALIS: N
32.41463 W 117.25526; South, South Island: SISLAN: N 32.38971 W 117.24599. The ship's
name was El Capitan, Steve Peterson was the captain, Karen was the deckhand, Chris was
the fisheries observer for Pacific States Marine Fisheries Council?. Need to get a copy of
California Fish Guide Publ. #157 by Miller and Lea. fish: 8 species of Sebastes, rockfish,

red, vermilion, was most common; whitefish, spiny dogfish, Mackerel, lingcod, bocaccio (a rockfish); California scorpionfish (sculpin); octopus; bait: sardines, anchovies, and cut up squid. 7392

7393 USA: UTAH: Washington Co. view from plane across Pine Valley Mountains, across Zion National Park, and Grand Staircase - Escalante National Monument to Navajo Mountain. 30-Mar-2002 C. R. Nelson # 7393 37 photos: Scenery; from Delta Airlines flight 1197. 7393

7394 USA: UTAH: Utah Co., Provo, BYU 04-Apr-2002 C. R. Nelson # 7394 38 photos: Betsey Ahlstrom & Justin Shields photos: mold on apples 7394

7395 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E 07-Apr-2002 C. R. Nelson # 7395 38 photos: Kayes camera: Nick, Christine, and Justin Nelson. Ben Parker photos: Anisopodidae, *Sylvicola fenestralis*; mud dauber nests brought from Coral Pink Sand Dunes, found in early March 7395

7396 USA: UTAH: Salt Lake Co. Salt Lake City 07-Apr-2002 C. R. Nelson # 7396 38 photos: people at open house for Dorothy Larsen, near age 90 at her son Paul's house. 7396

7397 USA: UTAH: Utah Co., Provo, BYU 09-Apr-2002 C. R. Nelson # 7397 38 photos: mold on squash po'e (Tahitian pudding); more darker with spores on 12 April 2002 7397

7398 USA: UTAH: Utah Co., Provo, BYU 11-Apr-2002 C. R. Nelson # 7398 38 photos: Carina foot, bitten by Reduviidae; photos: mantophasmatodea, new order of insects, from Namibia, Africa. 7398

7399 USA: UTAH: Utah Co., Provo, BYU 12-Apr-2002 C. R. Nelson # 7399 38 photos: Hal Black in front of bathroom 7399

7400 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E 14-Apr-2002 C. R. Nelson # 7400 38 photos: Callibaetis, Baetidae, black Cerambycidae, Simuliidae male, Pseudoscorpion. 7400

7401 USA: UTAH: Utah Co., Provo, BYU lab 29-Apr-2002 C. R. Nelson # 7401 38 photos: dead pet trapdoor spider: Ctenizidae: Eucteniza sp. from Texas: Williamson Co., Liberty Hill, 22 October 1998, Travis Tuttle, photo voucher, alive. Lived in laboratory for 42 months, never molted to my knowledge. On examination after death its sternum was cracked and partially healed, but with stuff hanging out. It had been acting strangely since 28 February 2002 when its cage was cleaned. Perhaps it got hurt then. 7401

7402 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Whitehouse Spring, 2 mi S of Paria Guard Station N 37.07428 W 111.89359 30-Apr-2002 C. R. Nelson # 7402 & R. W. Baumann 38 Whitehouse Spring WHITEH: N 37.07428 W 111.89359. Whitehouse Campground WHICAM: N 37.07971 W 111.089048

walked from camp to spring photos: Tipulidae, Neotoma packrat midden, RWB in wash; Sphecidae, Scoliidæ, and bees on tamarisk. Bombyliidae, Efferia 2 spp., under lid of spring: Dytiscidae, Hydrophilidae, Veliidae 7402

7403 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument or near, springs of Warm Creek, 0.2 mi S of Smoky Mountain Road N 37.12505 W 111.48393 30-Apr-2002 C. R. Nelson # 7403 & R. W. Baumann 38 WARMCR N 37.12505 W 111.48393 Chironomidae, blood red larvae; aquatic beetles; swept for flies; alkali seep in creek bottom, tadpoles present 7403

7404 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, 1 mi N of Smoky Mountain Road and 1.7 mi E of jct with Smoky Hollow Road N 37.14907 W 111.47733 30-Apr-2002 C. R. Nelson # 7404 & R. W. Baumann 38 nicknamed Desolation site, where we ran pitfall traps in August of 2000. I found the site using the GPS! photos of site, multiple GPS readings. Parking spot on Smoky Mountain Road: SMROAD N 37.14299 W 111.47277; Pitfall trap # 1: TRAP01: N 37.14907 W 111.47733; TRAP06: N 37.14943 W 111.47766; TRAP10: N 37.14968 W 111.47794.

stop: 2420.2; jct Grand Bench 2420.9; jct Smoky Hollow Road 2421.9; wash between road and Desolation traps: WASHDE: N 37.14916 W 111.47539 7404

7405 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument or near, Balanced Rock on Tropic Shale, Smoky Mountain Road, 1.5 mi E of Glen Canyon Recreation Area boundary N 37.06805 W 111.61066 30-Apr-2002 C. R. Nelson # 7405 & R. W. Baumann 38 photos: rock formations. BALANC: N 37.06805 W 111.61066. edge GCRA 2433.2, Balanced Rock 2431.7 = 1.5 7405

7406 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Vermilion Cliffs, Flag Point, Seaman Wash Road N 37.04834 W 112.25847 01-May-2002 C. R. Nelson # 7406 & R. W. Baumann 38 photos: Vermilion Cliffs VERM N 37.04834 W 112.25847 7406

7407 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, large stockpond (dry), 3 mi N of The Rimrocks, 3.5 mi NE of jct Cottonwood Road and Coyote

Creek Road N 37.16719 W 111.80801 01-May-2002 C. R. Nelson # 7407 & R. W. Baumann 38 Coyote Dam: COYDAM
N 37.16719 W 111.80801 green cattail sprouts in dry tank, Sarcophagidae, Calliphoridae, Efferia, Carabidae, immature scorpions. fossil oysters, some drilled by snails, on bedrock on right hand end of filled dam. 7407

7408 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Coyote Creek ring tank, 5 mi N of lower jct Cottonwood Canyon Road N 37.18579 W 111.83925 01-May-2002 C. R. Nelson # 7408 & R. W. Baumann 38 Coyote ring tank (ring tank on sidehill, downstream from COYHI, etc.):
COYRIN
N 37.18579 W 111.83925

2.2 mi N of split of Coyote Creek Road and due east road to Wahweap Creek (site of #7407) Ablautus, some in 100% ethanol; Crematogaster, Scorpion, spider: long legs 7408

7409 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Coyote Creek & spring, 6 mi N of lower jct Cottonwood Canyon Road N 37.21397 W 111.85043 01-May-2002 C. R. Nelson # 7409 & R. W. Baumann 38 use COYHI for aquatic labels: N 37.21397 W 111.85043 (highest spot of water visited on Coyote Creek in gauging station pool.
COYRIG: dry ring tank below COYHI, N 37.21183 W 111.84901; COYTRU (stopped by slanted washout, parked truck, use for terrestrials: N 37.19912 W 111.84489. We decided to walk at this point rather than roll the truck. . . spring: Agabus?, Laccophilus?, Callibaetis (one sub reared to adult), Limnephilus?, Gerris?, Microvelia, mostquito larvae in isolated pools. Terrestrials: Acmaeodera, Muscidae, Sarcophagidae, Bombyliidae. 7409

7410 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Cottonwood Canyon Road, Cottonwood Creek jct Pump Canyon Spring, 21 mi N of Hwy 89 N 37.34362 W 111.87122. 01-May-2002 C. R. Nelson # 7410 & R. W. Baumann 38 PUMP: N 37.34362 W 111.87122.

Also calf lost its cow, cowboys can't wrangle. So I didn't get to see the spring. Muscidae, Bombyliidae, aquatic beetles 7410

7411 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Cottonwood Canyon Road, Cottonwood Creek, lower spring, first of three from bottom, 20 mi N of Hwy 89 N 37.32346 W 111.88447 01-May-2002 C. R. Nelson # 7411 & R. W. Baumann 38 COTSPR: N 37.32346 W 111.88447
see #7412 for spring designations. Hydroptilidae, Tipulidae, 3 genera; Tenthredinidae, Chrysomelidae 7411

7412 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Cottonwood Canyon Road, Cottonwood Creek, 20 mi N of Hwy 89 N 37.32291 W 111.88300 01-May-2002 C. R. Nelson # 7412 & R. W. Baumann 38 Nice little campground at conyon with first spring canyon from bottom. The second spring has a cave and we didn't visit it. The third spring is Pump Canyon Spring. We tried to sample here, but the cowboys were working. COTCR: N 37.32291 W 111.88300

Hwy 89: 2602.1; campground 2582.3 = 19.8=20 Agabus, leafhoppers, Argia nymphs, Hydropsychidae 7412

7413 USA: UTAH: Kane Co., Dixie National Forest, Stout Creek, 4 mi N of Hwy 89 N 37.42625 W 112.58002 02-May-2002 C. R. Nelson # 7413 & R. W. Baumann 38 STOUT: N 37.42625 W 112.58002 Tenthredinidae, Tipulidae, Zapada cinctipes female 7413

7414 USA: UTAH: Kane Co., Dixie National Forest, seeps entering Stout Creek, 4 mi N of Hwy 89 N 37.42625 W 112.58002 02-May-2002 C. R. Nelson # 7414 & R. W. Baumann 38 STOUT: N 37.42625 W 112.58002 Ptychopteridae, Ptychoptera; Xyelidae, Zapada 7414

7415 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, springs entering Henrieville Creek, Hwy 12, 8 mi NE of Henrieville N 37.61276 W 111.89626 02-May-2002 C. R. Nelson # 7415 & R. W. Baumann 38 HENMAY (at vehicle): N 37.61276 W 111.89626; 3:21 pm Cicindelidae; Nemouridae: malenka female; Tipulidae, small flies, saw flies.

Under bark of downed Pinus ponderosa (same tree as las summer): Trogossitidae, Pseudoscorpionida, black ants, Buprestidae 7415

7416 USA: UTAH: Garfield Co. Wide Hollow Reservoir, Escalante, 6013 feet N 37.78360 W 111.63703 02-May-2002 C. R. Nelson # 7416 & R. W. Baumann 38 WIDHOL: N 37.78360 W 111.63703 photos: birds, Eleodes

Caenis 7416

7417 USA: UTAH: Garfield Co. pools below dam of Wide Hollow Reservoir, Escalante, 6013 feet N 37.78360 W 111.63703 02-May-2002 C. R. Nelson # 7417 & R. W. Baumann 38 WIDHOL: N 37.78360 W 111.63703 photos: mosquito larvae & pupae, many reared in lab 7417

7417.1 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, old highway 12 road cut above Calf Creek Campground N 37.79848 W 111.41008 03-May-2002 C. R. Nelson # 7417.1 & R. W. Baumann 38 GPS of high site of Bessie's traps of Sep 2001, estimated. CALFHI: N 37.79848 W 111.41008 7417.1

7418 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Hole in the Rock Road, 40 Mile Spring, 4444 ft. N 37.34975 W 111.08137 03-May-2002 C. R. Nelson # 7418 & R. W. Baumann 38 one cattail pond, one new ring tank, newly ringed with pine poles.

40SPR: N 37.34975 W 111.08137 Pentatomidae, beetles, thrips, Pepsis pompilidae, all on tamarisk. Notonecta, Stictiotarsus, photos: Berosus, mite. on ground: Pogonomyrmex, black. 7418

7419 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Hole in the Rock Road, Dance Hall Rock, 4642 feet N 37.35658 W 111.10144 03-May-2002 C. R. Nelson # 7419 & R. W. Baumann 38 DANROC N 37.35658 W 111.10144 limited Cowania in bloom: visited by many things: Thysanoptera, bees, and beetles. Formicidae running on slickrock 7419

7420 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, old highway 12 cut, 1 mi NE of Calf Creek Campground, 5650 feet elev. 03-May-2002 C. R. Nelson # 7420 & R. W. Baumann 38 site of pan traps and light trap of September by Bessie Green & Julie Domeyer. took GPS reading, skyrocket gilia blooming. Also, the Sinclair gas station in Boulder is at 6560 feet elev.

CALFHI N 37.79898 W 111.41008 7420

7421 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Deer Creek, jct Hwy 12 N 37.85643 W 111.35516 06-May-2002 C. R. Nelson # 7421 & K. C. Kellems (formerly Clarke) & Melissa Joyce Hawkins. 38 set up 2 malaise traps, emptied once on 7 May 2002, emptied again evening of 8 May 2002. sedge sweeping. GPS: DEERCR, from campground area Stratiomyidae, Tenthredinidae, uv light trap: moths, Trichoptera; photo: Isogenoides zionensis, Hydropsychidae, Dryopidae, Simuliidae, Limnephilidae, Brachycentrus 7421

7422 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, 1 mi E of Long Canyon Overlook, jct Burr Trail and Wolverine Loop Road, 5982 feet elev. N 37.92423 W 111.22066 07-May-2002 C. R. Nelson # 7422 & K. C. Kellems (formerly Clarke) & Melissa Joyce Hawkins. 38 Start Burr Trail: 234.8 insects on sparse Astragalus. Sphecidae, Halictidae, Melyridae, mini plant press specimen of Astragalus, Mutillidae, Sphecidae. 7422

7423 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Wolverine Loop Road, 0.2 mi E of Horse Canyon Trailhead, 6 mi S of Burr Trail, 5535 feet sl N 37.84914 W 111.22264 07-May-2002 C. R. Nelson # 7423 & K. C. Kellems (formerly Clarke) & Melissa Joyce Hawkins. 38 Start Burr Trail: 234.8 site, 240.5; just past jct of road and Horse

Canyon. GPS: HORSE on Mahonia: Scoliidæ, Anthophoridae, Melyridæ, Calliphoridae.
on Astragalus (same as #7422): bees, 2 spp. 7423

7424 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Wolverine Canyon Trailhead 07-May-2002 C. R. Nelson # 7424 & K. C. Kellems (formerly Clarke) & Melissa Joyce Hawkins. 38 very dry. Spoke with rancher Curtis Coombs of Boulder for Lampstand information. Water there! 7424

7425 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Wolverine Loop Road, Little Death Hollow Trailhead 07-May-2002 C. R. Nelson # 7425 & K. C. Kellems (formerly Clarke) & Melissa Joyce Hawkins. 38 no stop, very dry. Little Death Hollow: 247.9, back to Burr Trail 263.0 7425

7426 USA: UTAH: Garfield Co. Capitol Reef National Park, base of Waterpocket Fold switchbacks 07-May-2002 C. R. Nelson # 7426 & K. C. Kellems (formerly Clarke) & Melissa Joyce Hawkins. 38 photos: scenery to south. No collecting 7426

7427 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Burr Trail, 2 mi N of jct Little Death Hollow Road, 6717 feet sl N 37.88388 W 111.10894 07-May-2002 C. R. Nelson # 7427 & K. C. Kellems (formerly Clarke) & Melissa Joyce Hawkins. 38 GPS: BULL photos: bull snake and people; cougar scat 7427

7428 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, The Gulch, walk between Impossible Peak and Lamanite Arch N 37.96526 W 111.26948 07-May-2002 C. R. Nelson # 7428 & K. C. Kellems (formerly Clarke) & Melissa Joyce Hawkins. 38 GPS: GULTRU (parked truck) N 37.98152 at 5:12pm; LAMARC (Lamanite Arch ba?) N 37.95943 W 111.27882 at 7:53 pm; LAMOPP (hillside opposite Lamanite Arch on 8 May) N 37.95989 W 111.27894 at 8:19 am; GUTRA (malaise trap in The Gulch; used above) N 37.96526 W 111.26948 at 6:02 pm; BEETL (first beetles in willows) N 37.97445 W 111.25912; FLY (downstream from beetle) N 37.96291 W 111.26889 6:25 pm walking to arch; MLaman (mouth Lamanite Arch Canyon jct The Gulch) N 37.94731 W 111.27316 at 6:59 pm. Chrysomelidae, Disonychia 7428

7429 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, stream in Lamanite Arch Canyon, above The Gulch N 37.95943 W 111.27882 08-May-2002 C. R. Nelson # 7429 & K. C. Kellems (formerly Clarke) & Melissa Joyce Hawkins. 38 GPS: LAMARC (Lamanite Arch camp). 7 May 2002, photos: Kristen Kellems and her mildly wounded leg. 7429

7430 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Calf Creek near Calf Creek Campground, N 37.79905 W 111.41126 9 - 10 May 2002 C. R. Nelson # 7430 & K. C. Kellems (formerly Clarke) & Melissa Joyce Hawkins. 38 set out two malaise

traps spanning stream, set out 100 plus yellow pan traps at 10:00 am on 9 May, emptied all traps 10:00 am - 12:00 noon. Grid: < 1 m from stream, approx. 5 m from each other, on both sides of stream. Ran two uv lights, one on truck and one on stream (near group camp) pinned many moths. GPS: CAFTRP flies, bee, & wasps on sand 7430

7431 USA: UTAH: Utah Co., Provo, Nelson home N 40.29343 W 111.64922 12-May-2002 C. R. Nelson # 7431 38 new photos with Nikon D1X, first real use of this camera 7431

7432 TAIWAN: TAIPEI Taipei, Jin Shan & Chin Hua Streets 20-May-2002 C. R. Nelson # 7432 & family 38 photos: street action, mission home, temple, and people, Jason! 7432

7432.1 TAIWAN: TAIPEI Taipei, near Citizen Hoel N 25.03659 E 121.52770 20-22 May 2002 C. R. Nelson # 7432.1 & family 38 photos: street action; GPS: TAIHOT 7432.1

7433 TAIWAN: TAIPEI Taipei, Chiang Kai Shek 20-May-2002 C. R. Nelson # 7433 & family 38 photos: memorial, street action, people. 7433

7434 TAIWAN: Tan shui trip to Tan shui N 25.17121 E 121.43863 20-May-2002 C. R. Nelson # 7434 & family 38 photos: street action, member's restaurant, and buddhist art, Shih lin night market near Chien Tan Station. TANSHU, McKay Memorial N 25.17121 E 121.43863; PIER (Tanshui fishermans park pier) N 25.18222 E 121.41106 7434

7435 TAIWAN: Tao Yuan Bade 22-May-2002 C. R. Nelson # 7435 & family 38 photos: street scenes, restaurant. 7435

7436 TAIWAN: Taipei Yingge 22-May-2002 C. R. Nelson # 7436 & family 38 photos: street scenes, artisans market, brush maker 7436

7437 TAIWAN: Tao Yuan Tao Yuan 22-May-2002 C. R. Nelson # 7437 & family 38 photos: street scenes, adidas fakes 7437

7438 TAIWAN: Tao Yuan Dashi 23-May-2002 C. R. Nelson # 7438 & family 38 photos: street scenes, also older man who signed to me that I was very tall. He measured himself next to me and laughed. Some of the men in this group recognized Jason and knew he had lived nearby. (Jason's 12 story apartment building was within sight). 7438

7439 TAIWAN: Tao Yuan Mercy Lake, grave of Chiang Kai Shek 23-May-2002 C. R. Nelson # 7439 & family 38 Jason, Rick, Amy, Andrea, and Kaye talked as they walked. Jason and Rick teaching them chinese words. CHIPAR (parking lot): N 24.84044 E 121.29411; MERCY (above Mercy Lake at Mausoleum entrance) N 24.84164 E 121.29949 photos: scenery, frog, plants, insects, on walk to mausoleum. 7439

7440 TAIWAN: Taipei Bade - Taipei 24-May-2002 C. R. Nelson # 7440 & family 38 photos: train station, family, National Palace Museum. 7440

7441 TAIWAN: Taipei Taipei, Xi Men Deng District 25-May-2002 C. R. Nelson # 7441 & family 38 photos: people, Star Wars II and nearby night market. 7441

7442 TAIWAN: Taipei Shinjuang 26-May-2002 C. R. Nelson # 7442 & family 38 photos: home of Vince, Deng Jin Liang, and LDS church 7442

7443 TAIWAN: Taipei Panxiao 26-May-2002 C. R. Nelson # 7443 & family 38 photos: people at reception for Jason Nelson at the Panxiao Ward Chapel. 7443

7444 TAIWAN: Taipei Shinjuang 27-May-2002 C. R. Nelson # 7444 & family 38 photos: Vince's house, 7-11 contest receipts, day market. 7444

7445 TAIWAN: Taoyuan Taoyuan, near airport 27-May-2002 C. R. Nelson # 7445 & family 38 photos: rice field 7445

7446 USA: UTAH: Utah Co., Provo, BYU lab 29-May-2002 C. R. Nelson # 7446 38 photos: Kristen Kellems, Justin Shields, and Betsey Ahlstrom 7446

7447 USA: TEXAS: Val Verde Co. Devils River, Dolan Falls 02-Jun-2002 C. R. Nelson # 7447 & J. R. Nelson & N. L. Hanegan 38 photos: falls at night, underwater at falls. photos underwater at Dolan Falls, Jason took pictures of Nikki and me scuba diving. I punctured my eardrum. It was extremely painful. I walked three miles up the river to avoid the pain, I saw two snakes, a rat snake and a western whip snake. Also 1 photo in Fredricksburg and 2-3 at Lum's barbecue in Junction before getting to Dolan Falls. photos: black tailed rattlesnake, Crotalus molossus molossus. 7447

7448 USA: TEXAS: Val Verde Co. Devils River, Dolan Falls 03-Jun-2002 C. R. Nelson # 7448 & J. R. Nelson & N. L. Hanegan 38 photo: cliffs with sun. Spent afternoon talking with SEDL class about goals for the week 7448

7449 USA: TEXAS: Val Verde Co. Devils River, Dolan Falls 04-Jun-2002 C. R. Nelson # 7449 & J. R. Nelson & N. L. Hanegan & SEDL class 38 photos: Carol Love, Shayna Markham, and Krystal on a plant transect on hills behind cabin. photos: texas earless lizard laying eggs 7449

7450 USA: TEXAS: Val Verde Co. Dolan Creek, above Devils River 04-Jun-2002 C. R. Nelson # 7450 & J. R. Nelson & N. L. Hanegan & SEDL class 38 photos: Nikki, Brenda Beasley, Kristi, catching Odonata. Stephanie, Nikki Hanegan, working in temporary pools. habitat shots. Sterling Abbott, portrait, his project includes macroinvertebrates and fish. 7450

7451 USA: TEXAS: Val Verde Co. Dolan Creek, above Devils River 05-Jun-2002 C. R. Nelson # 7451 & J. R. Nelson & N. L. Hanegan & SEDL class 38 photos: Dolan Creek and

surroundings in the early morning from ridge from which its springs emerge. photos: afternoon, of fish caught in seine. photos odonata streamside. 7451

7452 USA: TEXAS: Val Verde Co. Devils River at Dolan Falls 05-Jun-2002 C. R. Nelson # 7452 & J. R. Nelson & N. L. Hanegan & SEDL class 38 drift net experiment: see two pages back on back of #7450, assignment of emptying nets. nets were 4 inch diameter pvc pipe cut in 6 inch sections with knee high womens stockings used as the net bag. We tied the nets to a 20 foot piece of rebar laid perpendicular to the flow on "Camilles Riffle" (first riffle up stream from ford on the right fork. Five nets were placed in the stream at 8:00 pm on 5 June and emptied every 2 hours until 8:00 pm on 6 June. orange in riffle 10 meters: 6.3, 5.0, 4.9, 9.7, 12.6 5.6, 5.3, 5.2, 5.9, 6.7, 5.0, 5.9, 10.2, 5.9, 7.7 photos: aquatic insects from near Falls. 7452

7453 USA: TEXAS: Val Verde Co. Devils River at Dolan Falls 06-Jun-2002 C. R. Nelson # 7453 & J. R. Nelson & N. L. Hanegan & SEDL class 38 photos: from "Tween Peak" (ridge & cliffs between jct of dolan Creek and the Devils River, in early morning). Continued drift experiment started yesterday (#7452). Photos: group & individual shots of people on morning of 7 June 2002, with Chloropidae bothering our heads. photos: fish underwater while scuba diving below falls. 7453

7454 USA: TEXAS: Travis Co. Garfield 08-Jun-2002 C. R. Nelson # 7454 38 photos: at Pearce home, Sphecid nest with crickets, orb spiders and people at party 7454

7455 USA: TEXAS: Texas to Utah on airline flight from Austin to Salt Lake City 08-Jun-2002 C. R. Nelson # 7455 38 in order, photos: Austin, Lake Travis, low clouds, higher haze of clouds, tall clouds west of Abilene, forest fires SE of Alamosa, Colorado, center pivot irrigation in San Luis Valley, just S of Alamosa, part of Black canyon of the Gunnison River, Grand Junction (of Gunnison & Colorado Rivers; Gunnison River in lower part of photo), forest fire near Utah border NW of Fruita 7455

7456 USA: UTAH: Millard Co. above western shore of Sevier Lake bed N 39.04982 W 113.27467 10-Jun-2002 C. R. Nelson # 7456 & R. B. & C. R. Rader 38 GPS: SEVIER photos: people, whiptail lizard, Sevier Lake bed 7456

7457 USA: UTAH: Millard Co. East slope of the Confusion Range, Hwy 6/50 27.6 mi E of Utah border N 39.08784 W 113.55566 11-Jun-2002 C. R. Nelson # 7457 & R. B. & C. R. Rader 38 GPS: CONFUS Clint Rader kept 3 scorpions: Anuroctonus? and Eleodes sulcipennis?, large species. 7457

7458 USA: UTAH: Utah Co., Provo River, Canyon Glen Picnic Area 12-Jun-2002 C. R. Nelson # 7458 38 bird watching: yellow warbler, lazuli bunting, dipper, robin, bank swallows, mallard duck. 7458

7459 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95623 W 111.26763 22-Jun-2002 C. R. Nelson # 7459 & family 38 photos: scenery, construction, people 7459

7460 USA: UTAH: Utah Co., Hobble Creek at Kellys Grove, E of Springville 25-Jun-2002 C. R. Nelson # 7460 38 C. R. Nelson took photos in the lab, he wasn't present at Hobble Creek! photos: Cucujidae, Cucujus clavatus puniceus mannerheim, good shots on Populus bark, both adults and larvae. Collected by M. D. Terry, not C. R. Nelson, he was not present 7460

7461 USA: UTAH: Utah Co., South Fork Creek at South Fork Park, 1.6 mi S of Hwy 189, Provo Canyon N 40.3476 W 111.54797 27-Jun-2002 C. R. Nelson # 7461 & class & K. F. Kuehnl 38 SOFK of #7382 Dolophilodes, Rhyacophila, Vespidae, Epeorus, Ephemerellidae, Tipulidae, Elmidae, Rhopalidae: Boisea, Heptageniidae, Uenoidae, Baetidae, Therevidae. 7461

7462 USA: UTAH: Wasatch Co. Deer Creek State Park, Deer Creek Reservoir 29-Jun-2002 C. R. Nelson # 7462 & scouts 38 photos: scenery 7462

7463 USA: UTAH: Box Elder Co. Brigham City, 211 N 300 W 30-Jun-2002 C. R. Nelson # 7463 & family 38 photos: family gathering for blessing of William Kapon Wright, born 21 May 2002 to Jerry & Sally Wright. photos: baby screech owls in black walnut tree; Asilidae: Andrenosoma fulvicauda, good!, on stool, also saw on horizontal clotheline pole (is this related to the dead box elder tree?) this tree was my tree hut tree growing up. 7463

7464 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95623 W 111.26763 04-Jul-2002 C. R. Nelson # 7464 & family 38 photos: people photos & vouchers: Therevidae, some in 100% ethanol; Cicadellidae, Oedipodinae grasshopper, Formica ants, Leptogaster mating. 7464

7465 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 04-Jul-2002 C. R. Nelson # 7465 & family 38 photos: fireworks 7465

7466 USA: UTAH: Utah Co., Little North Fork above Sundance at Timp Lodge N 40.39023 W 111.58547 09-Jul-2002 C. R. Nelson # 7466 & class 38 Perlodidae: Megarcys signata, Sphecidae, Chrysididae, Lauxaniidae. Saw Asilidae: Laphria fernaldi 7466

7467 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95624 W 111.26804 12-13 July 2002 C. R. Nelson # 7467 & class 38 Four malaise traps class: Riley Nelson, Andrea Nelson, mandy Murdoch, Darrin Orton, Michael Clark, Michael Croft, Justin Johnson, and Chris Johnson. GPS: WHECAB 7467

7468 USA: UTAH: Utah Co., pond, Springdell, Provo Canyon, Hwy 189 N 40.32871 W 111.62610 16-Jul-2002 C. R. Nelson # 7468 & class 38 GPS: SPRDEL Gerridae, Notonectidae, Corixidae, leech, Libellulidae, Aeshnidae 7468

7469 USA: UTAH: Utah Co., Provo River, Upper Falls Park above Nunns Park N 40.34639 W 111.59406 16-Jul-2002 C. R. Nelson # 7469 & class 38 GPS: UPFALS Pteronarcys, Brachycentridae, Limnephilidae, sculpin: Cottus bairdi 7469

7469.1 USA: UTAH: Utah Co., Provo, BYU lab 17-Jul-2002 C. R. Nelson # 7469.1 38 most specimens: CALIFORNIA: Monterey Co., Pacific Ocean near Monterey, June 2002, Lee Braithwaite: snail long foot, snail concentric, cone, snail orange foot, lobster, sun star, sea cucumber, thin armed star, anemone on barnacle, tube anemone, big white & orange anemone, duster anemone purple urchin, spider crab, hermit crab in moon. Tube anemone is older, not from 2002 trip. Lobster is older, bought in store. photos: Marine invertebrates in aquaria at BYU from Monterey 7469.1

7470 USA: UTAH: Utah Co., Mount Timpanogos, Aspen Grove Trail to Emerald Lake N 40.39902 W 111.63016 20-Jul-2002 C. R. Nelson # 7470 & scouts, Roger Wilson, leader, Ryan Loveless (teacher age), Justin Barlow (senior patrol leader), Reed Kuttler (new scout) 38 GPS: ASPGRO (Aspen Grove) N 40.40479 W 111.60611; 1FALLS (First Falls) N 40.40456 W 111.62030, 8:30 am; FALFLO (Flower Falls) N 40.39902 W 111.63016, 11:10 am; EMERAL (Emerald Lake) N 40.39386 W 111.63961, 13:35 pm; TIMPSO (South Flank Timp Peak) N 40.38778 W 111.64416, 16:09 pm. Tabanidae in 100% ethanol, Elateridae in 100%, Bombyliidae, Anthrax in 100%, Chrysomelidae black with gilded edges in 100% on Lupinus, Tachinidae in 100%. Aspen Grove Trail up: Primrose Cirque, Flower Falls (my nickname). photos: primrose, Empididae mating & nuptial gift Tipulidae, Bombus on flowers, Nymphalidae, Scutellaridae on flower. 7470

7471 USA: UTAH: Utah Co., Mount Timpanogos, upper Timpanogos Basin to summit, summit: 3481 msl N 40.39 W 111.63 20-Jul-2002 C. R. Nelson # 7471 & scouts, Ryan Loveless (teacher age), Reed Kuttler (new scout) 38 on talus slopes just below ice fields, then up Timp Saddle to summit.

Summit: Cyrtopogon, Anthomyiidae. Asilidae: Cyrtopogon, one with prey in 70%, 13-14 in 100% ethanol. photos: Mountain goats on summit ridge. 7471

7472 USA: UTAH: Utah Co., Mount Timpanogos, Emerald Lake 20-Jul-2002 C. R. Nelson # 7472 & scouts, Roger Wilson, leader, Ryan Loveless (teacher age), Justin Barlow (senior patrol leader), Reed Kuttler (new scout) 38 Corixidae, no beetles. saw Chironomidae larvae but not kept. 7472

7473 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 22-Jul-2002 C. R. Nelson # 7473 39 photos: Lucanidae stag beetle 7473

7474 USA: UTAH: Utah Co., Provo, BYU Lab, C. R. Nelson not at the field location. 22-Jul-2002 C. R. Nelson # 7474 39 Grylloblattid: Oregon: Deschutes Co., Deschutes National Forest, Mckenzie Pass, on snowfields, 11:00 pm to 1:00 am, Karl Jarvis, Jones, & Svenson.

shrimp: WASHINGTON: Grays Harbor Co., beach at Ocean City State Park, N 47 01 57 W 124 10 05, 18 July 2002, Megan Porter & K. Dittmar. Mysidae: Gastrosaccidae: Archaeomysis grebuitzkii. photo session: Grylloblatta scudderi? from Oregon and mysid shrimp from Washington for Megan Porter. Mysidae: Gastrosaccidae: Archaeomysis grebuitzkii. 7474

7475 USA: UTAH: Utah Co., Squaw Peak Trail, Hope Campground N 40.30198 W 111.61393 23-Jul-2002 C. R. Nelson # 7475 & class 39 gps HOPE no specimens kept by me. box elder bugs, Boisea trivittata and butterflies. 7475

7476 USA: UTAH: Utah Co., Squaw Peak Trail, 2.7 mi S of Hope Campground, 2370 msl N 40.28515 W 111.60328 23-Jul-2002 C. R. Nelson # 7476 & class 39 gps SQUAW Scutellaridae; Bombyliidae Poecilanthrax; Tenthredinidae; Syrphidae; Apoidea; Meloidae; Asilidae: Cophura? 2 in 100%, 1 dry; Machimus male in 100%. 7476

7477 USA: UTAH: Davis Co. Great Salt Lake, Antelope Island, Bridger Bay N 40.04013 W 112.26149 24-Jul-2002 C. R. Nelson # 7477 & J. K Nelson & N. L. & M. E. Hanegan. 39 gps ANTEL photos: Ephydriidae & Araneidae Neoscona oaxacensis. Cicindelidae. 7477

7478 USA: UTAH: Davis Co. Great Salt Lake, Antelope Island, west end of causeway, 1300 msl N 41.05888 W 112.23746 24-Jul-2002 C. R. Nelson # 7478 & J. K Nelson & N. L. & M. E. Hanegan. 39 gps CAUSE photos: Ephydriidae & brine shrimp eggs 7478

7479 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Deer Creek at Deer Creek Campground N 37.85523 W 111.35554 25-Jul-2002 C. R. Nelson # 7479 & class: Dan Cavan, Andrea Nelson, Michael Croft, Michael Clark, mandy Murdoch, Holly Leavitt, Darin Orton, also N. L. & M. E. Hanegan. 39 gps DEEJUL. reset two malaise traps. Trap history: reset by Sarah Morrison Kristen Clarke, and Sarah Slinkov on 30 July 2002 then again on 2 August. Reset again by Shawn Clark on about 7 August. Chrysomelidae on wet meadow sedges. Lygaeidae, Ephydriidae, all in 100% ethanol. Students collected Xylocopa, Philonicus, and Lucanidae. 7479

7480 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Calf Creek at Calf Creek Campground N 37.78342 W 111.41482 25-26 July 2002 C. R. Nelson # 7480 & class: Dan Cavan, Andrea Nelson, Michael Croft, Michael Clark, mandy Murdoch, Holly

Leavitt, Darin Orton, also N. L. & M. E. Hanegan. 39 25 July, set out yellow pans at 6:00 pm, set up lights, 2 malaise traps. 26 July, Took down pan and malaise traps, at least 130 pan samples taken at 12:00pm to 1:00 pm during a bad hail storm. Soaking wet class! Counted samples on 27 July 2002 in motel room, 130 samples.

gps CAFCMP at day camp area. uv light search: scorpions, 2 spp. including dark Hadrurus

Baetidae males dancing 9:30 am on 26 Jul

photos: Formica ants on cottonwood *Populus fremontii* with aphids.

Proctacanthus & Efferia in 100% ethanol. Coccoidea Kermidae? on *Quercus gambelii* 7480

7481 USA: UTAH: Kane Co., Mount Carmel Junction N 37.22375 W 112.68103 26-Jul-2002 C. R. Nelson # 7481 & class: Dan Cavan, Andrea Nelson, Michael Croft, Michael Clark, mandy Murdoch, Holly Leavitt, Darin Orton, also N. L. & M. E. Hanegan. 39 gps MTCARM beetles, Coleoptera, at gas station in the afternoon. 7481

7482 USA: UTAH: Kane Co., Coral Pink Sand Dunes, Ponderosa Grove Campground N 37.08893 W 112.67252 26-27 July 2002 C. R. Nelson # 7482 & class: Dan Cavan, Andrea Nelson, Michael Croft, Michael Clark, mandy Murdoch, Holly Leavitt, Darin Orton, N. L. & M. E. Hanegan, Justin & Chris Johnson. 39 gps CORPON ran mercury vapor and UV lights. 26 July: photos: Otitidae on yucca plants (near angustissima?)

27 July: photos Otitidae again.

Asilidae: Diogmites grossus, Proctacanthus n. sp. and nearno, Machimus, and Stichopogon. Thyreocoridae. All in 100% ethanol.

Myrmeleontidae larva, Vela? 7482

7483 USA: UTAH: Kane Co., Coral Pink Sand Dunes State Park, 2 mi N of visitors center N 37.04756 W 112.71301 27-Jul-2002 C. R. Nelson # 7483 & class: Dan Cavan, Andrea Nelson, Michael Croft, Michael Clark, mandy Murdoch, Holly Leavitt, Darin Orton, N. L. & M. E. Hanegan, Justin & Chris Johnson. 39 gps CORDUN Asilidae: Proctacanthus & Stichopogon near trifasciatus, in 100% ethanol. Pinned: Tiphiidae, Pompilidae, Sphecidae, and Acalypterata or Calypterata. 7483

7484 USA: UTAH: Kane Co., East Fork of the Virgin River, 0.5 mi E of jct Mineral Gulch N 37.17727 W 112.78577 28-29 July 2002 C. R. Nelson # 7484 & Dan Cavan 39 gps EF4, 4th stop, camp for the night! center of collecting activity.

ran two light traps, took 5 "first 100" aquatic samples.

many gps extras: EFKTRK (East Fork at truck, start) N 37.18997 W 112.75180; EF1 (East Fork, first stop) N 37.17843 W 112.76949; EF2 (East Fork, second stop) N 37.17984 W 112.77688; EF3 (East Fork, third stop) N 37.18027 W 112.78123; EF4TOO (East Fork, same

as EF4 but in morning) N 37.17741 W 112.78609; EF5MIN (East Fork jct Mineral Gulch) N 37.17556 W 112.79392; EF6 (East Fork, sixth stop) N 37.17278 W 79711; EF7 (seventh stop) N 37.17295 W 112.80647; EF8 (eighth stop) N 37.17225 W 81010; EF9ROC (ninth stop, jct Rock Canyon) N 37.17043 W 112.81846, near end of western extent of trip. Went part way up straight, narrow slot canyon immediately west of Rock Canyon entering from opposite bank (from north) access from Poverty Flat May be possible. photos: Hydropsychidae, moths, Dolichopodidae, Tachinidae, Coenagrionidae, Asilidae: *Philonicus* (some in 100%), Caenidae, Salticidae, Aphididae on *Salix exigua*. *Stenopelmatus* found dead in stream. Vespidae, *Polistes*?, possibly stylopized; Baetidae?, lemon males swarming; Perlodidae: *Isogenoides zionensis*? in 100%; Hydropsychidae larvae in 100%; Dryopidae, *Helichus* in 100%. Odonata. 7484

7485 USA: UTAH: Utah Co., Mount Timpanogos, Aspen Grove Trailhead N 40.40438 W 111.60650 01-Aug-2002 C. R. Nelson # 7485 & class; Andrea Nelson, mandy Murdoch, Holly Leavitt, Chris Johnson, Justin Johnson, Michael Crawford, Darin Orton. 39 gps ASPGRV photos: *Danaus plexippus* caterpillars on milkweed; Phalacridae on Aster. photos: Caterpillars on chokecherry. 7485

7486 USA: UTAH: Davis Co. Great Salt Lake, Antelope Island, Bridger Bay N 41.04232 W 112.25872 2-3 August 2002 C. R. Nelson # 7486 & class; Andrea Nelson, mandy Murdoch, Holly Leavitt (& husband Randon Hunter), Chris Johnson, Justin Johnson, Darin Orton. 39 gps ANTBRB (camp in Bridger Bay). Took another gps at Buffalo Point in the evening N 41.04185 W 112.27625.

2 August, walt to Buffalo Point for sunset then returned to camp and ran UV light, not much came.

3 August: sunrise photos then collecting Ephydriidae on rocks near Buffalo Point. near camp: golden Chrysomelidae on chenopod (plant voucher taken); Sphecidae, Acrididae, Asilidae: *Diogmites grossus* (photo taken with pompilid prey), *Efferia albibarbis*, *Stichopogon salinus*; Araneidae; Pompilidae (photos with Araneidae); photos in lab of: brine shrimp, *Artemia* adults & eggs; Brine fly, *Ephydra* spp. larvae & pupal skin. The abundant orb weaving spider is *Neoscona oaxacensis* (Keyserling). 7486

7487 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95623 W 111.26763 9-10 August 2002 C. R. Nelson # 7487 & J. K. Nelson & Parrishes, Ponds, Smiths. 39 10 August: photos scenery & people on hike on south slope of property photos: great basin rattlesnake after a large meal, on upper end of property; scenery. 7487

7488 USA: UTAH: Summit Co. Uinta Mountains, Henrys Fork Trailhead to base of Gunsight Pass 15-17 August 2002 C. R. Nelson # 7488 & scouts 39 photos: scenery & people. List

of people: leaders: Doug Robinson, Michael Hunter, Ron Baird, Russ Loveless, Boyd Blake, Roger Wilson, Jeff Nichols. Boys: Justin Barlow, Sam Parkinson, Reid Kuttler, Jordan Gibson, Jairus Gibson, Chris Wilson, Jacob Nichols, Wil James Baird, Joe Lubbens, Eric Kuttler, Nathan Jones, Clayton Grames, Chris Grames, and Ryan Loveless. 23 total. 17 August: pond at base of pass: gammarus & Trichoptera larvae. 7488

7489 USA: UTAH: Summit Co. Uinta Mountains, Gunsight Pass to Kings Peak, 13,528 feet. 16-Aug-2002 C. R. Nelson # 7489 & scouts 39 photos: scenery. Arctiidae: caterpillar, jokingly name of a fellow hiker, "devenhere" for Deven is here, a joke with some other scouters. 7489

7490 USA: UTAH: Summit Co. Uinta Mountains, Gunsight Pass to Henrys Fork Trailhead 17-Aug-2002 C. R. Nelson # 7490 & scouts 39 photos: scenery. Met Craig Hendricks, "Kiki", my missionary companion in Tahiti and the Tuamotu Islands. What a happy reunion! pond about 3-4 miles from trailhead: Acilius, photos of Agabus?; Baetidae; Gerridae; later Ephemeroptera subimago, Drunella grandis? 7490

7491 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°W 21-Aug-2002 C. R. Nelson # 7491 39 photos: Cerambycidae 7491

7492 USA: UTAH: Utah Co., Provo, BYU 22-Aug-2002 C. R. Nelson # 7492 39 photos: people: Kristen Clarke Kellems on last work day, also Clare Tappen, Kristen Kellems, & Sage Christianson photos: Reduviidae, assassin bug and hissing roaches with mites, Blattaria, Gromphodora portentosa, lab colony. 7492

7493 USA: UTAH: Utah Co., mapleton 23-Aug-2002 C. R. Nelson # 7493 & Hal Black 39 photos: Hal Black & Don Lovejoy photos: remains of nest of Dolichovespula maculata with orange streaks to match brick of house of Don Lovejoy 7493

7494 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Deer Creek, Deer Creek Campground N 37.85523 W 111.35554 26-Aug-2002 C. R. Nelson # 7494 & Clare Tappen & Jill Nielson 39 reset & emptied malaise traps, last done by Shawn Clark about 7 August. 7494

7495 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Kaiparowits Plateau, 50 Mile Mountain between Lower Trailhead and Navajo Point 27-28 August 2002 C. R. Nelson # 7495 & Clare Tappen & Jill Nielson 39 hike: 50LWTR, truck at Lower Trailhead: N 37.25022 W 111.04181; LWTRIM, lower trail at rim: N 37.24512 W 111.04943; mapLES, nice stand of big tooth maple, N 37.23473 W 111.03549; SNAKE, photos of rattlesnake N 37.21638 W 111.02346; COW (cow skeleton, photos) N 37.19805 W 111.02468; SHELLS (fossil shells? large, photos) N 37.19791 W 111.02490; TOWER (old tower rig, "Paro" on 7.5" topo map), N 37.18914 W 111.02381; WATER (spring near, to north of, East End

Spring), N 37.18278 W 111.03027; EASEND (East End Spring), N 37.16942 W 111.03023; NAVPNT (Navajo Point near camp) N 37.16270 W 111.02414. few insects, in 100% ethanol: Asilidae: *Efferia frewingi* & *benedicti*. 7495

7496 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Kaiparowits Plateau, 50 Mile Mountain, Navajo Point, East End Spring N 37.16942 W 111.03023 27-Aug-2002 C. R. Nelson # 7496 & Clare Tappen & Jill Nielson 39 GPS: EASEND. Spring was a cattle trodden mudhole, but fortunately a pipe had been jammed into the rock and yielded a pencil lead sized drip/stream of water we could pump through the filter in water: Culicidae, 2 types, Hydrophilidae, 3 spp., Dytiscidae 1-2 spp., *Daphnia*?, Ceratopogonidae. *Machimus sestertius*, in 100% ethanol. 7496

7497 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Kaiparowits Plateau, 50 Mile Mountain, Navajo Point N 37.16942 W 111.03023 27-28 August 2002 C. R. Nelson # 7497 & Clare Tappen & Jill Nielson 39 GPS: NAVPNT. photos sunset then sunrise. 7497

7498 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Calf Creek Campground N 37.79373 W 111.41518 29-Aug-2002 C. R. Nelson # 7498 & Clare Tappen & Jill Nielson 39 Helped Lisa and Heidi with car troubles on the Hole in the Rock Road (stuck in sand, called AAA in Panguitch) fed them pizza and they slept in our trailer. Ruth & Laura (of Colorado) are campground hosts as are Joel & Tyler Clark (of Provo) Bill Smith, the BLM fix it man dropped by. GPS: CAFCMP night of 28 Aug: Reduviidae, scorpions. photos: Physella, Simulium, Dicranota, Hydrophilidae, Sphaeridium, Ochrotrichia, Hydroptila, Chimarra, Hydropsyche, Procloeon?, Baetis two colors, Ordobrevia, Helichus, Ambrysus, Hetaerina americana, Argia. Asilidae: *Efferia benedicti* female in 100% ethanol. 7498

7499 USA: UTAH: Utah Co., Provo, BYU 4 & 6 September 2002 C. R. Nelson # 7499 39 4 Sep: photos of electric ray, Torpedo, habitus shots, ray from supply house. 6 Sep: photos of dissection of electric organ by Dr. Dixon Woodbury and students 7499

7500 USA: UTAH: Box Elder Co. Brigham City, Peach Days 07-Sep-2002 C. R. Nelson # 7500 39 photos: people 7500

7501 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 08-Sep-2002 C. R. Nelson # 7501 39 photos: spider, Clubionidae; Cydnidae 7501

7502 USA: UTAH - CALIFO

RNIA Utah Co., airline flight 15-Sep-2002 C. R. Nelson # 7502 & J. K. Nelson 39 photos: Salt Lake City, Mt. Timpanogos, Jordan River outflow, Utah Lake, Mount Nebo, Levan coal

terminal , Castle Rock turnoff to Lytle Ranch, Littlefield, Arizona & Beaver Dam Wash, Alluvial fans in Virgin Mountains #26 #27 #28, Lake Mead area - mouth of the Virgin River, Hoover Dam, Mohave Desert NICE, including sand dunes, many drainage crossings, weird volcanic field, fault line on alluvial fan NICE #35, ended a few miles before going over San Gabriel Mountains. 7502

7503 FRENCH POLYNESIA: TAHITI Faaa and a circle island trip S 17.55605 W 149.60289 16-17 September 2002 C. R. Nelson # 7503 & J. K. Nelson 39 photos 7503

7504 FRENCH POLYNESIA: TAHITI Tahiti to Moorea 17-Sep-2002 C. R. Nelson # 7504 & J. K. Nelson 39 photos: Tahiti, Moorea, from the ferry named Onoono. 7504

7505 FRENCH POLYNESIA: MOOREA Gump Field Station, Paopao Bay 17-Sep-2002 C. R. Nelson # 7505 & J. K. Nelson 39 photos: island sunset 7505

7506 FRENCH POLYNESIA: MOOREA Belvedere Road, Marae Tetiira archaeological site S 17.53643 W 149.82941 18-Sep-2002 C. R. Nelson # 7506 & J. K. Nelson 39 GPS: MARAE photos: spiders & stream, Micropezidae, Lauxaniidae?, ants, spiders 7506

7507 FRENCH POLYNESIA: MOOREA forest near Belvedere Overlook S 17.54057 W 149.82666 18-Sep-2002 C. R. Nelson # 7507 & J. K. Nelson 39 GPS: BELV. Lunch with Neil Davies and Rosie Gillespie. Pay Berkeley for 25 km @ 0.45 \$/km, pay for shipping postage for specimens. Sphecidae, two sizes. 7507

7508 FRENCH POLYNESIA: RAIATEA home of Nicole & Abel Teriipaia 18-Sep-2002 C. R. Nelson # 7508 & J. K. Nelson 39 brief stop at Teriipaia home, eat some then hop an unexpected ship to Borabora on way to Maupiti. 7508

7509 FRENCH POLYNESIA: RAIATEA Raiatea to Tahaa 18-Sep-2002 C. R. Nelson # 7509 & J. K. Nelson 39 trip between island on the ship Maupiti Express 7509

7510 FRENCH POLYNESIA: BORABORA Tahaa to Borabora 18-Sep-2002 C. R. Nelson # 7510 & J. K. Nelson 39 photos: on ship Maupiti Express, about an hour to cross the channel. Beautiful. 7510

7511 FRENCH POLYNESIA: BORABORA Borabora 18-19 September 2002 C. R. Nelson # 7511 & J. K. Nelson 39 stayed at house of Thierry -----, a son in law of Teanuanua Vaetua, who is the son of Ope Vaetua, who was the branch president in Maupiti when I was a missionary. Ope has been dead for several years. 7511

7512 FRENCH POLYNESIA: Maupiti Maupiti 19-Sep-2002 C. R. Nelson # 7512 & J. K. Nelson 39 trip on Maupiti Express, 8:30 am - 10:30 am or so, FAST. Received by Emilta and Nick Mohi. We had lunch, a big reception dinner (tamaaraa) at Violette Taiore's house. 4:00

pm set out yellow pan traps and malaise trap between a breadfruit and a lime tree. Emilta and I caught many insects. The beach in Tereia is beautiful. We had a meeting at 7:30 pm in the evening to show pictures from my mission, between 50 and 70 members came to watch my small computer screen. We had many happy reunions! 7512

7513 FRENCH POLYNESIA: Maupiti Maupiti S 16.44698 W 152.25429 20-Sep-2002 C. R. Nelson # 7513 & J. K. Nelson 39 GPS: NIARII (near top of island), AAU (reef): S16.41692 W 152.25668.

Morning trip to the mountain top with Nick Teave. We set up the malaise trap and about 10 yellow pans. We returned to village then took a late afternoon trip to the motu, then the reef. We had a great dinner of tuna (aahi) and dolphin (mahimahi fish). 7513

7514 FRENCH POLYNESIA: Maupiti Maupiti S 16.44890 W 152.27397 21-Sep-2002 C. R. Nelson # 7514 & J. K. Nelson 39 GPS: TERE EIA, sand flat home of Mohi family. Retrieve beach pan traps, done by 10:00 am. trip to top to retrieve traps: Kaye Nelson, Emilta Mohi, Nick Mohi, Pava'u Teave, Alice Teave. Eat again. Goodbyes. Leave Maupiti, 4:00 pm on the Maupiti Express. Very rough seas! Only 1.5 hours to Borabora, Kaye and I were sick. 7514

7515 FRENCH POLYNESIA: BORABORA Borabora S 16.49809 W 151.75438 21-22 September 2002 C. R. Nelson # 7515 & J. K. Nelson 39 GPS: BORA. Sick and tired at arrival, picked up by Teanuanua then ate and went to bed early (7:30 pm) and slept all night!

Morning- ready for church, many happy reunions with the Atiu family. many photographs. 7515

7516 FRENCH POLYNESIA: BORABORA Borabora to Raiatea 22-Sep-2002 C. R. Nelson # 7516 & J. K. Nelson 39 Noon to 1:30 pm or so, brief Tahaa stop. trip of less than 1.5 hours on the Maupiti Express. (Cost for 2 roundtrip tickets was 11,000 francs, roughly \$110.00. Seas were calmer, but not much. We didn't get sick. We were taken to the home of Nicole and Abel Teriipaia for dessert, then to meet and talk with Michel & Pauline Yim and Lysis Terooatea.. Then sleep! 7516

7517 FRENCH POLYNESIA: RAIATEA Raiatea circle ilsand tour with Abel & Nicole. S 16.72598 W 151.45673 23-Sep-2002 C. R. Nelson # 7517 & J. K. Nelson 39 GPS above is for UTUROA, also took readings in VAIAAU S 16.90198 W 151.46815 and FETUNA S 16.87827 W 151.38759. many photos, Tevaitoa and rainbow on the reef, Fetuna: Benacek family and pakai fruit. Ancient temple at Taputapuatea. Then ate at chinese restaurant before shopping and hopping the plane to Tahiti. 7517

7518 FRENCH POLYNESIA: TAHITI Faaa 23-Sep-2002 C. R. Nelson # 7518 & J. K. Nelson 39 photos: manihi Shan, Clotilde Shan, Haamoe'ura Shan, manavarii Shan, Djobri---? from

Rurutu and Clotilde's mom from Rurutu. Then slept for a time before catching a late flight out of Tahiti for New Zealand. What a whirlwind trip! 7518

7519 AUSTRALIA: Queensland Brisbane, Fig Tree Pocket, Lone Pine Koala Park N 27.53570 E 152.96707 26-Sep-2002 C. R. Nelson # 7519 & J. K. Nelson 39 GPS: LONPIN (Lone Pine Park), TOOWON (Hotel in Toowong S 27.48036 E 152.99820. photos: wildlife in park, koala, kangaroos, water dragon lizard, monitors, frogs, echidna, tasmanian devil, rainbow lorikeet, birds, emu, cassowary

water dragon, *Physignathus lesueurii*, scrub turkey *Alectura lathami*, common wombat *Vombatus ursinus*, Mertens water monitor *Varanus mertensi*, magnificent tree frog *Litoria splendida*, desert knob tail gecko *Nephurus amya*, Shingle back lizard *Trachydosaurus rugosus*, dingo *Canis lupus dingo*, Tasmanian devil *Sarcophilus harrisii*, boobook owl *Ninox novaeseelandiae*, dingo pups Kosciusko & Smiggins, eastern gray kangaroo *macropus giganteus*, swamp wallaby *Wallabia bicolor*, Whiptail wallaby *macropus parryi*, red necked kangaroo brown similar to whip *macropus rufogriseus*, wallaroo shaggy stumpy *macropus robustus*, red kangaroo *macropus rufus* 7519

7520 AUSTRALIA: Queensland North Stradbroke Island, Cooroon Cooroonpah Creek, 7 km NE of Dunwich S 27.45111 E 153.44510 27-Sep-2002 C. R. Nelson # 7520 & J. K. Nelson & R. J. Lavigne & F. Geller-Grimm 39 GPS: STR1. This drainage is also 13 km SW of Point Lookout. photos: beetles on white stalked monocot (called grass tree or tree grass, ants, termites, sundew plants, scenery 7520

7521 AUSTRALIA: Queensland North Stradbroke Island, Point Lookout S 27.43669 E 153.54597 27-Sep-2002 C. R. Nelson # 7521 & J. K. Nelson & R. J. Lavigne & F. Geller-Grimm 39 GPS: PTLOOK. Mileage at town was 96 photos: scenery, sea turtles, sea eagle or osprey, Banksia plants. 7521

7522 AUSTRALIA: Queensland North Stradbroke Island, beach, 2 km W of Point Lookout S 27.42726 E 153.52838 27-Sep-2002 C. R. Nelson # 7522 & J. K. Nelson & R. J. Lavigne & F. Geller-Grimm 39 GPS: STR3BE (beach stop near Point Lookout. Mileage (km) at town was 96 at stop was 98, then return 1 km to yield 99 for next calculations. beach flies 7522

7523 AUSTRALIA: Queensland North Stradbroke Island, 5 km SW of Point Lookout S 27.43578 E 153.50046 27-Sep-2002 C. R. Nelson # 7523 & J. K. Nelson & R. J. Lavigne & F. Geller-Grimm 39 GPS: STR4. mileage (km) 102. Roadside with many ferns, saw dark winged ant lion. Therevidae, photos eucalyptus 7523

7524 AUSTRALIA: Queensland North Stradbroke Island, 8 km SW of Point Lookout S 27.43880 E 153.47601 27-Sep-2002 C. R. Nelson # 7524 & J. K. Nelson & R. J. Lavigne & F. Geller-Grimm 39 GPS: STR5. mileage (km) 105. blazing white sand, photos of Eucalyptus

and Banksia with Nikon 950. Therevidae, Bombyliidae, Bittacidae, Curculionidae, photos in apartment. 7524

7525 AUSTRALIA: Queensland North Stradbroke Island, 8 km E of Dunwich S 27.51031 E 153.46852 27-Sep-2002 C. R. Nelson # 7525 & J. K. Nelson & R. J. Lavigne & F. Geller-Grimm 39 GPS: STR6. mileage (km) Dunwich 18, site 26. Entrance of Blue Lake National Park ants 7525

7526 AUSTRALIA: Queensland North Stradbroke Island, beach, 12 km E of Dunwich S 27.52287 E 153.50024 27-Sep-2002 C. R. Nelson # 7526 & J. K. Nelson & R. J. Lavigne & F. Geller-Grimm 39 GPS: STR7BE (beach). mileage (km) Dunwich 18, site 30. photos: Mordellidae very large, Lycidae, Curculionidae, Buprestidae. Eastern Grey Kangaroos on the beach.

Asilinae female, Leptoceridae, 7526

7527 AUSTRALIA: Queensland Ravensbourne National Park, 40 km N of Toowomba S 27.36587 E 152.18207 28-Sep-2002 C. R. Nelson # 7527 & J. K. Nelson & J. Skevington & M. mathieson. 39 GPS: RAVEN, also Jeff's GPS: S 27 22 00 E 152 10 45. About 110 km W of Brisbane. Took train from Auchenflower (our neighborhood in Brisbane to Ipswich where Michael mathieson lives. he is a friend of Jeff Skevington. Cost of train was \$AU 4.10 about \$2.25 US. photos: long legged ants (Leptomyrmex sp., det C. R. Nelson 2002) with spider, Calypterates, Therevidae, "rainforest" many photos near a huge rotting log of red wood. Carabidae. Jeff caught 3-4 Pipunculidae. photos termites lauxaniidae 7527

7528 AUSTRALIA: Queensland Ravensbourne National Park, hill top viewing area, 40 km N of Toowomba S 27.37298 E 152.17798 28-Sep-2002 C. R. Nelson # 7528 & J. K. Nelson & J. Skevington & M. mathieson. 39 GPS: RAVSUM. about 100 km W of Brisbane photos scenery, distance 7528

7529 AUSTRALIA: Queensland Helidon Hills, 17 Mile Road, about 120 km W of Brisbane S 27.41522 E 152.20067 28-Sep-2002 C. R. Nelson # 7529 & J. K. Nelson & J. Skevington & M. mathieson. 39 GPS: 17MI photos: short legged skink, Anomalopusverroii. Saw small eyed snake, black and venomous. photos termite mound and scenry 7529

7530 AUSTRALIA: Queensland Brisbane, summit Mount Coot-tha S 27.48544 E 152.95421 29-Sep-2002 C. R. Nelson # 7530 & J. K. Nelson & Congress crowd 39 GPS: COOTHA. Photos: scenery photos: Tachinidae, Sarcophagidae, butterfly, Fulgoroidea (Eurybrachidae), Formicidae (bulldog?). photos: Chrysomelidae 2 spp. on Eucalyptus also galls on Eucalyptus. 7530

7531 AUSTRALIA: Queensland Brisbane Forest Park, Scrub Creek Road S 27.42809 E 152.83746 29-Sep-2002 C. R. Nelson # 7531 & J. K. Nelson & Congress crowd 39 GPS: used above: SCTRAP (taken on 3 Oct 2002) also SCRUB (top of trail near car) and SCCREE (dirt road crossing of creek) S 27.42778 E 152.84093. Those in attendance were: Mihaly Foldvary, Mark De Meyer, Jeff Skevington, Jeff Cummins, Robert Lavigne, Shaun Winterton, and us Nelsons. We set up 7 malaise traps on this date then emptied all and took down 6 on 3 Oct 2002, #7534, good catch. Megalyridae, photo: Lauxaniidae paired, people, pan traps. Asilinae female. photos: scorpion. 7531

7532 AUSTRALIA: Queensland Brisbane, University of Queensland 1-3 October 2002 C. R. Nelson # 7532 & J. K. Nelson & Congress crowd 39 fly found by Shaun Winterton on sidewalk. photos: Asilidae: Dolopus simulans, people. 7532

7533 AUSTRALIA: Queensland Brisbane, Australian Woolshed 01-Oct-2002 C. R. Nelson # 7533 & J. K. Nelson & Congress crowd 39 photos: people and kangaroos 7533

7534 AUSTRALIA: Queensland Brisbane Forest Park, Scrub Creek Road S 27.42809 E 152.83746 03-Oct-2002 C. R. Nelson # 7534 & J. K. Nelson & J. Skevington & S. Winterton. 39 Took down malaise traps of 29 Sep 2002, #7531. Emptied and amalgamated about 50 yellow pan traps.

GPS: SCCREE S 27.42778 E 152.84093 (creek at dirt road crossing) SCTRAP S 27.42809 E 152.83746, site near malaise traps where most of the photos were taken. photos: frog, Therevidae, Tachinidae, Salticidae, Asilidae, Acroceridae, Mayfly. 7534

7535 AUSTRALIA: Queensland Brisbane, Brisbane River, River Queen Dinner Cruise 03-Oct-2002 C. R. Nelson # 7535 & J. K. Nelson 39 Dinner at table with Mike Erwin, Road Macfarlane, Dianne & Wayne Mathis, Christine Lambkin & Noel, Grace & Monty Wood. photos: people 7535

7536 AUSTRALIA: Queensland Maiala National Park, Mount Glorious, Greenes Falls S 27.32298 152.76204 04-Oct-2002 C. R. Nelson # 7536 & J. K. Nelson & W. & D. Mathis & S. Winterton. 39 GPS: GRE & GRE2 (S 27.32270 E 152.76218) photos: Osmylidae larva, Eustheniidae stonefly nymph. Bibionidae, Mayflies 7536

7537 AUSTRALIA: airline flight: Australia to USA 5 & 6 Oct 2002 C. R. Nelson # 7537 & J. K. Nelson 39 Queensland Brisbane to New South Wales Sydney to New Zealand Auckland to California Los Angeles Central Valley, Southern Sierra Nevada, Death Valley, Nevada, Spring Mountains, Utah: West Desert, IPP near Delta, Jericho Dunes, Skull Valley Range, Oquirrh Mountains. 7537

7538 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 07-Oct-2002 C. R. Nelson # 7538 39 Simuliidae swarming in front yard. Put in 100% ethanol. 7538

7539 USA: UTAH: Utah Co., Provo, BYU 10-Oct-2002 C. R. Nelson # 7539 39 photos: Andrea with "burn" on arm caused by a millipede?
photos: Fall Social, Department of Integrative Biology 7539

7540 COSTA RICA: GUANACASTE Palo Verde National Park, mapache, Ojo, & La Roca Trails, 100 msl N 10.34541 W 85.33836(HQ) 15-Oct-2002 C. R. Nelson # 7540 Erika Deinert & OTS class 39 GPS: PALOHQ (used above, headquarters) ROCA N 10.34468 W 85.33044 (La Roca overlook) photos: spiny caterpillar, scenery, white faced capuchin monkeys 7540

7541 COSTA RICA: GUANACASTE Palo Verde National Park, trails near OTS station, 100 msl N 10.34541 W 85.33836(HQ) 16-Oct-2002 C. R. Nelson # 7541 Erika Deinert & OTS class 39 GPS: PALOHQ (used above, headquarters) mainly between Tower and Ojo waterhole. GPS: PALTOW (Marsh tower) N 10.34375 W 85.33977, PALTRP (trap at tree fall near junction main road and Roca Trail), N 10.34922 W 85.33131, PALWTR (Ojo waterhole, within 100 meters in forest gap at trails because of covered canopy of trees), N 10.35085 W 85.33058. ROCA (La Roca Overlook, N 10.34468 W 85.33044. 8:00 am set out 20 yellow pans each at Ojo waterhole, treefall near trail to La Roca, and at the Marsh at observation tower. also 1 malaise trap at treefall (emptied #7543). Yellow pans emptied after 24 hours, including a substantial afternoon rain, but they didn't overflow. 7541

7542 COSTA RICA: GUANACASTE Palo Verde National Park, trails near OTS station, 100 msl N 10.34541 W 85.33836(HQ) 17-Oct-2002 C. R. Nelson # 7542 Erika Deinert & OTS class 39 GPS: PALOHQ (used above, headquarters) mainly between Tower and Ojo waterhole. GPS: PALTOW (Marsh tower) N 10.34375 W 85.33977, PALTRP (trap at tree fall near junction main road and Roca Trail), N 10.34922 W 85.33131, PALWTR (Ojo waterhole, within 100 meters in forest gap at trails because of covered canopy of trees), N 10.35085 W 85.33058. ROCA (La Roca Overlook, N 10.34468 W 85.33044.

Retrieved pan traps, left malaise trap one more day. Photos: tarantula, Amblypygi, Reduviidae, Scarabaeidae: Melolonthinae and Scarabaeinae. photos: iguanas at station. photos: scenery from top of Cerro Calizo just above the station. See 7541 for coordinates 7542

7543 COSTA RICA: GUANACASTE Palo Verde National Park, trails near OTS station, 100 msl N 10.34541 W 85.33836(HQ) 18-Oct-2002 C. R. Nelson # 7543 39 GPS: PALOHQ

(used above, headquarters) mainly between Tower and Ojo waterhole. GPS: PALTOW (Marsh tower) N 10.34375 W 85.33977, PALTRP (trap at tree fall near junction main road and Roca Trail), N 10.34922 W 85.33131, PALWTR (Ojo waterhole, within 100 meters in forest gap at trails because of covered canopy of trees), N 10.35085 W 85.33058. ROCA (La Roca Overlook, N 10.34468 W 85.33044.

moved malaise trap from treefall to airstrip near tower, taken down after 1 day, just as I was leaving for San Jose. End day at Tower for sunset with Graham, Melissa, and Julio. Photos: Pentatomidae, Lycidae, Saxifragaceae, black vultures, caracara, scenery, from La Roca and trail. Photos: Macaws near Ojo, Ropalomeridae at airstrip, Formicidae, Pseudomyrmex on broad leaf plant, pseudomyrmex on acacia 7543

7544 COSTA RICA: GUANACASTE Palo Verde National Park, walk to Cerro Calizo N 10.34541 W 85.33836(HQ) 19-Oct-2002 C. R. Nelson # 7544 39 GPS: no coordinates taken, but it is very near OTS headquarters.

photos: scenery Photos: scenery, stingless bees (near Trigona) and monocots including perhaps a Bouteloua, and a red rosette plant attracting stingless bees. 7544

7545 COSTA RICA: GUANACASTE ride from Palo Verde National Park to Bagaces 19-Oct-2002 C. R. Nelson # 7545 39 no coordinates taken, need to approximate. Photos: scenery & rice & cows & canals 7545

7546 COSTA RICA: ALAJUELA Alajuela, 10 km W of airport, Carretera Interamericana, 800 msl N 09.98915 W 84.26281 19-Oct-2002 C. R. Nelson # 7546 39 bus had a flat tire. These were the only Asilidae I collected on this Costa Rica trip. They were on a vertical concrete power pole during a rainstorm. photos: Asilidae: Atomosia or near 7546

7547 COSTA RICA: HEREDIA Santo Domingo de Heredia, Instituto Nacional de Biodiversidad 20-Oct-2002 C. R. Nelson # 7547 39 bus had a flat tire. These were the only Asilidae I collected on this Costa Rica trip. They were on a vertical concrete power pole during a rainstorm. photos of museum specimens of dead Asilidae, lateral views of each genus in collection. Numbers are barcodes for specimens:

Eurhabdus INB0003029040

Leptogaster sp A INBIOCRI 001 912560

Psilonyx INB0003305466

Acronyches INBIOCRI 000 379031

Archilestris excellens INBIOCRI 001 830152

Dicranis INB 0003330080

Holopogon INBIOCRI 001 108621

Ospricerus INBIOCRI 001 907576

Plesiomma INBIOCRI 001 893218
Proleipsis black red INBIOCRI 001 893216
Proleipsis yellow INBIOCRI 002 400358
Stenopogon INBIOCRI 002 238560
Lissoteles INBIOCRI 002 578389
Stichopogon (no Heteropogon!) INB 0003165777
Heteropogon INBIOCRI 001 840912
Holcocephala sp 1 INBIOCRI 000 248025
Orrhodops INBIOCRI 002 572685
AphaMartania INBIOCRI 001 319146
Blepharepium annulatum INBIOCRI 001 970376 2shots
Cophura INBIOCRI 001 194797
Diogmites INBIOCRI 000 423004
Lastaurus INBIOCRI 000 309064
Taracticus INBIOCRI 001 402501
Pseudorus INBIOCRI 001 984119
Senobasis INBIOCRI 000 696195
Hoplistomerus INBIOCRI 955730
Laphystia INBIOCRI 002 324502
Psilocurus INBIOCRI 002 566815
Lampria INB 0003040205
Rhopalogaster INBIOCRI 000 706728
Smeringolaphria numitor INBIOCRI 001 177264 2shots
Andrenosoma xanthocnemum INBIOCRI 001 700915
Dasyllis INB 0003126619
Pilica formidolosa INBIOCRI 001 295692
Aphestia INBIOCRI 002 000320
Atomosia INBIOCRI 000 7100144
Atoniomyia INBIOCRI 002 001384
Atractia INBIOCRI 001 108561
Bathropsis INBIOCRI 001 390084 3 shots
Cerotainia ornatipes INBIOCARI 001 347700
Eumecosoma INB 0003114781
Oidardis INBIOCRI 001 937320
Dissmeryngodes INBIOCRI 002 337892
Protochisma INBIOCRI 001 789375
Ommatius humatus 001 791449
Ambylonychus INBIOCRI 002 414919

Ctenodontina INBIOCRI 001 725936
Eccritosisia INBIOCRI 000 387671
Efferia sp 2 INB 0003115417
Eicherax INBIOCRI 001 203335
Glaphropyga dryas INBIOCFRI 000 253579
Stenasilus INBIOCRI 000 8599899
Mallophora INBIOCRI 001 777612
Mallophora another like Eccritosisia Lastaurus INBIOCRI 001 158300
Proctacanthus orange T INBIOCRI 001 152546
Proctacanthus dark AT INB 0003327480
Promachus INBIOCRI 001 387189
Triorla interrupta INBIOCRI 001 725750
Wilcoxius INBIOCRI 000 431036
Anormostus iopterus INBIOCRI 000 194261
Machimus INBIOCRI 002 392727 2 shots
Philonicus INB 0003016044
Polacantha INBIOCRI 000 223358
Catostola INBIOCRI 000 062067
Genus C, not in key INBIOCRI 001 986020
Martintella sp 1 INBIOCRI 001 393068 2 shots 7547

7548 COSTA RICA: HEREDIA Costa Rica to Dallas, Texas to Salt Lake City, Utah. 21-Oct-2002 C. R. Nelson # 7548 39 No photos. Started travel day at 6:00 am. I expect to end it at home at about 10:30 pm. none 7548

7549 USA: UTAH: Utah Co., Utah to Texas airline flight 03-Nov-2002 C. R. Nelson # 7549 40 photos: photos from commercial airline, photos Utah mountains, Arizona, San Francisco Peak. 7549

7550 USA: TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, 170 m, 05-Nov-2002 C. R. Nelson # 7550 & A. W. Hook 40 photos: Largidae and Alydidae on Verbesina encelioides. Vespidae: Polistes exclamans

specimens: Reduviidae, Eumesinae and spiders: Theridiidae, Argyrodes. 7550

7551 USA: TEXAS: photos from commercial airliner 06-Nov-2002 C. R. Nelson # 7551 40 photos from commercial airliner: Lake Travis, Monahans Dunes, Guadalupe Mountains, Chiricahua Mountains, mines near Phoenix, San Francisco Peak, Utah: Cockscomb, Cottonwood Wash, Mollies Nipple. 7551

7552 USA: UTAH: Utah Co., North Fork, tributary of Provo River at Timp Lodge above Sundance Ski Area N 40.39023 W 111.58547 18-Nov-2002 C. R. Nelson # 7552 & Nick Wiersema 40 flatworm, Baetidae, Zapada, beetle 7552

7553 USA: UTAH: Utah Co., South Fork Springs, South Fork Park, 1.5 mi S of Vivian Park & Provo Canyon Hwy 189 N 40.39844 W 111.55090 18-Nov-2002 C. R. Nelson # 7553 & Nick Wiersema 40 SFKSP of #7383 photos in lab:
snails: Gyraulus and small spired (new zealand mud snail.

Agabus larvae 7553

7554 USA: UTAH: Cache Co. Logan, USU, USDA Bee Lab 21-Nov-2002 C. R. Nelson # 7554 & Nick Wiersema 40 planning meeting for Colorado Plateau Insect Survey. Terry Griswold, Tim Graham, Riley Nelson, and Frank Parker. Also James Pitts, Mutillidae, james.p@gte.net

mentioned a rock climber at Mesa State named Lee Dyer. Also Marius Wasbauer would probably identify Pompilidae if asked. 7554

7555 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 28-Nov-2002 C. R. Nelson # 7555 40 Photos: Thanksgiving Dinner Party, Maegan Parker took many of the photos. 7555

7556 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95623 W 111.26763 29-30 November 2002 C. R. Nelson # 7556 40 Photos: Paul Aston installing sign. Gate hardware. 7556

7557 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 14-Dec-2002 C. R. Nelson # 7557 40 photos: front room, Christmas Tree, and sunrise 7557

7558 USA: UTAH: Utah Co., Provo, BYU, Sky Room 19-Dec-2002 C. R. Nelson # 7558 40 photos: people at Christmas Party of the Department of Integrative Biology 7558

7560 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 26-Dec-2002 C. R. Nelson # 7560 40 shower drain: photos: Psychodidae: Psychoda larvae and pupae. 7560

7561 USA: ARIZONA: Mohave Co. Virgin River Gorge Campground, I-15 highway N 36.95063 W 113.79770 04-Jan-2003 C. R. Nelson # 7561 & Paul Evans & Dennis Shiozawa 40 near sundown

GPS as VIRG photos: Baetidae, 2 kinds; Taeniopterygidae, Taenionema ; Heteroceridae.
7561

7562 USA: ARIZONA: Mohave Co. Beaver Dam Mountains from I - 15, 2 mi N of Littlefield N 36.9 W 113.9 04-Jan-2003 C. R. Nelson# 7562 & Paul Evans & Dennis Shiozawa 40 photos: setting sun's light on the mountains. coordinates estimated from map. 7562

7563 USA: ARIZONA: Mohave Co. Beaver Dam Slope, Hwy 91?, 5 mi W of Littlefield 06-Jan-2003 C. R. Nelson# 7563 & Paul Evans 40 photos: sunset on the Mohave Desert 7563

7564 USA: NEVADA: Clark Co. Mesquite, Oasis Hotel 07-Jan-2003 C. R. Nelson# 7564 & Paul Evans 40 photos: people at the Inaugural Meeting of the International Biogeography Society 7564

7565 USA: UTAH: Utah Co., Provo, BYU lab 10-Jan-2003 C. R. Nelson# 7565 40 from BYU aquarium photos: fish, mostly bonytaquil chub hatchery stock.
Gila elegans, bonytail chub; but also
Gila seminuda, virgin river roundtail, spots and more stocky. 7565

7566 USA: UTAH: Utah Co., Provo, BYU lab 14-Jan-2003 C. R. Nelson# 7566 40 photos: dead, pinned insects for orders key of CD 7566

7567 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95623 W 111.26763 20-Jan-2003 C. R. Nelson# 7567 & family, J. K., A. J., A. L. Nelson and Sherry Dickinson and Sarah Campbell. 40 photos: Duck hunting painting, Brigham City?
photos: people and snowmobiles.
PORCH: GPS, N39.95625 W111.26797, 6080 feet. 7567

7568 USA: UTAH: Utah Co., Payson Canyon, Camp mapledell N 39.96836 W 111.69605, 20-Jan-2003 C. R. Nelson# 7568 John Bennion, Chris Bennion (age 9), David Naylor, Andrew Naylor, Tyler Barlow, and Jordan Gibson. 40 photos: scouts. GPS: mapNEZ: Nez Perce camp.
6085 feet elev. 7568

7569 USA: UTAH: Utah Co., Provo, Edgemont, East Lawn Cemetery N 40.29343 W 111.64922 08-Feb-2003 C. R. Nelson# 7569 40 photos: sunset around me. Mount Timpanogos, Mount Nebo, West Mountain, Provo 7569

7570 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 10-Feb-2003 C. R. Nelson# 7570 40 photos: sunrise 7570

7571 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95623 W 111.26763 01-Mar-2003 C. R. Nelson# 7571 John & Chris Bennion, Andrew & David

Naylor, Jordan Gibson, Sam Fernstedt, Kent Farley, Chase Morgan, Micah Hintze, and Reid Kuttler. 40 photos: sledding and breakfast with scouts. 7571

7572 USA: UTAH: Utah Co., Provo, Mount Timpanogos 03-Mar-2003 C. R. Nelson# 7572
40 photos: Mount Timpanogos and Squaw Peak at sunset 7572

7573 USA: UTAH: Utah Co., South Fork American Fork River, Mutual Dell, Hwy 92, N
40.44806 W 111.64488 08-Mar-2003 C. R. Nelson# 7573 & J. R. & G. D. Ayala 40 photos:
scenery, people.

GPS: AFMUT photos: *Capnia nana* m & f, 21 m 42 f 1 ny;
Zapada cinctipes, 1m 3f then 4m 4f;
Collembola, Entomobryidae?; snow crawling beetles; Ephrydriidae; Miridae, Lygus like;
Saldidae; Dixidae, larva; Chironomidae, Diamesinae. 7573

7574 USA: UTAH: Utah Co., American Fork River, Little Mill Campground, Hwy 92, N
40.44806 W 111.68195 08-Mar-2003 C. R. Nelson# 7574 & J. R. & G. D. Ayala 40 photos:
scenery, people.

GPS: AFMILL photos: *Zapada cinctipes* 12 m 11 f; *Utacapnia* NO!! *Capnia gracilaria* 3 f;
Baetidae subimago; Chironomidae: Diamesinae.
Chironomidae other, *Utacapnia logana* (no photo, despite this being the goal...), *Skwala*
americana, *Rhithrogena* nymph, snow crawling beetle larvae, Tephritidae, *Capnia nana* 3
m, Dolichopodidae, Parapsyche larva. 7574

7575 USA: UTAH: Utah Co., South Fork American Fork River, jct North Fork American Fork
River, Hwy 92, N 40.45378 W 111.66192 14-Mar-2003 C. R. Nelson# 7575 & P. S. Cranston
& R. W. Baumann & S. M. Clark. 40 cold, sleety rain

GPS: AFJCT *Zapada cinctipes* 7575

7576 USA: UTAH: Utah Co., American Fork River, first bridge at mouth of canyon, Hwy 92, N
40.4331 W 111.7466 14-Mar-2003 C. R. Nelson# 7576 & P. S. Cranston & R. W. Baumann
& S. M. Clark. 40 rain ended, but locked keys in car

GPS: no, coordinates taken from map at topozone.com photos: *Doddsia occidentalis*,
termites: Rhinotermitidae, *Reticulitermes hesperus* workers and soldiers, Mycetophilidae
Mycetophila sp. 7576

7577 USA: UTAH: Utah Co., Springville, Evergreen Cemetery then Stake Center at 245 S 600
E 17-Mar-2003 C. R. Nelson# 7577 & family 40 photos: people, funeral of Stacie Mae
Gray Allan, died 13 March 2003. 7577

7578 USA: UTAH: Utah Co., Provo, BYU, Marriott Center 18-Mar-2003 C. R. Nelson# 7578 & Kaye & Andrea & Sanaa Enkhtaivan. 40 Devotional: for Gordon B. Hinckley. Released 1 May, President Merrill Bateman; set in: Cecil Samuelson.

Bateman: pioneers in Beijing, BYU one heart one mind, no intellectually poor among us. Samuelson, straight forward. Eyring, faculty of faith. Hinckley: the king is dead, long live the king. university family, war: protection and gratitude. thank Bateman. greet Samuelson, he has a twinkle in his eye. 7578

7579 USA: UTAH: Utah Co., Diamond Fork River, 6 mi N of Hwy 6/50 N 40.07932 W 111.40248 22-Mar-2003 C. R. Nelson# 7579 & Sanaa Enkhtaivan, J. R. Ayala, Nick Breig, & Hatch family. 40 GPS: DIA1, 5333 ft. elevation Diamesinae abundant, Isogenoides zionensis, Pteronarcella badia abundant, Isoperla fulva, Chloroperlidae, photo: Tabanidae larva. 7579

7580 USA: UTAH: Utah Co., Diamond Fork River, 1 mi N of Hwy 6/50 N 40.03370 W 111.49669 22-Mar-2003 C. R. Nelson# 7580 & Sanaa Enkhtaivan, J. R. Ayala, Nick Breig, & Hatch family 40 GPS: DIA2
5000 feet elevation. photos: Claassenia sabulosa nymph, Glossosomatidae larvae, Baetidae subimago.
also Empididae 7580

7581 USA: UTAH: Utah Co., Clear Creek, Tucker Rest Area, Hwy 6/50, 16 mi E of manti turnoff N 39.93542 W 111.19933 22-Mar-2003 C. R. Nelson# 7581 & Sanaa Enkhtaivan, J. R. Ayala, Nick Breig. 40 GPS: TUCKER
6200 feet elevation. Zapada cinctipes, Capnia confusa?, Isogenoides zionensis, Empididae. 7581

7582 USA: UTAH: Utah Co., Provo River, 1 mi E of Nunns Park, Hwy 189, 5200 ft. elev. N 40.34765 W 111.59155 25-Mar-2003 C. R. Nelson# 7582 & Sanaa Enkhtaivan. 40 GPS: PROFAL Baetidae adults, Zapada adults, saw Isoperla fulva nymphs, saw Isopoda; No Pteronarcys! 7582

7583 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.6 mi S of Vivian Park, Provo River, and Hwy 189, 5400 ft. elev. N 40.34767 W 111.54772 25-Mar-2003 C. R. Nelson# 7583 & Sanaa Enkhtaivan. 40 GPS: SOFKPK
Good collecting. adults: Zapada cinctipes, Prostoia besametsa, Skwala americana, Taenionema pallidum, Dixidae.
wet: Drunella doddsi and photos: Sweltsa, Cinygmula, Optioservus. 7583

7584 USA: UTAH: Utah Co., Little North Fork Creek at Timp Lodge above Sundance Ski Area, 6200 ft. elev. N 40.38936 W 111.58669 25-Mar-2003 C. R. Nelson# 7584 & Sanaa

Enkhtaivan. 40 GPS: NOFK

Good collecting. adults: *Zapada cinctipes*, *Capnia nana*, *Capnia gracilaria*?, *Drunella doddsi* nymphs, *Megarcys signata* nymphs, snow crawling beetle 7584

7585 USA: UTAH: Utah Co., Provo River, Nunns Park, Hwy 189, 5000 ft. elev. N 40.33765 W 111.61174 25-Mar-2003 C. R. Nelson# 7585 & Sanaa Enkhtaivan. 40 GPS: NUNN
Pteronarcyidae nymphs; photo: in lab: Athericidae, Atherix larva 7585

7586 USA: UTAH: Wasatch Co. Mount Timpanogos, Deer Creek Reservoir, Hwy 189 29-Mar-2003 C. R. Nelson# 7586 & Sanaa Enkhtaivan. 40 photos: Mount Timpanogos and lake. 7586

7587 USA: UTAH: Summit Co. Utah Olympic Park, Snyderville 29-Mar-2003 C. R. Nelson# 7587 & Sanaa Enkhtaivan. 40 photos: Sanaa and ski jumps 7587

7588 USA: UTAH: Salt Lake Co. Great Salt Lake, Great Salt Lake Marina, 1 mi W of Saltair N 40.73450 W 112.21010 29-Mar-2003 C. R. Nelson# 7588 & Sanaa Enkhtaivan. 40 photos: Sanaa, scenery

GPS: GSLMar (Great Salt Lake Marina) Photos: Saldidae, brine shrimp eggs 7588

7589 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 (Provo, home) 13-Apr-2003 C. R. Nelson# 7589 40 Scolytidae; Scatopsidae; Anisopodidae. 7589

7590 USA: UTAH: Utah Co., Warm Springs, Goshen Ponds N 39.95950 W 111.85558 16-Apr-2003 C. R. Nelson# 7590 & Wayne mathis & Tadeusz Zatwarnicki. 40 Wayne and Tadeusz caught a good variety of shore flies, Ephydriidae.

Later I took Wayne and Tadeusz photos in Santaquin.

Met Jim Wells at gate: jimwells@utah.gov; He is a Geological Engineer, Dam safety person, 801-538-7374 Ephydriidae; Sepsidae; Hydroptilidae; snails, gastropoda: Cipanopaludina chinensis. 7590

7591 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95623 W 111.26763 (Wheeler sawmill) 19-Apr-2003 C. R. Nelson# 7591 & scouts 40 leaders: C. R. Nelson, Michael Hunter; boys: Justin and Tyler Barlow. Later Paul & Kayleen Ashton came by for an Easter party with their kids fossils in Green River Formation: crocodile teeth, turtle shell 7591

7592 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95623 W 111.26763 (Wheeler sawmill) 20-Apr-2003 C. R. Nelson# 7592 & family 40 photos: people; C. R. Nelson, Kaye Nelson, Jason Nelson, Andrea Nelson, Amy Nelson, Sherry Wheeler, Jan Gray, McKade Gray caught sagebrush lizards, Dell Mead, Stephnie Mead,

Sabryna Mead, and Mychigan Mead. fossils in Green River Formation: bone and teeth.
7592

7593 USA: UTAH: Utah Co., Pleasant Grove City 23-Apr-2003 C. R. Nelson# 7593 40 C. R. Nelson was not present during capture. It pupated a couple days after being brought into the lab. Pupa died before emergence. I made a movie of Andrea Cooper and her mother Catherine brought in a blue maggot that jumped. It was found in a tanning salon: Maui Tan, 981 W State Road, Suite 140, Pleasant Grove, Utah. It is a Calypterate fly larva that curls in a vertical C with tail and head on the substrate, then pops straight, flying up to two feet in the air. I photographed it both as still and video. Piophilidae? 7593

7594 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Lower Calf Creek Falls Trail and campground, N 37.79902°W 111.41104°; elev. 5344 feet, 07-May-2003 C. R. Nelson# 7594 & J. E. Lee & A. J. Nelson. 40 Started using a new GPS: Garmin GPSmap 76S: CALF TRAP. Set up malaise trap over stream, 12 pitfall traps (16 oz. Solo cups) and 12 yellow pans. Talked with USU Bee folks: Harold Ikerd, Cory Davidson, and Stacey Higbee. Also CALFCAMP N 37.79332 W 111.41478 elev. 5342 feet. traps 7594

7595 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Burning Coal Seam, top of Kellys Grade off Smoky Mountain Road on Road 332 N 37.21418 W 111.45100 , elev. 5543 feet, 08-May-2003 C. R. Nelson# 7595 & J. E. Lee & A. J. Nelson. 40 Photos of burning coal in hole and scenery. BURNCOL: N 37.21418 W 111.45100 , elev. 5543 feet, 7595

7596 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Smoky Mountain Road badlands between Big Water and Kelly Grade, 08-May-2003 C. R. Nelson# 7596 & J. E. Lee & A. J. Nelson. 40 Photos of scenery 7596

7597 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Whitehouse Campground, 2 mi S of Paria Contact Station and Hwy 89 N 37.07993 W 111.88991 , elev. 4309 feet, 09-May-2003 C. R. Nelson# 7597 & J. E. Lee & A. J. Nelson. 40 Photos of scenery & plants in morning, top of white rocks: WHITEMORN: N 37.08099 W 111.88905 , elev. 4463 feet.

WHITEHO (coord).

Talked with BLM ranger, Mike Salamacha. Photos: Efferia "deserti" m, f, with prey; Efferia sp. females in pogonias group, no males; Asilidae small brown; bees on purple "Aster" or "Machaeranthera"; Tipulidae, Eremotipula?; photos Raphidiidae: Agulla sp. f, snakefly; Scarabaeidae, medium, dark brown; photos: fly larvae on dead lizard, Cnemidophorus, kept larvae alive to rear; Syrphidae: Epistrophe? common and Didea?. 7597

7598 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Whitehouse Springs, first canyon SW of Whitehouse Campground, 2 mi S of Paria Contact Station and Hwy 89 N 37.07419 W 111.89358 , elev. 4275 feet, 09-May-2003 C. R. Nelson# 7598 & J. E. Lee & A. J. Nelson. 40 WHITESPR photos: side blotched lizard, *Uta stansburiana* (with Andrea) and Desert Spiny lizard, *Sceloporus magister*. 7598

7599 USA: UTAH: Garfield Co. Boulder Mountain, 0.5 mi S of Pleasant Creek Campground N 38.09500 W 111.34442 , elev. 8737 feet 09-May-2003 C. R. Nelson# 7599 & J. E. Lee & A. J. Nelson. 40 PLEAS.

photos: Henry Mountains framed by fir or spruce. 7599

7600 USA: UTAH: Garfield Co. Boulder Mountain, Larb Hollow, Hwy 12 N 38.13228 W 111.32595 8739 feet 09-May-2003 C. R. Nelson# 7600 & J. E. Lee & A. J. Nelson. 40 LARB2. photos: Henry Mountains and Capitol Reef National Park 7600

7601 USA: UTAH: Tooele Co. Dugway Proving Grounds, East Dugway Dunes N 40.19703 W 112.86116 , elev. 4505 feet 14-May-2003 C. R. Nelson# 7601 & Robert Johnson, Shawn Clark, Julie Guptill, Steve Plunkett. Met Terry Griswold and Joe Wilson. 40 EDUG Tachinidae, Syrphidae, moths, butterflies, Raphidioptera, Sphecidae, including a *Podalonia*? with caterpillar, Noctuidae? 7601

7602 USA: UTAH: Tooele Co. Dugway Proving Grounds, Ditto Dunes N 40.17055 W 112.92603 , elev. 4287 feet 14-May-2003 C. R. Nelson# 7602 & Robert Johnson, Shawn Clark, Julie Guptill, Steve Plunkett. 40 DITTO Therevidae, Syrphidae, Dolichopodidae, Asilidae, and Buprestidae 7602

7603 USA: UTAH: Tooele Co. Dugway Proving Grounds, Cherait Dunes N 40.27384 W 113.04900, elev. 4332 feet 14-May-2003 C. R. Nelson# 7603 & Robert Johnson, Shawn Clark, Julie Guptill, Steve Plunkett. 40 CHERAIT small flies, saw horned lizard, Syrphidae, Melyridae. 7603

7604 USA: UTAH: Tooele Co. Dugway Proving Grounds, North Wig Dunes N 40.36383 W 113.08692, elev. 4275 feet 14-May-2003 C. R. Nelson# 7604 & Robert Johnson, Shawn Clark, Julie Guptill, Steve Plunkett. 40 NWIG photos: Chrysomelidae, *Trirhabda* larva on *Chrysothamnus viscidiflora*. photos: galls on *Atriplex canescens*. Reared out Tephritidae and one parasitic wasp. 7604

7605 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 elev. 4900 feet (Provo, home) 17-May-2003 C. R. Nelson# 7605 40 photos: domestic roses with: Aphididae; Syrphidae, larvae & adults, two genera; Coccinellidae adults, 3 spp.; Chamaemyiidae adult; Ichneumonidae. 7605

7606 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95623°W 111.26763°E elev. 6000 feet (Wheeler sawmill) 18-May-2003 C. R. Nelson# 7606 & family 40 Water tanks are at 6000 feet, taken from map. dead kestrel in house. 7606

7607 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E elev. 4900 feet (Provo, home) 20-May-2003 C. R. Nelson# 7607 40 photos: snail on window with Stella the cat in the background 7607

7608 USA: UTAH: Utah Co., American Fork Canyon, Hwy 92, Timpanogos Cave National Monument, trail to the cave N 40.44 W 111.70 elev. 5600 - 6700 feet 20-May-2003 C. R. Nelson# 7608 & Shawn Clark, Thayne Grover, Julie Guptill, Andrew Olsen, Grant Stucki, Adam Frischknecht. 40 TIMPVC (visitors center, trailhead): N 40.44368 W 111.70558 elev 5622 feet; TIMPENT (entrance to Hansens Cave): N 40.43765 W 111.71175 elev. 6696 feet. photos: people, scenery, rubber boa: *Charina bottae*. 7608

7609 USA: UTAH: Utah Co., American Fork Canyon, Hwy 92, Timpanogos Cave National Monument, Timpanogos Cave N 40.43765 W 111.71175 elev. 6696 feet 20-May-2003 C. R. Nelson# 7609 & Shawn Clark, Thayne Grover, Julie Guptill, Andrew Olsen, Grant Stucki, Adam Frischknecht. Led by Cami Pulham of the resource management staff. 40 TIMPENT (entrance to Hansens Cave): N 40.43765 W 111.71175 elev. 6696 feet. photos: cave formations, camel cricket, people, Chilopoda centipede. Caught: Gryllacrididae: camel cricket; Collembola, spiders, insect? dead on rock? (back in lab determined to be a chelate chelicera of perhaps an Opilionida). Saw insect imbedded in rock; set up traps: pitfall, newspaper unbaited, newspaper banana baited; funnel traps banana baited. 7609

7610 USA: UTAH: Utah Co., American Fork Canyon, Hwy 92, Timpanogos Cave National Monument, Furnace Cave N 40.43765 W 111.71175 elev. 6696 feet 20-May-2003 C. R. Nelson# 7610 & Shawn Clark, Thayne Grover, Julie Guptill, Andrew Olsen, Grant Stucki, Adam Frischknecht. Led by Cami Pulham of the resource management staff. 40 set up malaise trap over packrat midden.

same location: TIMPENT (entrance to Hansens Cave): N 40.43765 W 111.71175 elev. 6696 feet. packrat midden 7610

7611 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E elev. 4900 feet (Provo, home) 20-May-2003 C. R. Nelson# 7611 40 photos: spiders: Salticidae, Ephippidipus audax? and Clubionidae? 7611

7612 USA: IDAHO: Kootenai Co. Lake Pend Oreille, Echo Bay 47 57 09 N 116 30 49 W 06-May-2003 photos by C. R. Nelson# 7612 collectors: L. Pearse and M. Maiolie #52-03 40 brought by Megan Porter photos: shrimp, Mysis relicta. Photographed by CRN on 21 May or so. CRN not present when collected. 7612

7613 USA: UTAH: Utah Co., American Fork Canyon, Hwy 92, lower canyon below Timpanogos Cave National Monument. to become Site 1. 22-May-2003 C. R. Nelson# 7613 Adam Frischknect, Julie Guptill, Thayne Grover, and Grant Stucki. 40 get coordinates from Adam. Ichneumonidae 7613

7614 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, N 40.44755 W 111.68308, 1818 m, 22-May-2003 C. R. Nelson# 7614 Adam Frischknect, Julie Guptill, Thayne Grover, and Grant Stucki. 40 HANG Set 4 lingren funnels with clean alcohol; Set 15 pitfall traps with salt water and sunscreen instead of soap on dandelion: Megachilidae, Apidae, Syrphidae; Calliphoridae, several species. 7614

7615 USA: UTAH: Utah Co., American Fork Canyon, Hwy 92, South Fork American Fork River, 0.2 mi S of jct North Fork, Site 3 N 40.45191 W 111.65742 elev. 1865 m 22-May-2003 C. R. Nelson# 7615 Adam Frischknect, Julie Guptill, Thayne Grover, and Grant Stucki. 40 SFKJCT

Set 4 lingren funnels with clean alcohol; Set 15 pitfall traps with salt water and some ethylene glycol instead of soap photos: site, people, Odiniidae, and Lauxaniidae. Nemouridae, Halictidae, Syrphidae. 7615

7616 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Road at Bear Canyon 22-May-2003 C. R. Nelson# 7616 Adam Frischknect, Julie Guptill, Thayne Grover, and Grant Stucki. 40 ask Adam for coordinates! Megachilidae: Osmia; Syrphidae: 2 species; Anthomyiidae; Symphyta; beetle; photos: Asilidae: Eucyrtopogon nebulosus. 7616

7617 USA: UTAH: Utah Co., Mount Timpanogos, Julie Andrew Meadow at head of Bear Canyon N 40.43277 W 111.66021 elev. 2539 m 22-May-2003 C. R. Nelson# 7617 Adam Frischknect, Julie Guptill, Thayne Grover, and Grant Stucki. 40 JULAND set up malaise trap in forest at: JULTRAP: N 40.43618 W 111.66039 elev. 2530 m. Syrphidae: 2 species, one black; Anthomyiidae; Halictidae? 7617

7618 USA: UTAH: Garfield Co. Boulder Mountain, 0.5 mi N, the S of Wildcat Ranger Station. N 38.11752 W 111.32709 elev. 2668 m 26-May-2003 C. R. Nelson# 7618 & S. M. Clark. 40 BOULVIEW; also BOUL2: N 38.09651 W 111.34245 elev. 2658 m. Carabidae; photos: aspen & conifer hillside. Buprestidae on dandelion. 7618

7619 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Hole in the Rock Road, Sunset Flat, 1 mi SE of Egypt Road Jct. N 37.53399 W 111.34731 elev. 1637 m. 26-May-2003 C. R. Nelson# 7619 & S. M. Clark, J. E. Lee, & A. J. Nelson. 40 coordinate code not written in notes, check GPS. photos: flowers & 50 Mile Mountain, people. Bombyliidae, Sphecidae, sweepings on white composite. 7619

7620 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Hole in the Rock Road, Dry Fork Trail to Peek a Boo Canyon N 37.47676 W 111.22013 elev. 1512 m 26-May-2003 C. R. Nelson# 7620 & S. M. Clark, J. E. Lee, & A. J. Nelson. 40 DRYPARK (parking lot, not in canyon) photos: scenery & people. Miridae: Coquillettia on green ephedra; Asilidae: 3 species, Holopogon, many some in 95% ethanol; Stichopogon fragilis?; Efferia m & f. 7620

7621 USA: UTAH: Garfield Co. Escalante, in Prospector Cafe 26-May-2003 C. R. Nelson# 7621 & S. M. Clark, J. E. Lee, & A. J. Nelson. 40 Raphidiidae, snakefly, Agulla sp. 7621

7622 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Calf Creek, Calf Creek Campground N 37.79387 W 111.41515 elev. 1632 m 26-May-2003 C. R. Nelson# 7622 & S. M. Clark, J. E. Lee, & A. J. Nelson. 40 CALFHOUSE (at trailer house) Tipulidae, Reduviidae, Ichneumonidae, Scorpions: caught small, saw 2 large Hadrurus. 7622

7623 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Upper Calf Creek Falls Trail N 37.855000 W 111.451944 elev. 6400 feet 27-May-2003 C. R. Nelson# 7623 & S. M. Clark, J. E. Lee, & A. J. Nelson. 40 coordinate code not written in notes Efferia benedicti, Stenopogon inquinatus, Chrysopidae: tan; photos: Buprestidae: Buprestis, Chal...?, spotted; orange bee 7623

7624 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Upper Calf Creek Falls N 37.8551 W 111.4513 elev. 5820 feet 27-May-2003 C. R. Nelson# 7624 & S. M. Clark, J. E. Lee, & A. J. Nelson. 40 coordinates from old record by me. photos: scenery, Tipulidae. Psychodidae; Heptageniidae adult. 7624

7625 USA: UTAH: Garfield Co. Dixie National Forest, Canaan Peak, loop trail start and end at Pole Springs N 37.62742 W 111.80174 elev 2577 m 27-May-2003 C. R. Nelson# 7625 & S. M. Clark, J. E. Lee, & A. J. Nelson. 40 CANTRK (truck at Pole Springs, given above); end CANTRK2 N 37.62743 W 111.80193 elev. 2596 m; CANLIZ (photo of horned lizard) N 37.61922 W 111.80679 elev. 2712 m; CANEDGE (photos into Grand Staircase, first good views from edge) N 37.60723 W 111.80085 elev. 2724. photos: horned lizard; Anthophoridae on Ribes; Syrphidae; Geometridae, large! photos: scenery into Grand Staircase. 7625

7626 USA: UTAH: Garfield Co. Dixie National Forest, Canaan Mountain Road, Winter Spring N 37.62157 W 111.78625 elev. 2562 m 28-May-2003 C. R. Nelson# 7626 & S. M. Clark, J. E. Lee, & A. J. Nelson. 40 stock tank and muddy trickle in fir forest. CANWINSR Haliplidae, 2 species; Odonata, larvae; Callibaetis; Rhagionidae: Symphoromyia; Aeshnidae nymph; Tabanidae larva. 7626

7627 USA: UTAH: Garfield Co. Dixie National Forest, Red Canyon Visitors Center N 37.74586 W 112.31916 elev. 2242 m. 28-May-2003 C. R. Nelson# 7627 & S. M. Clark, J. E. Lee, & A. J. Nelson. 40 REDVC; email Andrea coordinates! cicada 7627

7628 USA: UTAH: Kane Co., East Fork Virgin River between Monument Hollow and 1 mi E of Mineral Gulch N 37.19305 W 112.72044 elev. 1523 m. 28-29 May 2003 C. R. Nelson# 7628 & S. M. Clark, J. E. Lee, & A. J. Nelson. 40 start at truck in Monument Hollow: EFKTRUCK continue down canyon to end of road: EFKENDROAD: N 37.18029 W 112.75475 elev. 1483 m (photos, including the Blepharida); EFKSNAKE N 37.17784 W 112.76501 elev. 1500 m. (photos of rattlesnake). Cicindela, several species; Tipulidae; Tenthredinidae; swept flies; Asilidae, Ablautus; Scarabaeidae, Hoplia; photos: Tabanidae, Tabanus punctifer? female laying eggs on sedge near stream. photos: rattlesnake, Crotalus viridis; photos: Chrysomelidae: Blepharida rhois on squawbush, Rhus trilobata; Libellula saturata, Libellula species 2. 7628

7629 USA: UTAH: Kane Co., East Fork Virgin River ,1 mi E of Mineral Gulch N 37.17873 W 112.76908 elev. 1485 m. 28-29 May 2003 C. R. Nelson# 7629 & S. M. Clark, J. E. Lee, & A. J. Nelson. 40 EFCAMP; EFKMORN (camp in morning of 29 May 2003) N 37.17876 W 112.76910 elev. 1450 m.; EFKTRAP (malaise trap) N 37.17827 W 112.77103 elev. 1495 m. ran malaise trap 1 night; ran 2 UV lights, huge numbers of Noctuidae moths, probably the one that had so many caterpillars reported earlier in the year by Dennis Pope and Harry Barber. photos: canyon tree frog, Hyla arenicolor; photos: Corydalidae: Corydalus cognatus; photos: Lycosidae mother with young. Photos: Baetidae, three tails, Fallceon? quilleri
Saw yellow Saturniidae, Polyphemus?, monarch, queen, Noctuidae: Catocala. 7629

7629 USA: UTAH: Kane Co., East Fork Virgin River ,1 mi E of Mineral Gulch N 37.17873 W 112.76908 elev. 1485 m. 28-29 May 2003 C. R. Nelson# 7629 & S. M. Clark, J. E. Lee, & A. J. Nelson. 40 EFCAMP; EFKMORN (camp in morning of 29 May 2003) N 37.17876 W 112.76910 elev. 1450 m.; EFKTRAP (malaise trap) N 37.17827 W 112.77103 elev. 1495 m. ran malaise trap 1 night; ran 2 UV lights, huge numbers of Noctuidae moths, probably the one that had so many caterpillars reported earlier in the year by Dennis Pope and Harry Barber. photos: canyon tree frog, Hyla arenicolor; photos: Corydalidae: Corydalus cognatus; photos: Lycosidae mother with young. Photos: Baetidae, three tails, Fallceon? quilleri
Saw yellow Saturniidae, Polyphemus?, monarch, queen, Noctuidae: Catocala. 7629

7630 USA: TEXAS: Val Verde Co. Dolan Creek above Devils River N 29.88993 W 100.98702 elev. 398 m 01-Jun-2003 C. R. Nelson# 7630 & N. L. Hanegan 41 DCMERC photos

Scarabaeidae, metallic green; Chrysomelidae on small purple flowered forb in cracks of bedrock. 7630

7631 USA: TEXAS: Val Verde Co. Devils River at Dolan Falls N 29.88441 W 100.99377, elev. 414 m 01-Jun-2003 C. R. Nelson# 7631 & N. L. Hanegan 41 DOLANFALLS photos: Neavimyrme army ants; photos: Golden fronted woodpecker 7631

7632 USA: TEXAS: Val Verde Co. Dolan Creek Road between Loma Alta and Devils River N 29.95 W 100.88 02-Jun-2003 C. R. Nelson# 7632 41 coordinates approximate.

Class: Riley Nelson, Nikki Hanegan, Danny Martinez, Tom, Tim, matt, Brian Box, Sterling Abbott, Kristi, Nikki, Bea, Linda, Scotty, Pat, and Randy Chrysomelidae and Scarabaeidae on desert willow, Chilopsis. Apidae, large orange on Curcubita foetidissima, stink gourd flowers 7632

7633 USA: TEXAS: Val Verde Co. potholes of Dolan Creek above Devils River N 29.88993 W 100.98702, elev. 398 m 02-Jun-2003 C. R. Nelson# 7633 & class 41 DCMERC. Set up red, blue, and yellow pans near Mercury Falls up Dolan Creek at distances of 1, 5, and 50 m on 10 perpendicular transects spaced 5 meters apart on the left bank (facing upstream). On the bedrock. Traps set up by 5:00 pm. Retrieved traps at 5:00 pm on 3 June 2003, after 24 hours. Nematomorpha; Dytiscidae 7633

7634 USA: TEXAS: Val Verde Co. Devils River at Dolan Falls N 29.88441 W 100.99377, elev. 414 m 02-Jun-2003 C. R. Nelson# 7634 & class 41 DOLANFALLS photos: Reduviidae: Triatoma; Machilidae; scorpions: video by others; Light trap; Polyphagidae. 7634

7635 USA: TEXAS: Val Verde Co. Pictographs in canyon above Grass Patch Springs of Devils River N 29.85817 W 100.88577, elev. 494 m 03-Jun-2003 C. R. Nelson# 7635 & class 41 PICTCOVE. These 4000 year old rock paintings are in an alcove at the head of the same canyon that contains the Mexican white oaks near the Devils River, about 1 mile below Dolan falls. We reached them by driving to the mesa top on the Leon Springs Road Saropogon; Efferia; Gomphidae; photo: Salticidae with grasshopper, Acrididae. 7635

7636 USA: TEXAS: Val Verde Co. Leon Springs, in side canyon above Dolan Falls and Devils River N 29.88109 W 100.97337, elev. 447 m 03-Jun-2003 C. R. Nelson# 7636 & class 41 DRLEONSPR.

Afternoon swim in Blue Springs then walked up Dolan Creek to retrieve the pan traps. Some of us swam a little in Dolan Creek near Catfish Hole. Gyrinidae: Dineutes and Nepidae: Ranatra sp. in 100% ethanol. 7636

7637 USA: TEXAS: Val Verde Co. Devils River at Dolan Falls N 29.88441 W 100.99397, elev. 414 m 04-Jun-2003 C. R. Nelson# 7637 & class 41 DOLANFALLS.

Drift nets set last night at 9:00 pm on Camille's Riffle. First 100 samples from left hand riffle

above ford. photos: Calopterygidae: Hetaerina americana. Saw Hetaerina titya.
Chrysomelidae on Polanisia. Meloidae photo voucher for Danny Martinez.
DRFORD: N 29.88586 W 100.99343, elev. 431 m. photos: Ground snake, Sonora; photos:
Tantilla, Devils River black necked snake; photos: Scarabaeidae: large black with yellow
Markings. 7637

7638 USA: TEXAS: Val Verde Co. Dolan Creek above Devils River N 29.88993 W 100.98702,
elev. 398 m 04-Jun-2003 C. R. Nelson# 7638 & class 41 DCMERC (Mercury Falls)
Hydrophilidae larvae in potholes; photos: group 7638

7639 USA: COLORADO: Gunnison Co. commercial airline flight over Collegiate Peaks,
Taylor Reservoir, and Tomichi Creek. 05-Jun-2003 C. R. Nelson# 7639 41 photos:
scenery 7639

7640 USA: COLORADO: Gunnison Co. Gunnison, Western State College N 38.54801 W
106.91679, elev. 2312 m. 06-Jun-2003 C. R. Nelson# 7640 41 Seventh North American
Plecoptera Symposium. Photos: People. Talks: Sowell: shift taxa to landscape, integration,
study vertically, much emphasis on horizontal. Hold on to vertical emphasis. Stork,
geology: Continental Divide, same place for 60 million years. Colorado River reverses
between 10 and 4 mya. Vandenbosche, humans: 1300 to 1870, Ute summer population
2000 to 3000. Most driven out before 1900, Spain 1760 - 1800, John Gunnison 1853,
railroad, Hayden period. Mines 1880 - 1883, 40,000 people, then cattle. 1949 \$50,000 per
bull. modern times: water runs uphill to money. Wendy Brown of Rocky Mountain Biological
Laboratory: stoneflies in Gunnison Basin, Knight & Gauvin; J. D. Allan, predator prey;
Peckarsky: mating behavior.

11:00 am Kondratieff: current Status US. 15 families, 2000 species, US 104 or 113 genera
Capniidae 155, total 633 spp. thought up to 645. website: PDF Pescador, Florida. Future:
molecular, finish eastern NA, Biodiversity issues, nymphal keys. Grubbs: Indiana Michigan,
He is from Niles, Michigan; Ethan Bright, grad student Ann Arbor, Indiana history. Jane
Earle: Mt. Misery, send her the Acroneuria. 2:00 pm. Terry: phylogeny, problems Leuctridae
& Gripopterygidae. Szczytko: descriptive. Baumann: 3 spp. Lednia. 3:30 pm Charles
Nelson: hammers, separate or same origin. Non drummers! How note? Grubbs:
intermittent. life cycle slide, ask for it. up and down. Stark: many Mexican species 16 new.
7640

7641 USA: COLORADO: Gunnison Co. Gunnison River, Hwy 135, 1 mi N of Gunnison N
38.58224 W 106.92214, elev. 2370 m. 06-Jun-2003 C. R. Nelson# 7641 41 Seventh North
American Plecoptera Symposium. Dinner at Garliic Mike's Italian Restaurant.
GUNNISON2 photos: Hesperoperla pacifica m & f & mating. Photos: Triznaka pintada;
Chrysomelidae. 7641

7642 USA: COLORADO: Gunnison Co. Gunnison, Western State College N 38.59801 W 106.91679, elev. 2312 m. 07-Jun-2003 C. R. Nelson# 7642 41 GUNNISON
Seventh North American Plecoptera Symposium.

John Sandberg; Isogenoides drumming, complex calls; most polymorphic in zionensis.

Merlin White: Trichomycetes, gut fungi in non-predaceous arthropods,

www.nhm.ku.edu/~fungi

sample exuviae? swollen abdomen females. Wendy Brown: draft key Gunnison County,
web intensive: www.rmbl.org/data/wbrown/key/plecoptera/

Roundtable: Jacobi: NM update, 43 species in upper Pecos. Alexander: long term, GIS Al Knight's data, relook. Al Knight: egg paper short writing time; frisbee on the roof, fluorescein dye in the sprinklers first view of Blue Mesa since then. Nebeker chased cows. Four years of stonefly collecting. Pick up truck follows the lay of the land. Elk skin aroma in spring camps. Later work with toxics - Selenium. Kesterson - inland lakes. Corbicula - pest, clog intakes. Temperature tolerance, etc. engineering problems. Tanyderidae - read Alexanders Gasp[√]© article. 7642

7643 USA: COLORADO: Gunnison Co. Gothic, Rocky Mountain Biological Laboratory N 38.95793 W 106.98895, elev. 2858 m. 7-8 June 2003 C. R. Nelson# 7643 41 GOTHIC (at store)

photographs in the early morning of 8 June 2003 photos: Lauxaniidae; Bibionidae; Lasiopogon. 7643

7644 USA: COLORADO: Gunnison Co. Snodgrass Creek, 2 mi S of Gothic N 38.92519 W 106.96265, elev. 2915 m. 07-Jun-2003 C. R. Nelson# 7644 & Wendy Brown & Charles Nelson. 41 SNODGRASS. This creek is not named on maps, but comes off Snodgrass Mountain Kogotus; flies, in 100% Ethanol. 7644

7645 USA: COLORADO: Gunnison Co. Beaver Creek, jct Gunnison river, Hwy 50 N 38.49449 W 107.03188, elev. 2307 m. 08-Jun-2003 C. R. Nelson# 7645 & NAPS folks. 41 GUNBEAVER Paraleuctra, Sweltsa coloradensis; Eumenidae 7645

7646 USA: COLORADO: Gunnison Co. Tomichi Creek, Hwy 50, 0.5 mi W jct Cochetopa Creek N 38.52303 W 106.80034, elev. 2395 m. 08-Jun-2003 C. R. Nelson# 7646 & NAPS folks. 41 TOMICHI Triznaka; photos: Pteronarcella, Isoperla quinquepunctata, Chrysomelidae, Cyrtopogon, Carabidae Bembidion and similar to tiger beetle, Tenthredinidae. Cultus, Suwallia? 7646

7647 USA: COLORADO: Gunnison Co. Quartz Creek at Pitkin Campground N 38.61135 W 106.50352, elev. 2824 m. 08-Jun-2003 C. R. Nelson# 7647 & NAPS folks. 41 QUARTZ all in

100% ethanol: *Taenionema pallidum*, *Prostoia besametsa*, *Zapada*, *Capnia gracilaria*.
Photo: *Lasiopogon*. *Hesperophylax*. 7647

7648 USA: COLORADO: Gunnison Co. Curecanti Creek, 2.6 mi N of Hwy 92, at bridge N 38.51878 W 107.39875, elev. 2471 m. 09-Jun-2003 C. R. Nelson# 7648 & S. M. Clark & R. W. Baumann 41 CURECANTI *Sweltsa coloradensis*; *Paraleuctra occidentalis*; *Nemouridae*, 2 spp.: *Zapada frigida*?, *Podmosta*? *Taenionema pallidum*. 7648

7649 USA: COLORADO: Gunnison Co. tributary of Curecanti Creek, 2.6 mi N of Hwy 92, mouth is below bridge on Curecanti Creek N 38.51862 W 107.40033, elev. 2486 m. 09-Jun-2003 C. R. Nelson# 7649 & S. M. Clark & R. W. Baumann 41 CURTRIB *Sweltsa coloradensis* 40 m 11 f; *Sweltsa* lemon yellow, NO, teneral *coloradensis*; *Paraleuctra vershina* 23 m 24 f; *Nemouridae*: 2 spp.: *Zapada frigida* 2 m 2 f; *Podmosta delicatula* 2 m 2 f; *Taenionema pallidum* 3 m 2 f; *Eucapnopsis*? NO!; *Meloidae* on *Wyethia*; *Elateridae*; Mayfly subimagos to rear; *Bibionidae*; *Pipunculidae*: *Chalarus*; *Phoridae*: *Phora*; *Trichoptera* adults. 7649

7650 USA: COLORADO: Gunnison Co. Black Mesa, above Gunnison River, Hwy 92, 6 mi E of Curecanti Creek N 38.45631 W 107.46933, elev. 2704 m. 09-Jun-2003 C. R. Nelson# 7650 & S. M. Clark & R. W. Baumann 41 BLACK photos: scenery, aspens and Black Canyon 7650

7651 USA: COLORADO: Montrose Co. Hermits Rest Overlook, Hwy 92, looking into Black Canyon N 38.46339 W 107.51869, elev. 2733 m. 09-Jun-2003 C. R. Nelson# 7651 & S. M. Clark & R. W. Baumann 41 HERMIT bees; *Chrysomelidae* on *Rumex* with thin leaves 7651

7652 USA: COLORADO: Gunnison Co. Lee Creek at McClure Campground, Hwy 133, 1.6 mi NW of McClure Pass N 39.12467 W 107.31062, elev. 2516 m. 09-Jun-2003 C. R. Nelson# 7652 & S. M. Clark & R. W. Baumann 41 MCCLURE.

I checked a topo map to get the name of the stream. It seems to be one of the tributaries of Lee Creek. *Paraleuctra* 2; *Plumipera* *diversa* 1; *Sweltsa coloradensis* 1; *Elateridae*; *Tenthredinidae*; *Chrysomelidae*; *Cimicidae* 7652

7653 USA: COLORADO: Pitkin Co. Crystal River, Hwy 133, 7 mi S of Carbondale N 39.29148 W 107.22055, elev. 2017 m. 09-Jun-2003 C. R. Nelson# 7653 & S. M. Clark & R. W. Baumann 41 CRYSTAL *Pteronarcys californicus* skins. saw one fly across road upstream before stopping; *Cicadidae*; *Scarabaeidae*; *Raphidiidae*; *Sweltsa coloradensis*; *Elateridae* 7653

7654 USA: COLORADO: Garfield Co. White River National Forest; Coffee Pot Spring N 39.67587 W 107.20415 3071 m 09-Jun-2003 C. R. Nelson# 7654 & S. M. Clark & R. W. Baumann 41 COFFEEPOT type locality of *Capnia nelsoni*, not seen; photos: stream & scenery; *Paraleuctra* all projecta: 20 m 25 f; *Nemouridae*: *Zapada haysi* 7 m 2 f. *Phoridae*;

Empididae; Collembola; saw flies; Syrphidae; Limenphilidae; Bibionidae: Coleoptera; Oreohelix; Chrysomelidae. 7654

7655 USA: COLORADO: Garfield Co. 1.6 mi SW of Douglas Pass, Hwy 139, 33 mi N of Fruita, Lookout Mountain, South Canyon Road N 39.58667 W 108.82651, elev. 2365 m. 10-Jun-2003 C. R. Nelson# 7655 & S. M. Clark & R. W. Baumann 41 DOUGSOUTH Asilidae: Cyrtopogon, Lasiopogon, Stenopogon. Libellulidae: Sympetrum. Bombyliidae: Thevenomyia?; Ticks: Dermacentor andersoni?. One still alive unfed on 21 July 2003 in film can with a little moisture. Still alive on 15 August 2003. 7655

7656 USA: COLORADO: Garfield Co. Douglas Pass Microwave Antenna; near Hwy 139, 34 mi N of Fruita N 39.59948 W 108.79603, elev. 2682 m. 10-Jun-2003 C. R. Nelson# 7656 & S. M. Clark & R. W. Baumann 41 DOUGANTENN 1:30 pm slightly overcast, rain to follow us up toward Vernal. Tachinidae; Apidae; Carabidae; Asilidae: Laphria; Tenebrionidae; Meloidae. 7656

7657 USA: UTAH: Uintah Co. Vernal N 40.45627 W 109.52105, elev. 1631 m. 10-Jun-2003 C. R. Nelson# 7657 & S. M. Clark & R. W. Baumann 41 VERNAL Stratiomyidae: Nemotelus, at gas station 7657

7658 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95623 W 111.26763 elev. 1829 m 13-Jun-2003 C. R. Nelson# 7658 & J. K. Nelson 41 Dermestidae in kitchen cabinet; photos: Chrysomelidae: Scelolyperus lecontei (Crotch) det. S. M. Clark, 29 June 2016, on Apocynum androsaemifolium or cannibinum, spreading dogbane. 7658

7659 USA: UTAH: San Juan Co. 15 mi N of Monticello, Hwy 191; 16-Jun-2003 C. R. Nelson# 7659 & scouts 41 photos: dust devil with Blue Mountains in the background. 7659

7660 USA: UTAH: San Juan Co. Abajo (Blue) Mountains, Dry Fork Reservoir, Bigfoot Scout Camp; N 37.77305 W 109.54333, elev. 2269 m; 16 - 21 June 2003 C. R. Nelson# 7660 & scouts 41 BLUECAMP, Scout camp; Dedication Hill: DEDICATION: N 37.77113 W 109.54890, elev. 2415 m. photos: Bombyliidae, Sego lilies, Stenopogon inquinatus 7660

7661 USA: UTAH: San Juan Co. Wilson Arch, Hwy 191, 25 mi S of Moab N 38.27339 W 109.37256, elev. 1859 m; 21-Jun-2003 C. R. Nelson# 7661 & scouts 41 WILSONARCH photos: scenery & people; Asilidae, Efferia, in 100% ethanol. 7661

7662 USA: UTAH: Washington Co. Green Valley approx. 7 June 2003 C. R. Nelson# 7662 41 given to C. R. Nelson by Jay Naylor on 22 June 2003. Nelson not present when collected. cockroach, Blattaria, 7662

7663 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95623°W 111.26763°E elev. 6000 feet 28-Jun-2003 C. R. Nelson# 7663 & J. K. & A. L. Nelson & S. Wheeler 41 Installed kick panel on screen door; hung a rope for a swing. photos: scenery, plant: Apocynaceae: Apocynum with white floweres all leaves drooping, thought to be androsaemifolium, could be cannibinum, with Chrysomelidae; Stratiomyidae; Asilidae: Stenopogon, small dark, escaped. 7663

7663.5 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E elev. 4900 feet 28-Jun-2003 C. R. Nelson# 7663.5 41 Cerambycidae, at home on window outside; Lucanidae found in evening by watching Stella the cat stalk it on a grass stalk. 7663.5

7664 USA: UTAH: Utah Co., Mount Timpanogos, Julie Andrews Meadow, head of Bear Canyon N 40.43410 W 111.66059, elev. 2504 m 01-Jul-2003 C. R. Nelson# 7664 & Adam Frischknecht & Andrew Olsen & Grant Stucki 41 JULEND (at north end of meadow, just as emerging from the trees).

Moved malaise trap: JULTRAP2: N 40.43521 W 111.66209 elev. 2533. photos: Cyrtopogon auratus, one with prey: Mycetophilidae: Docosia sp.; Lasiopogon; Laphria. Syrphidae; bombyliidae; 7664

7665 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River, South Fork Guard Station, Site 3 N 40.45201 W 111.65748, elev. 1920 m 01-Jul-2003 C. R. Nelson# 7665 & Adam Frischknecht & Andrew Olsen & Grant Stucki & Julie Guptill. 41 TIMP3AF.

Changed pans, pitfalls, lindgren funnels, & malaise trap. reduced pans and pitfalls to 5 of each. Megarcys signata female in 100% ethanol. Buprestidae. 7665

7666 USA: UTAH: Garfield Co. Boulder Mountain, Hwy 12, Larb Hollow Scenic Overlook N 38.13231 W 111.32577, elev. 2661 m 03-Jul-2003 C. R. Nelson# 7666 & A. L. & J. K. Nelson 41 LARBJULY Machimus with prey; Cerambycidae, on blue bushy Lupinus, also Curculionidae on same bushy Lupinus. 7666

7667 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Calf Creek, Calf Creek Campground N 37.79389°W 111.41539°E elev. 1680 m 3 - 4 July 2003 C. R. Nelson# 7667 & A. L. & A. J. & J. K. Nelson & J. E. Lee 41 CALF4JUL (at trailer). ran UV light night of 3 July and found scorpions and a large centipede at night with UV headlamp.

also: sunset from the Hogback of Hwy 12 photos: Efferia benedicti with prey, Apioceridae Apiocera, Cossidae, scorpions dance (Hadrurus) 7667

7668 USA: UTAH: Garfield Co. Boulder Mountain, Dixie National Forest, Posey lake, 15 mi N of Escalante N 37.93784 W 111.69538 elev. 2710 m 04-Jul-2003 C. R. Nelson# 7668 & A. L. & A. J. & J. K. Nelson & J. E. Lee 41 POSEYPIC (picnic area). Hike to overlook shack: POSEYLOOK: N 37.93620 W 111.70046 elev. 2777 m *Laphria fernaldi*; photos: Cerambycidae on *Lupinus* also Curculionidae. *Callibaetis subimago* reared to adult from near fen near overlook. Cicadidae; Tachinidae: *Paradejeania*. 7668

7669 USA: UTAH: Garfield Co. Boulder Mountain, Dixie National Forest, Hells Backbone Bridge N 37.97026 W 111.59958 elev. 2707 m 04-Jul-2003 C. R. Nelson# 7669 & A. L. & A. J. & J. K. Nelson & J. E. Lee 41 HELL photos: people & scenery 7669

7670 USA: UTAH: Garfield Co. Boulder town N 37.908 W 111.422, elev. 2039 m 04-Jul-2003 C. R. Nelson# 7670 & A. L. & A. J. & J. K. Nelson & J. E. Lee 41 from map photos: people & Fourth of July Party 7670

7671 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Willis Creek, Skutumpah Road N 37.48180 W 112.07919, elev. 1823 m 05-Jul-2003 C. R. Nelson# 7671 & A. L. & A. J. & J. K. Nelson & J. E. Lee 41 use WILLISCOVER as a central spot; I continued to the confluence with Sheep Creek, taking a few pictures along the way. 1: WILLISTRUC: N 37.48305 W 112.09701 elev. 1825 m 2: WILLISROAD: N jct Skutumpah Road, N 37.48275 W 112.09674 elev. 1814 m; 3: WILLISSEEP (seep in south bank where I swept many insects) N 37.48224 W 112.09120, elev. 1795 m; 4: WILLISCOVER: jct Averett Canyon: N 37.48180 W 112.07919, elev. 1823 m; 5: WILLISSEEP: jct Sheep Creek: N 37.47342 W 112.06547, elev. 1796 m. photos: scenery and people on walk from trailhead on the Skutumpah Road to the canyon widening a half mile past the junction with Averett Canyon. Cicadidae; Asilidae: *Efferia* 3 spp., *Philonicus*, *Holopogon*, *Machimus*, *Proctacanthus*. 7671

7672 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, view of Paria Valley from Skutumpah Road near Jim Hollow N 37.6 W 112.1, elev. 2050 m 05-Jul-2003 C. R. Nelson# 7672 & A. L. & A. J. & J. K. Nelson & J. E. Lee 41 coord from map photos: scenery across valley to Coal Bench and on to Powell Point and Canaan Peak, nice evening view. 7672

7673 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, The Blues Overlook, Hwy 12 N 37.63951 W 111.84435, elev. 2306 m 05-Jul-2003 C. R. Nelson# 7673 & A. L. & A. J. & J. K. Nelson & J. E. Lee 41 BLUES photos: scenery: sunset on Powell Point and the Blues; photos: People 7673

7674 USA: UTAH: Garfield Co. Boulder Mountain, Hwy 12, Larb Hollow Scenic Overlook N 38.13231 W 111.32577, elev. 2661 m 06-Jul-2003 C. R. Nelson# 7674 & A. L. & J. K. Nelson 41 LARBJULY of earlier photos: Henry Mountains burning 7674

7675 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trail: trailhead to end of upper campground N 40.43115 W 111.64967, elev. 2306 m 08-Jul-2003 C. R. Nelson# 7675 & Adam Frischknecht & Andrew Olsen & Firas Almousa. 41 TIMP1BR (bridge on creek above upper campground)

Firas Almousa is a student from Jordan. He likes snakes. Empididae; Cleridae; Syrphidae 7675

7676 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trail: trailhead to Scout Falls N 40.42461 W 111.64009, elev. 2317 m 08-Jul-2003 C. R. Nelson# 7676 & Adam Frischknecht & Andrew Olsen & Firas Almousa. 41 TIMPMeadow. also TIMPTRUC (trailhead): N 40.43124 W 111.63867, elev. 2232 m; TIMPSCOUT (Scout falls): N 40.41759 W 111.64080, elev 2443 m Bibionidae; Syrphidae; Tenthredinidae; Bombyliidae: Thevenomyia small; Sweltsa borealis; Raphidiidae. 7676

7677 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trail: Scout Falls to Middle Basin N 40.41544 W 111.64111, elev. 2556 m 08-Jul-2003 C. R. Nelson# 7677 & Adam Frischknecht & Andrew Olsen & Firas Almousa. 41 TIMPMID;

TIMPSCOUT (Scout falls): N 40.41759 W 111.64080, elev 2443 m; TIMPLUNSPR (lunch, spring in Middle Basin Cliff) N 40.41259 W 111.64048 elev. 2562 m. Laphria; Sweltsa; Trichoptera; Bombyliidae; Syrphidae; saw Stenopogon inquinatus! 7677

7678 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trail: Giant Staircase, Middle Basin to Timpanogos Basin N 40.41259 W 111.64048, elev. 2562 m 8 - 9 July 2003 C. R. Nelson# 7678 & Adam Frischknecht & Andrew Olsen & Firas Almousa. 41 TIMPLUNSPR (lunch, spring in Middle Basin Cliff) N 40.41259 W 111.64048 elev. 2562 m. To TIMPBASIN: N 40.39651 W 111.64531, elev. 3079 m. Bombyliidae; Asilidae; Scutellaridae; Tenthredinidae; Buprestidae 7678

7679 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trail: Timpanogos Basin N 40.39651 W 111.64531, elev. 3079 m 8 - 9 July 2003 C. R. Nelson# 7679 & Adam Frischknecht & Andrew Olsen & Firas Almousa. 41 TIMPBASIN: N 40.39651 W 111.64531, elev. 3079 m. at cirque lake night, camp then morning. Cicindelidae; Bombyliidae; Carabidae; Tenebrionidae (I gave these to the students. The specimens are in their vials.) 7679

7680 USA: UTAH: Utah Co., Mount Timpanogos, Timpanogos Saddle to Timpanogos Summit N 40.39093 W 111.64598 3580 m 08-Jul-2003 C. R. Nelson# 7680 & Adam Frischknecht & Andrew Olsen & Firas Almousa. 41 TIMPSUMMIT. TIMPSADDLE: N 40.39605 W 111.65458, elev. 3337 m; TIMPSTAIR (west face staircase switchbacks) N 40.39298 W 111.65180, elev. 3459 m; TIMPSUM2 (summit, 2nd reading) N 40.39092 W 111.64611, elev. 3588 m.

Sunset!!!!: photos Mt. Nebo to Great Salt Lake! small moth; Bombyliidae: Pantarbes; mite; saw white lined sphinx, Hyles lineata; photos: scenery & people; photos: mountain goats. SUNSET!!!! 7680

7680.5 USA: UTAH: Box Elder Co. Woods Creek Duck Club, 2 mi s of Corinne N 41.5172 W 112.1398 12-Jul-2003 C. R. Nelson# 7680.5 & Rick Nelson; Tod & Ned Young; Jerry Wright. 41 photos: scenery and people. 7680.5

7681 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.6 mi S of Vivian Park & Hwy 189 N 40.34771 W 111.54800, elev. 1667 m 15-Jul-2003 C. R. Nelson# 7681 & Summer Scholars class. 41 SOFKPARK. Each student took 2 First 100 samples; half of the students were directed to be unselective, to take the first 100. Half were directed to try to Maximize diversity. Photos: people. SOFKBUN (jct of South Fork with Bunnels Fork): N 40.34751 W 111.54665, elev. 1671 m. Cinygmula; Epeorus; Ephemerella; Baetis; Drunella; Elmidae; Rhyacophila; Hydropsychidae 7681

7682 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95623 W 111.26763 elev. 6000 feet

18-19 July 2003 C. R. Nelson# 7682 & family 41 set up malaise trap near spring, over stream's trickle, late evening of 18 July. made seat for swing. Repaired frame on couch. Four wheeler ran well. Swept half a pound of rice grass seed to plant on lower flat land near gate. People: Kaye Nelson, Cynthia Parrish, Blair Parrish, Carly Parrish, Tracy Smith, Penny Smith, Erin Smith, Mikaela Smith, Rexanne Pond, Hank Pond, Anna Pond & her friend Chandler. 7682

7683 USA: UTAH: Utah Co., Spanish Fork, at Krishna Temple 19-Jul-2003 C. R. Nelson# 7683 & family 41 set up malaise trap near spring, over stream's trickle, late evening of 18 July. made seat for swing. Repaired frame on couch. Four wheeler ran well. Swept half a pound of rice grass seed to plant on lower flat land near gate. People: Kaye Nelson, Rexanne Pond, Hank Pond, Anna Pond & her friend Chandler. Met Andrea Nelson, Amy Nelson, and Christi Loveless.. photos: llamas at annual llama fest, scenery, temple, and people. 7683

7684 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95623°W 111.26763°E elev. 6000 feet

20-Jul-2003 C. R. Nelson# 7684 & family 41 photos: Jason and Katie coming down the hill. 7684

7685 USA: UTAH: Salt Lake Co. Jordan River Temple, South Jordan N 40.5663 W 111.9223, elev. 4380 feet 22-Jul-2003 C. R. Nelson# 7685 & J. K. Nelson 41 photos: after Temple Sealing of Amy & Kody Kuehn. 7685

7686 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle, spring N 39.95866 W 111.26783, elev. 1900 m 25-Jul-2003 27-Jul-2003 C. R. Nelson# 7686 & family 41 emptied malaise trap and reset it on 25 July 2003, set up on 18 July 2003. Set up a second malaise trap across Soldier Creek on 25 July 2003, #7687. WHECABIN N 39.95630 W 111.26796, elev. 6000 ft. 7686

7687 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle, spring N 39.95373 W 111.26736, 1812 msl, 25-Jul-2003 27-Jul-2003 C. R. Nelson# 7687 & family 41 Ran malaise trap near railroad gate, perpendicular across the creek, in 95% ethanol. WHESOLDIER 7687

7688 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.43341 W 111.73810, 1573 m, 31-Jul-2003 C. R. Nelson# 7688 & Adam Frischknecht & Grant Stucki & Andrew Olsen. 41 took 3 First 100 samples by CRN. Surber samples, 3 by Adam Frischknecht and Grant Stucki. many Chrysomelidae, metallic blue green, Alticinae, on river birch, *Betula occidentalis*? 7688

7689 USA: UTAH: Utah Co., Mount Timpanogos, Site 3, South Fork American Fork River, 0.5 mi SE of South Fork Ranger Station N 40.45193 W 111.65729, elev. 1871 m 31-Jul-2003 C. R. Nelson# 7689 & Adam Frischknecht & Grant Stucki & Andrew Olsen. 41 took 3 First 100 samples by CRN. Surber samples, 3 by Adam Frischknecht. Grant and Andrew changed pans, pitfalls, funnels, and malaise trap. TIMPSFK photos in lab: *Pictetiella expansa* and *Sweltsa borealis* nymphs. bulk samples of Hydropsychidae and Philopotamidae. 7689

7690 USA: UTAH: Utah Co., Mount Timpanogos, Site 4, South Fork American Fork River, at Timpooneke Campground N 40.43226 W 111.63741, elev. 2213 m 31-Jul-2003 C. R. Nelson# 7690 & Adam Frischknecht & Grant Stucki & Andrew Olsen. 41 took 3 First 100 samples by CRN. Surber samples, 3 by Adam Frischknecht. Grant and Andrew changed pans, pitfalls, funnels, and malaise trap. TIMPTIMP4, near campsites 4 and 5. photos: people and scenery. 7690

7691 USA: UTAH: Utah Co., Provo, Widtsoe Building, BYU lab N 40.24625 W 111.64984, 1825 m, 01-Aug-2003 C. R. Nelson# 7691 & Andrea Palochak. 41 scorpion is an old pet, from: UTAH: Garfield Co., Grand Staircase - Escalante National Monument, Calf Creek Campground, N 37.79342 W 111.41482, 25 July 2002, C. R. Nelson #7480 photos: Hadrurus scorpion with white and UV light. Nice shots! 7691

7692 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95866 W 111.26783 elev. 1900 m (Wheeler sawmill) 03-Aug-2003 C. R. Nelson# 7692 & J. K. Nelson 41 emptied malaise trap, good catch; Took lumber home to make a screen door (made it on Monday and Tuesday). Trap ran from 27 July to 3 August. 7692

7693 USA: TEXAS: Travis Co. Garfield, Pearce Home 08-Aug-2003 C. R. Nelson# 7693 & J. K. Nelson 41 photos: alpacas with John and Jan Pearce 7693

7694 USA: TEXAS: Travis Co. Austin, Oak Hill Stake Center, Convict Hill Road 09-Aug-2003 C. R. Nelson# 7694 & J. K. Nelson & friends 41 photos: Nikki and Michael Hanegan at Nikki's baptism. 7694

7695 USA: TEXAS: Hays Co. Driftwood, Salt Lick Barbecue near Camp Ben McCullough, 09-Aug-2003 C. R. Nelson# 7695 & J. K. Nelson & friends 41 photos: barbecue pit with ribs, brisket, sausage, and turkey breast. 7695

7696 USA: TEXAS: Travis Co. Austin, William Cannon Drive and South First, Taiwan Restaurant 09-Aug-2003 C. R. Nelson# 7696 & J. K. Nelson & friends 41 photos: people at meal 7696

7697 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95883 W 111.26775, elev. 1860 m, 6000 ft. 11-Aug-2003 C. R. Nelson# 7697 & P. Ashton. 41 emptied malaise trap, last changed 3 August 2003 WHESPR (spring and tanks) 7697

7698 USA: UTAH: Tooele Co. Dugway Proving Grounds, East Dugway Dunes, active dunes N 40.21969 W 112.82980, elev. 1439 m, 12-Aug-2003 C. R. Nelson# 7698 & R. L. Johnson. 41 DUGEACT (Dugway East Active) Bembix and other Nyssoninae, Prionyx, Chrysopidae, Bombyliidae 5 -6 species, Diogmites grossus, Proctacanthus nearno, Osprioncerus abdominalis, Proctacanthella, Apiocera, Acrididae: Schistocerca shoshone, light colored; On Eriogonum nummular, blue leaved shrubby; Perdita 2 spp., Chloropidae. 7698

7699 USA: UTAH: Utah Co., Mount Timpanogos, Alpine Loop, Hwy 92, near Salamander Lake N 40.41793 W 111.60065, elev. 2137 m. 14-Aug-2003 C. R. Nelson# 7699 & Adam Frischknecht & Andrew Olsen & Grant Stucki. 41 No trespassing signs all along the road,

no access to Salamander Lake from our traditional access on the flat. After looking at map it seems that perhaps there is public access from straight-a-way a half mile further up the road, try again! TIMPSALTRK 7699

7700 USA: UTAH: Utah Co., Mount Timpanogos, Alpine Loop, Hwy 92, near Salamander Flat Trail (start near Cascade Springs turnoff end downstream at Hwy 92 jct. N 40.43461 W 111.61875, elev. 2385 m. 14-Aug-2003 C. R. Nelson# 7700 & Adam Frischknecht & Andrew Olsen & Grant Stucki. 41 Parked at TIMPLOOPUP and walked down to TIMPHORSE then TIMPHORSPR then TIMPHOREND. A muddy spring popped up halfway down the trail and stream ran to the Alpine Loop. Nice collecting! Should emphasize next year!

TIMPLOOPUP (trailhead near Cascade Springs turnoff, TIMP alpine LOOP, UP on top) N 40.43061 W 111.61409, elev. 2438 m. TIMPHORSE (halfway down trail, use for label) N 40.43461 W 111.61875, elev. 2385 m. TIMPHORSPR (spring, excellent collecting in a mud hole) N 40.43519 W 111.62005, elev. 2385 m. TIMPHOREND (crossing of Salamander Flat Trail and Hwy 92 parking lot) N 40.43866 W 111.62179, elev. 2357 m. photos: Formica and Aphididae, Calliphoridae, Sarcophagidae, Acrididae, Empididae, Bombyliidae, Nemouridae: Amphinemura banksi, Cleridae, Mordellidae, Apidae. 7700

7701 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River at Timpooneke Campground N 40.43312 W 111.63619, elev. 2230 m. 14-Aug-2003 C. R. Nelson# 7701 & Adam Frischknecht & Andrew Olsen & Grant Stucki. 41 TIMPTIMHWY (jct South Fork and Hwy 92, near Timpooneke Campground). The highway is about 100 - 200 m downstream from our trapping site. photos: moose!, Sweltsa borealis, Megarcys skin, Staphylinidae: Stenus. 7701

7702 USA: UTAH: Utah Co., Mount Timpanogos, Alpine Loop, Hwy 92, stream, 1 mi SE of Pine Hollow Trailhead N 40.43890 W 111.63338, elev. 2173 m. 14-Aug-2003 C. R. Nelson# 7702 & Adam Frischknecht & Andrew Olsen & Grant Stucki. 41 TIMPNRMUD (Timp near Mud Spring) Chrysomelidae on aquatic mustard. Limnephilidae adult and other caddis adult 7702

7703 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River, 0.5 mi E of South Fork Ranger Station. N 40.45183 W 111.65812, elev. 1885 m. 14-Aug-2003 C. R. Nelson# 7703 & Adam Frischknecht & Andrew Olsen & Grant Stucki. 41 TIMPSFSNAI (snails near truck at end of road accessed from inside the ranger station compound) near our trapping site. Crew emptied traps. Oreohelix snails abundant because they were activated by a slight rain. Snails photographed in lab, 24 Sep 2003 7703

7704 USA: UTAH: Box Elder Co. Brigham City, West Stake Center, near National Guard Armory 16-Aug-2003 C. R. Nelson# 7704 & Adam Frischknecht & Andrew Olsen & Grant

Stucki. 41 photos: wedding reception of my second cousin, Erin Young and Brent Stoddard (I went to school with his mother, Jean Barker of Bear River City). Amy and I took many pictures of the reception and people:

Erin & Brent; Ned Young with his broken leg (he fell off the porch this morning. . .); my Uncle and Aunt Lyle and Barbara Young; my Uncle and Aunt Gordon and Leona Larsen from Fresno, California; Nola & Nancy _____ (Nelson, Nola is my cousin); Rene and Jody Olsen; Carey Nichols; John & Kayleen Hull. 7704

7705 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, 50 Mile Mountain, Georgie Hollow exclosure, N 37.29469 W 111.12256 18-Aug-2003 C. R. Nelson# 7705 , A. J. Nelson, & J. E. Lee. 41 Called #1 on field label. 50GEOEXCL (at exclosure) sweeping *Chrysothamnus nauseosus*: Thysanoptera, Megachilidae; Bombyliidae. 7705

7706 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, 50 Mile Mountain, trail from Georgie Hollow exclosure to Lake Pasture, Griffin Cabin, N 37.29669 W 111.14116, elev. 2257 m, 18-Aug-2003 C. R. Nelson# 7706 , A. J. Nelson, & J. E. Lee. 41 Called #2 on field label. 50GRIFCAB (Griffin Cabin). Walk between Georgie Hollow and Lake Pasture, Griffin Cabin. Bombyliidae 7706

7707 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, 50 Mile Mountain, Pleasant Grove Canyon and spring, N 37.29728 W 111.15408 2255 m, 19-Aug-2003 C. R. Nelson# 7707 , A. J. Nelson, & J. E. Lee. 41 Called #3 on field label. 50PLEASPR (at Pleasant Grove Spring). *Efferia benedicti* female with butterfly prey, buckeye, *Precis coenia*. Saw butterflies: California sister: *Adelphia bredowii* and Weidemeyers Admiral: *Limnitis weidemeyerii*; Odonata: Libellulidae: *Sympetrum corruptum*. 7707

7708 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, 50 Mile Mountain, Steer Canyon jct Pleasant Grove Canyon, N37.29233 W 16682 2000 m 19-Aug-2003 C. R. Nelson# 7708 , A. J. Nelson, & J. E. Lee. 42 Called #4 on field label. 50STEERPET (at Petroglyphs). photos: Meloidae on Castilleja; photos: petroglyphs, including one of a caterpillar? (check reports). 7708

7709 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, pond below jct Steer Canyon and Pleasant Grove Canyon, N 37.28899 W 111.17033 1917 m 19-Aug-2003 C. R. Nelson# 7709 , A. J. Nelson, & J. E. Lee. 42 50ROCKPOOL; photos of pool and scenery upslope. A dangerous approach from above. Veer down the Pleasant Grove Canyon slope, I nearly got trapped trying to slide down the Tropic Shale on the Steer Canyon side. Some cairns exist on the other side, I followed them, but more a bighorn sheep path. Aeshna

nymph and adult female; Enallagma adult; Ischnura adult and nymph?; Tabanidae larva
7709

7710 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Lake Pasture at Griffin Cabin, N 37.29669 W 111.14116 2257 m, 19 August 2003, C. R. Nelson# 7710 , A. J. Nelson, & J. E. Lee. 42 50GRIFCAB.

photos of cabin and associated cowboy and western paraphernalia. Swept meadow (no standing water): dominant vegetation was Helianthella, "black" mustard (get name, gangly weed with yellow flowers and long siliques), Cleome (purple), sedges. Photos: Tephritidae, Syrphidae, Apidae, Acrididae. 7710

7711 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, 50 Mile Mountain, top of Straight Cliffs on Middle (Lake) Trail, N 37.29824 W 111.11299 2257 m, 18 August 2003, 20 August 2003, C. R. Nelson# 7711 , A. J. Nelson, & J. E. Lee. 42 on 18 August took photos of scenery and sunset, on 20 August took photos in a panorama near midday.

50MIDCAIRN (at cairns, used above). 50BENTRK (bench and middle corral at truck at end of trip) N 37.30338 W 111.11365, elev. 1973 m.

Efferia frewingi male. 7711

7712 USA: UTAH: Kane Co., Hole in the Rock, 62 mi SE of Escalante, N 37.25654 W 110.90017 1313 m, 20 August 2003, C. R. Nelson# 7712 , A. J. Nelson, & J. E. Lee. 42 photos: Hole in the Rock, Lake Powell, people, end of season group photo.

HOLETOP (at top, used above) and HOLELAKE (at Lake Powell) N 37.25383 W 110.89384, elev. 1102 m. photos: chuckwalla, young, colorful, shots taken with Andrea's camera.

7712

7713 USA: UTAH: Kane Co., Hole in the Rock Road, 3 -5 miles NW of the Hole in the Rock, about 55-58 miles SE of Escalante, near Davis Gulch, N 37.25 W 110.97 20 August 2003, C. R. Nelson# 7713 , A. J. Nelson, & J. E. Lee. 42 no GPS taken, estimated from map on GPS. Photos: Navajo Mountain. Movie: truck on slickrock; photos: plaque for Mormon Arch and Hole in the Rock pioneers. 7713

7714 USA: UTAH: Kane Co., Hole in the Rock Road, about 50 miles SE of Escalante, Carcass Wash, N 37.33670 W 111.07212 20 August 2003, C. R. Nelson# 7714 , A. J. Nelson, & J. E. Lee. 42 no GPS taken, estimated from map on GPS. Photos: Navajo Mountain. Movie: truck on slickrock; photos: plaque commemorating dead Provo (Edgemont) scouts. 7714

7715 USA: UTAH: Kane Co., Hole in the Rock Road, SE of Escalante, 3 mi S of Egypt turnoff, N 37.51 W 111.31 20 August 2003, C. R. Nelson# 7715 , A. J. Nelson, & J. E. Lee. 42 no

GPS taken, estimated from map on GPS. photos (in lab): tarantula, named Sunset by Andrea for Sunset Flats, 7715

7716 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Calf Creek, Calf Creek Campground N 37.79332°W 111.41478° 1628 m 21 August 2003, C. R. Nelson# 7716, A. J. Nelson, & J. E. Lee. 42 old GPS reading, CALFCMP of 7 May 2003). Sand for tarantula comfort in travelling back to lab. Gryllidae: female Oecanthus, snowy tree cricket. 7716

7716.5 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, springs entering Henrieville Creek, 8 mi NE of Henrieville, near pipe in gray wall N 37.61157 W 111.89503 2035 m 21 August 2003, C. R. Nelson# 7716.5, A. J. Nelson, & J. E. Lee. 42 usual collecting spot. Permanent site.

Emptied malaise trap, last emptied by Janet and Andrea on 12 Aug 2003. 7716.5

7717 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle, spring N 39.95623°W 111.26763°elev. 6000 feet (Wheeler sawmill) 6000 ft 24 August 2003, C. R. Nelson# 7717 & family 42 emptied malaise trap, last emptied 11 August 2003 at CRN #7697. With Tia and Penny Logan. WHESPR

Dead great basin rattlesnake skinned and salted. On 2 Sept 2003 I removed fly larvae from excess flesh near the tail. On 4 Sept 2003 I photographed several of these larvae. All the specimens in the lot will serve as photo vouchers. Pupated 8 Sep 2003, Emerged as adult 15 Sept 2003, Adult photo: 24 Sept 2003, died 25 Sept 2003. 7717

7718 USA: UTAH: Utah Co., Mount Timpanogos, Timpanogos Cave National Monument, in cave N 40.43765 W 111.71175 2041 m 28 August 2003, C. R. Nelson# 7718, J. Guptill, & J. mateljak. 42 photos: cave formations, "clubionidae" spider (some photos in lab on 29 August 2003, fly: Sciaridae embedded in flowstone, Mycetophilidae: dead on wall, Sciaridae: dead on wall, Alucitidae moth, Heleomyzidae: Eccoptomera sp.

Noctuidae and Gryllacrididae Ceuthophilus. 7718

7719 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 4900 ft. 29 August 2003, C. R. Nelson# 7719 42 photos: sunrise rainbow and neighborhood scenery. 7719

7720 USA: UTAH: Washington Co. Beaver Dam Mountains, Hwy 91, 3.5 mi N of Castle Cliff, 16 mi N of Littlefield, N 37.09200 W 113.84112 1326 m 30 August 2003, C. R. Nelson# 7720 42 SHIV photos: Efferia female, probably tuberculata group on Yucca baccata. 7720

7721 USA: UTAH: Washington Co. Beaver Dam Mountains, Hwy 91, water trough, 1.5 mi N of Castle Cliff, 14.7 mi N of Littlefield, N 37.08 W 113.85, approx. 4200 ft. 30 August 2003,

C. R. Nelson# 7721 , J. R. Nelson, & P. J. Wheeler. 42 coord from map; no insects collected but Sarcophagidae and other flies present on wet ground around concrete trough. 7721

7722 USA: UTAH: Washington Co. Beaver Dam Mountains, Hwy 91, Castle Cliff, 12.7 mi N of Littlefield, N 37.06602 W 113.88719 1115 m 30 August 2003, C. R. Nelson# 7722 , J. R. Nelson, & P. J. Wheeler. 42 climbed cliff to a big cement cistern, no water, but it has been 6 feet deep in past. 7722

7723 USA: UTAH: Washington Co. Beaver Dam Slope, Hwy 91, Castle Cliff, 11.1 mi N of Littlefield, N 37.04472 W 113.89787 1016 m, 30 August 2003, C. R. Nelson# 7723 , J. R. Nelson, & P. J. Wheeler. 42 BEAV. 5.1 miles from first stop; 8.4 mi at AZ border; Littlefield at I-15: 16.2 mi. photos: Chrysomelidae on Larrea tridentata (creosote bush), in Joshua Tree forest, no Sitoria robber flies (perhaps it is too early in season). Very dry. Photos: Dermestidae. 7723

7724 USA: NEVADA: Clark Co. Logandale, Hwy 165, N 36.61850 W 114.48594 421 m 30 August 2003, C. R. Nelson# 7724 & family 42 MOAPAV photos: Dermaptera: earwig, Labiduridae? 7724

7725 USA: NEVADA: Clark Co. Overton, Hwy 165, 1 September 2003, C. R. Nelson# 7725 & family 42 Meloidae; Hemiptera; Dolichopodidae: Medetera; nn wall of gas station; from last night's lights. 7725

7726 USA: NEVADA: Clark Co. Lake Mead, Overton Marina, 1 September 2003, C. R. Nelson# 7726 & family 42 with Paul and Kathy Wheeler, on their boat. photos: pelicans, people water skiing and tubing on the lake 7726

7727 USA: ARIZONA: Mohave Co. Virgin River Gorge, I-15 1 September 2003, C. R. Nelson# 7727 & family 42 photos: scenery 7727

7728 USA: UTAH: Washington Co. Virgin River Gorge, I-15 1 September 2003, C. R. Nelson# 7728 & family 42 photos: scenery 7728

7729 USA: UTAH: Washington Co. St. George, 1 September 2003, C. R. Nelson# 7729 & family 42 photos: city and signs 7729

7730 USA: UTAH: Iron Co. Paragonah, Hwy I-15 1 September 2003, C. R. Nelson# 7730 & family 42 photos: view north then east toward Tushar Mountains, and others, thunderstorms at sunset. 7730

7731 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 4900 ft., 2 September 2003, C. R. Nelson# 7731 42 maggots in rattlesnake tail from CRN#7717. Photos taken: 4 Sep 2003, boiled three larvae and preserved;

attempting to rear 6 others; 4 disappeared, 2 pupated on: 8 Sep 2003; emerged 15 Sep 2003; adults photographed 24 Sep 2003, male photographed first, female second. Died and pinned: 25 Sep 2003. 7731

7732 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6/50, 12 mi E of Thistle N 39.95883°W 111.26775°E elev. 1860 m (spring at Wheeler sawmill) 1860 m 4 September 2003, C. R. Nelson# 7732 & J. K. Nelson 42 emptied and reset malaise trap, last reset 24 August 2003, CRN #7717. *Chrysothamnus nauseosus* and *viscidiflora* in full bloom, 7732

7733 USA: UTAH: Utah Co., Provo, BYU N 40.24625°N 111.64984°W, 5 September 2003, C. R. Nelson# 7733 42 Tenebrionidae; Janet Lee took it to her apartment to be a pet. 7733

7734 USA: UTAH: Garfield Co. Escalante Summit, 9 mi E of Widtsoe Junction N 37.82802°N 111.87857°W, 2729 m, 10 September 2003, C. R. Nelson# 7734 42 photos: view to Navajo Mountain along Straight Cliffs; ESCSUM 7734

7735 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Upper Calf Creek Falls, above falls, N 37.85583°N 111.45242°W, 1777 m, 10 September 2003, C. R. Nelson# 7735 42 emptied and reset malaise trap, 9:00 pm, last reset by Janet and Andrea on... 7735

7736 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Upper Calf Creek Falls, below falls, N 37.85394°N 111.45024°W, 1729 m, 10 September 2003, C. R. Nelson# 7736 42 emptied and reset malaise trap, 9:30 pm, last reset by Janet and Andrea in late August 7736

7737 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, pool, tinaja, in first drainage entering E side of Calf Creek below Upper Calf Creek Falls, near N 37.85394°N 111.45024°W, 1729 m, 10 September 2003, C. R. Nelson# 7737 42 Nematomorpha, horse hair worm, 10:00 pm 7737

7738 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Boulder mail Trail, from trailhead to Sand Creek, N 37.86267°N 111.49027°W 1857 m, 11 September 2003, C. R. Nelson# 7738 42 use SANDmail (at north jct with Sand Creek) start at: SANDTRUCK (trailhead near Boulder Airstrip) N 37.88337°N 111.46441°W elev. 2062 m., *Promachus* near truck; Curculionidae on *Chrysothamnus nauseosus* halfway down; Bombyliidae, *Lordotus* halfway down, 7738

7739 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Sweetwater Creek above jct Sand Creek, N 37.87498°N 111.49743°W 1890 m, 11 September 2003, C. R. Nelson# 7739 42 use SWEET (farthest upstream by CRN); SWEETJCTSA (junction with Sand Creek) N 37.86670°N 111.49431°W, 1881 m) sweeping: *Disonychia*,

Cicadellidae, Formicidae;

Bombyliidae, Asilidae: Machimus; bee 7739

7740 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Sand Creek, jct Boulder mail Trail at north end, N 37.86267 W 111.49027 1857 m, 11 September 2003, C. R. Nelson# 7740 42 SANDmail sweepings from Scrophulariaceae: Castilleja chromosa (?), big species, Pentatomidae, Dermestidae; Libellulidae, Libellula saturata female; Efferia benedicti; Efferia frewingi; Cleridae; Lestidae, Archilestes grandis female. 7740

7741 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Sand Creek, jct Boulder mail Trail at south end, N 37.85897 W 111.49248 1858 m, 11 September 2003, C. R. Nelson# 7741 42 SANDTRAP; emptied and reset malaise trap, last reset by Janet and Andrea around 20 August 2003. 7741

7742 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, pool, tinaja in drainage where Boulder mail Trail leaves Sand Creek on west side, N 37.86069 W 111.49336 1865 m, 11 September 2003, C. R. Nelson# 7742 42 photos: scenery. SANDTINAJA;

also: SANDTRUCK (trailhead near Boulder Airstrip) N 37.88337 W 111.46441, 2062 m; SANDUFO (Boulder airstrip) N 37.88486 W 111.46355, 2059 m.: photos of strip and plane tail sign Dytiscidae; Baetidae: Callibaetis; Aeshna multicolor? adult; Archilestes grandis male; Daphnia. Photos of tadpoles of two species in the pool 7742

7743 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Calf Creek, site, 0.5 mi above Calf Creek Campground, N 37.79902 W 111.41108 1656 m, 12 September 2003, C. R. Nelson# 7743 42 emptied and reset malaise trap, last reset by Janet and Andrea in late August. The trap was down, with a full catch, strings broken, but largely undamaged. Not sure whether down by flood or humans. CALTRAP (or 7 May 2003) Baetidae: males in morning dance swarm. 7743

7744 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, springs, 8 mi NE of Henrieville, Hwy 12, N 37.61250 W 111.89667 2000 m, 12 September 2003, C. R. Nelson# 7744 42 emptied and reset malaise trap, last reset 21 August 2003, CRN # 7716.5; measured mileage in to Henrieville, 8 miles to "downtown". Used GPS to map the site, called HENSP CREA. Lepidoptera: case bearer on Gutierrezia sarothrae; Bombyliidae, several genera; Cicindelidae. 7744

7745 USA: UTAH: Kane Co., East Fork of the Virgin River, 0.2 mi E of Bay Bill Canyon N 37.18181 W 112.74050 1500 m, 12 September 2003, C. R. Nelson# 7745 42 EFKTRK; Parked truck, big muddy washout at next crossing. 7745

7746 USA: UTAH: Kane Co., East Fork of the Virgin River, old parking spot, end of truck road. N 37.18017 W 112.74757 1503 m, 12 September 2003, C. R. Nelson# 7746 42
EFKENDROAD, spot I thought we parked in July 2003 with Dan Cavan. *Stenopelmatus* floating dead in creek; *Efferia frewingi*; *Cicindela*; *Cerambycidae*: *Crossidius*, large. 7746

7747 USA: UTAH: Kane Co., East Fork of the Virgin River, four wheeler trail route out to Elephant Cove, N 37.18045 W 112.75486 1498 m, 12 September 2003, C. R. Nelson# 7747 42 EFKS OUT; route out to the south. 7747

7748 USA: UTAH: Kane Co., East Fork of the Virgin River, 2 mi W of Bay Bill Canyon, N 37.17876 W 112.76907 1491 m, 12 September 2003, C. R. Nelson# 7748 42 EFOLD: Old camp of 28 May 2003; this was the western extent of this trip today. 7748

7749 USA: UTAH: Kane Co., East Fork of the Virgin River, 1.5 mi W of Bay Bill Canyon, N 37.17882 W 112.76443 1492 m, 12 September 2003, C. R. Nelson# 7749 42 Site of Andrea and Janet's traps, yellow pans still crusted with insects and salt. Recovered malaise trap buried in sand from large flash flood, no insects in head, filled with anaerobic sand in bottle. Photos: site and scenery after the devastating flood. EFSITE *Lestidae*: *Archilestes grandis* male; *Coenagrionidae*: *Enallagma* male. 7749

7750 USA: UTAH: Kane Co., East Fork of the Virgin River, mouth of Bay Bill Canyon, N 37.18026 W 112.74307 1503 m, 12 September 2003, C. R. Nelson# 7750 42 photos: canyon and four wheeler track, drivers ignoring sign. EFSIGN. 7750

7751 USA: UTAH: Kane Co., Navajo Lake Overlook, Hwy 14, N 37.52684 W 112.76115 2854 m, 12 September 2003, C. R. Nelson# 7751 42 photos: Navajo Lake. NAVAJO. 7751

7752 USA: UTAH: Iron Co. meadow and dead spruce, Hwy 14, 2 mi E of Navajo Lake Overlook N 37.56874 W 112.79419 2924 m, 12 September 2003, C. R. Nelson# 7752 42 NAVSPRUCE.
photos: meadow, dead spruce, road. 7752

7753 USA: UTAH: Iron Co. Zion Overlook, Hwy 14 N 37.57065 W 112.85852 2968 m, 12 September 2003, C. R. Nelson# 7753 42 ZIONOVER.
photos: view into Zion National Park. I will stitch a panorama. Trip ended this night in Provo at 11:30 pm, I ate dinner at Sullivan's Restaurant in Cedar City. 7753

7754 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6/50, 12 mi E of Thistle N 39.95883 W 111.26775 elev. 1860 m (spring at Wheeler sawmill) 1860 m 13 September 2003, C. R. Nelson# 7754 & P. F. Ashton. 42 emptied and reset malaise trap, last reset 4 September 2003, CRN #7732. It is starting to slow down, but the catch is still

rather good.

WHESPR (of 11 May 2003) 7754

7755 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 elev. 4900 feet (Provo, home) 4900 ft 16 September 2003, C. R. Nelson# 7755 42 Dermaptera: earwigs, *Forficula auricularia*, in grapes 7755

7756 USA: UTAH: Utah Co., American Fork, Hwy I-15 N 40.41579 W 111.86864 1392 m 19 September 2003, C. R. Nelson# 7756 & class 42 YE01AF photos, class at road side; discussion of Lake Bonneville formations. Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. Dytiscidae: *Agabus* came to blue truck 7756

7757 USA: UTAH: Box Elder Co. Brigham City, rest stop, Hwy I-15 N 41.46719 W 112.05327 1284 m 19 September 2003, C. R. Nelson# 7757 & class 42 YE2BRIG photos, class at road side; discussion of Lake Bonneville formations. Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. 7757

7758 USA: IDAHO: Franklin Co. Bear River, just below rock cliffs of Oneida Narrows, N 42.20895 W 111.78489 1435 m 19 September 2003, C. R. Nelson# 7758 & class 42 YE3ONE Dennis Shiozawa discussed stream capture of the Bear River into the Great Basin. Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. 7758

7759 USA: IDAHO: Franklin Co. Bear River, Red Point Campground, just above rock wall of Oneida Narrows, 3 mi N of Hwy 36, N 40.23430 W 111.75890 1437 m 20 September 2003, C. R. Nelson# 7759 & class 42 YE4ONE photos river in the morning. Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. 7759

7760 USA: IDAHO: Franklin Co. Bear River Massacre Monument, Hwy 91, 5 mi NWS of Preston, N 42.14080 W 111.91135 1376 m 20 September 2003, C. R. Nelson# 7760 & class 42 YE5Mass Discussed frame of reference and the writers of history.

Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. 7760

7761 USA: IDAHO: Bannock Co. Red Rock Pass, Hwy 91, 5 mi NE of Swanlake N 42.35459 112.04889 1473 m 20 September 2003, C. R. Nelson# 7761 & class 42 YE06RED photos, class, flood chute of the draining of Lake Bonneville, 8000 years ago.

Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. 7761

7762 USA: IDAHO: Caribou Co. Portneuf River, Hwy 30, outskirts above Lava Hot Springs, N 42.61892 W 112.00394 1544 m 20 September 2003, C. R. Nelson# 7762 & class 42
YE07LAVA photos: scenery; discussion of tufa and marl.

Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. saw fish: Gambusia, Cottus, Catostomus, Micropterus?, Richardsonius, Rhinichthys? 7762

7763 USA: IDAHO: Caribou Co. Bear River, 1 mi W of Grace, N 42.57652 W 111.75041 1684 m 20 September 2003, C. R. Nelson# 7763 & class 42 YE08GRACE photos: scenery, Bear River in Basalt channel.

Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. photos: Oreohelix snails, in lab. Also, snakefly larva, Raphidiidae came out of snail shell in lab. 7763

7764 USA: IDAHO: Caribou Co. lava tube, Niter Ice Caves, 4 mi S of Grace, Hwy 34, N 42.53302 W 111.72649 1680 m 20 September 2003, C. R. Nelson# 7764 & class 42
YE09ICE

Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. possible cave beetle site, none seen. 7764

7765 USA: IDAHO: Caribou Co. 9 mi S of Grace (5 mi s of Niter), Hwy 34, N 42.43083 W 111.72108 1547 m 20 September 2003, C. R. Nelson# 7765 & class 42 YE10THATCH
Discuss Lake Thatcher at Franklin Co. line, Bonneville Bench 1550 m

Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. 7765

7766 USA: IDAHO: Caribou Co. Soda Springs, N 42.65704 W 111.60504 1762 m 20 September 2003, C. R. Nelson# 7766 & class 42 YE11SODA Photos: captured geyser, carbonate terraces.

Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. 7766

7767 USA: WYOMING: Teton Co. Grand Teton National Park, Gros Ventre Campground, N 43.61679 W 110.66171 1955 m 21 September 2003, C. R. Nelson# 7767 & class 42
YE12GROS

Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke.
photos: moose 7767

7768 USA: WYOMING: Teton Co. Gros Ventre Slide, below Lower Slide Lake, N 43.63392 W 110.54749 2087 m 21 September 2003, C. R. Nelson# 7768 & class 42 YE12SLIDE photos: slide discussion, below slide

Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. 7768

7769 USA: WYOMING: Teton Co. Gros Ventre Slide, and Lower Slide Lake, at slide N 43.63652 W 110.53459 2139 m 21 September 2003, C. R. Nelson# 7769 & class 42 YE13SLIDLK photos: Lower Slide Lake.

Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. 7769

7770 USA: WYOMING: Teton Co. Gros Ventre River, outside east, Grand Teton National Park, N 43.63250 W 110.56073 2089 m 21 September 2003, C. R. Nelson# 7770 & class 42 YE14GROS photos: Tetons.

Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. 7770

7771 USA: WYOMING: Teton Co. Grand Teton National Park, Teton Point turnout, Hwy 191, N 43.71778 W 110.66038 2067 m 21 September 2003, C. R. Nelson# 7771 & class 42 YE15TETON photos: Tetons, class & teaching, Tetons panorama.

Discussion glacier formation & landscape modification, long lecture, great spot for it.

Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. 7771

7772 USA: WYOMING: Teton Co. Grand Teton National Park, Jenny Lake, south end, N 43.75177 W 110.72459 2086 m 21 September 2003, C. R. Nelson# 7772 & class 42 YE16JENNY photos: Jenny Lake.

Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. 7772

7773 USA: WYOMING: Teton Co. Grand Teton National Park, Jackson Lake, Hwy 191, near Arizona Island, N 43.98139 W 110.66177 2081 m 21 September 2003, C. R. Nelson# 7773 & class 42 YE17JACKLA photos: low lake level.

Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. 7773

7774 USA: WYOMING: Park Co. Yellowstone National Park, Lewis Falls, Hwy 89, N 44.26759 W 110.63515 2366 m 21 September 2003, C. R. Nelson# 7774 & class 42 YE18LEWIS photos: scenery.

Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. 7774

7775 USA: WYOMING: Park Co. Yellowstone National Park, beach Yellowstone Lake, picnic area near Arnica Creek, N 44.47289 W 110.52637 2391 m 21 September 2003, C. R. Nelson# 7775 & class 42 YE19BEACH photos: barrier island, class, Riley.

Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. 7775

7776 USA: WYOMING: Park Co. Yellowstone National Park, Duck Lake, N 44.41858 W 110.58472 2431 m 21 September 2003, C. R. Nelson# 7776 & class 42 YE20Max ARS photos: lake, maars lakes are formed by the ejection of a geyser field, they are quite deep. Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. 7776

7777 USA: WYOMING: Park Co. Yellowstone National Park, Old Faithful, N 44.45954 W 110.82809 2260 m 21 September 2003, C. R. Nelson# 7777 & class 42 YE21OLDFAI photos: Old Faithful Geyser, ravens. Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. 7777

7778 USA: WYOMING: Park Co. Yellowstone National Park, Midway Geyser Basin, Grand Prismatic Spring, N 44.52571 W 110.83809 2227 m 21 September 2003, C. R. Nelson# 7778 & class 42 YE22PRISM photos: Grand Prismatic Spring, Excelsior Geyser Crater, terraces, trapped dragonflies. Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. 7778

7779 USA: WYOMING: Park Co. Yellowstone National Park, Firehole River near Madison Junction, N 44.64 W 110.85 21 September 2003, C. R. Nelson# 7779 & class 42 YE23BISON

Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke. Photos: Bison. 7779

7780 USA: WYOMING: Park Co. Yellowstone National Park, Madison River, 0.5 mi E of West Entrance, N 44.65421 W 110.99204 2050 m 21 September 2003, C. R. Nelson# 7780 & class 42 YE24ELK Left Yellowstone about 7:00 pm trip ended back in Provo, Utah at 1:00

am.

Riley Nelson, Dennis Shiozawa, Jill Ayala, Gerry Ayala, Dan Eddington, Mike Ferrara, Andy Johnson, Tom Krebs, Seth Lyman, Becky Miller, matt Pyne, Bekah Pyne, Martha Yoke.

Photos: elk. 7780

7781 USA: UTAH: Utah Co., Provo, BYU, Wilkinson Center, Integrative Biology Fall Social, 24 September 2003, C. R. Nelson# 7781 42 photos: people; photos of CRN by Jack Sites and Andrea Palochak. 7781

7782 USA: UTAH: Sevier Co. Fish Creek, S of Hwy I-70, tributary of Clear Creek, near Piute County line, N 38.51084 W 112.45728 6900 ft., 29 July 2003, A. E. Johnson 7782 42
Nelson not present when collected! photos in lab, CRN not at collection site!:
Hesperophylax larva with stonefly eggs, probably of Claassenia sabulosa. also nymphs of Claassenia sabulosa and Pteronarcys californica. 7782

7783 USA: UTAH: Salt Lake Co. Lone Peak Wilderness Area, Red Pine Trail, N 40.57545 W 111.68084 2338 m 26-27 September 2003, C. R. Nelson# 7783 & class 42 TANWHITE
photos: scenery, aspen trees, U shaped valley. TANWHITE was at trailhead at Hwy;
TANRED, at jct, Red Pine Creek & Maybird Gulch Trail: N 40.55325 W 111.69547, elev. 2748 m.

stayed at Tanners Flat: Amy, Adrian, Becky Miller, Jill Ayala, Martha Yoke (TANNER: 40.57014 W 111.70100 elev. 2101 m). To Maybird: Riley Nelson, Russ Rader, Andy Johnson, Mike Ferrara, Dan Eddington. To Red Pine: Tom Krebs, Seth Lyman, Ed & Kari Priddis, matt Pyne. llamas 7783

7784 USA: UTAH: Salt Lake Co. Lone Peak Wilderness Area, Red Pine Creek at jct Maybird Gulch Trail, N 40.55325 W 111.69547 2748 m 26-27 September 2003, C. R. Nelson# 7784 & class 42 TANRED photos: stream. 5:45 pm on 26 Sep, 1:45 pm on 27 Sep.

stayed at Tanners Flat: Amy, Adrian, Becky Miller, Jill Ayala, Martha Yoke (TANNER: 40.57014 W 111.70100 elev. 2101 m). To Maybird: Riley Nelson, Russ Rader, Andy Johnson, Mike Ferrara, Dan Eddington. To Red Pine: Tom Krebs, Seth Lyman, Ed & Kari Priddis, matt Pyne. llamas 7784

7785 USA: UTAH: Salt Lake Co. Lone Peak Wilderness Area, Maybird Creek at cirques below Little matterhorn Peak N 40.54631 W 111.70456 2892 m 26-27 September 2003, C. R. Nelson# 7785 & class 42 TANMax YB photos: peak: 7:15 pm 26 Sep, 7:00 am 27 Sep. Samples 7:00 - 9:00 pm drift nets then 10:00 am - 12:00 pm drift nets; flow, rock samples, benthic samples. also: TANM, later, on trail, 12:48 pm, N 40.54654 W 111.70386, elev. 2938

m.

stayed at Tanners Flat: Amy, Adrian, Becky Miller, Jill Ayala, Martha Yoke (TANNER: 40.57014 W 111.70100 elev. 2101 m). To Maybird: Riley Nelson, Russ Rader, Andy Johnson, Mike Ferrara, Dan Eddington. To Red Pine: Tom Krebs, Seth Lyman, Ed & Kari Priddis, matt Pyne. Trichoptera: Limnephilidae adults; photos: beetle larva, Dolichopodidae flies skating. 7785

7786 USA: UTAH: Utah Co., Timpanogos Cave National Monument, maintenance area, N 40.44 W 111.71 1700 m 2 October 2003, C. R. Nelson# 7786 & R. W. Baumann, with Cami Pulham and Jon Jasper. 42 TANMax YB no gsp reading, estimated from map. Mycetophilidae swarming above ann old cut stumb. 7786

7787 USA: UTAH: Utah Co., Timpanogos Cave National Monument, Timpanogos Cave, near entrance, Soda Pit, N 40.43781 W 111.71178 2039 m 2 October 2003, C. R. Nelson# 7787 & R. W. Baumann & Cami Pulham 42 TCHAN also checked malaise trap outside the opening of Timpanogos Cave (the exit used by tours). Jon Jasper took down the trap about 15 November. It had little in it, the season was indeed cold. The dominant taxon in the trappings was Collembola. Gryllacrididae: Ceuthophilus; Tipulidae; Sciaridae; Mycetophilidae; Muscoid fly; outside: photos: pack rat, Neotoma cinerea. 7787

7788 USA: UTAH: Utah Co., Timpanogos Cave National Monument, Middle Cave, Fault Lake (check to see if this is official name), N 40.43781 W 111.71178 2039 m 2 October 2003, C. R. Nelson# 7788 & R. W. Baumann & Cami Pulham 42 TCHAN Because I was underground, where the GPS does not work, I used the Hansen Cave Entrance as the coordinate and elevation. I also tried collecting in the Big Room in Middle Cave, there we found the remains of a terrestrial isopod. photos: Carabidae (NO!), Staphylinidae, Phlaeopterus cavicollis (Fauvel) and centipede. 7788

7789 USA: UTAH: Utah Co., Timpanogos Cave National Monument, Hansen Cave, first door on trail to Middle Cave N 40.43781 W 111.71178 2039 m 2 October 2003, C. R. Nelson# 7789 & R. W. Baumann & Cami Pulham 42 TCHAN Because I was underground, where the GPS does not work, I used the Hansen Cave Entrance as the coordinate and elevation. Saw a strange harvestman, Opilionida! It escaped in a hole while I tried to photograph it. It appeared to be the same as parts I collected in early summer in the Big Room. Cami has also seen it in the Soda Pit. 7789

7790 USA: UTAH: Utah Co., Timpanogos Cave National Monument, Hansen Cave, near entrance, before catwalk N 40.43781 W 111.71178 2039 m 2 October 2003, C. R. Nelson# 7790 & R. W. Baumann & Cami Pulham 42 TCHAN I used the Hansen Cave Entrance as the

coordinate and elevation, which was very close. Gryllacrididae: Ceuthophilus;
Heleomyzidae; Alucitidae: Alucita hexadactyla; Mycetophilidae; Culicidae; spider:
Clubionidae?? 7790

7791 USA: UTAH: Box Elder Co. Woods Creek Duck Club, 3 mi SW of Corinne, N 41.51714
W 112.13988 1283 m 4 October 2003, C. R. Nelson# 7791 43 FARM photos: scenery,
Marsh wren, ruby crowned kinglet, people. Duck hunting with Mark Belk and his 7 year old
son Caleb. We also met and ate with my cousin Tod Young and his 20 year old son Kyle.
Dytiscidae; 7791

7792 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W
111.64922 elev. 4900 feet (Provo, home) 1495 m 6 October 2003, C. R. Nelson# 7792
43 rocks for photo props, hard dark limestone/dolomite. 7792

7793 USA: UTAH: Utah Co., Provo, BYU, near Widtsoe Building N 40.24625 W 111.64922
1420 m 7 October 2003, C. R. Nelson# 7793 43 Collected by E. Starley, M. Chadwell, and
J. Barborka. C. R. Nelson was not present at capture, but they brought it immediately to my
lab in the Widstoe Building. photos: mantispidae, Climaciella brunnea. 7793

7794 USA: UTAH: Wasatch Co. Strawberry Reservoir, Renegade Point Marina, N 40.1245 W
111.15218 2216 m 10 October 2003, C. R. Nelson# 7794 & class 43 STRREN Found the
campground closed for the season. Choppy water, didn't launch the boat, Searched for a
campsite up Indian Canyon. Class members: Riley Nelson, Dennis Shiozawa, Becky Miller,
Andy Johnson, Dan Eddington, Tom Krebs, Martha Yoke, matt Pyne, Bekah Pyne, Mike
Ferrara, Jill Ayala, and Seth Lyman. 7794

7795 USA: UTAH: Wasatch Co. Strawberry Reservoir area, Indian Creek, near inlet N
40.11438 W 111.17841 2350 m 10 October 2003, C. R. Nelson# 7795 & class 43
STRINDIAN I walked along from near the paved road, roughly to junction with Pigeon Creek,
where we camped. Class members: Riley Nelson, Dennis Shiozawa, Becky Miller, Andy
Johnson, Dan Eddington, Tom Krebs, Martha Yoke, matt Pyne, Bekah Pyne, Mike Ferrara, Jill
Ayala, and Seth Lyman. photos: kokanee salmon, bright red, in spawning run, May dead,
spent individuals. Saw about 100 fish, dead and alive. 7795

7796 USA: UTAH: Wasatch Co. Strawberry Reservoir area, Pigeon Creek, tributary of Indian
Creek, N 40.10558 W 111.18521 2350 m 10 October 2003, C. R. Nelson# 7796 & class 43
STRINDIAN Photos: class on stream, near our campsite. Class members: Riley Nelson,
Dennis Shiozawa, Becky Miller, Andy Johnson, Dan Eddington, Tom Krebs, Martha Yoke,
matt Pyne, Bekah Pyne, Mike Ferrara, Jill Ayala, and Seth Lyman. We added Paul Evans in
the morning of 11 October, we lost Mike Ferrara and Andy Johnson at night of 10 October .

They returned to Provo after our campfire. Elmidae, Dryopidae, Isoperla nymph; Diptera larvae. 7796

7797 USA: UTAH: Wasatch Co. Strawberry Reservoir, near submerged dike north of Renegade Point, N 40.14605 W 111.13857 2316 m 11 October 2003, C. R. Nelson# 7797 & class 43 STRKB3 Photos: class on lake in boat. Samples: secchi disk, 18 m; KB sampler three attempts, third was successful; Hydrolab; Plankton tows. STRHYD1 (hydrolab readings) N 40.14632 W 111.13667 elev. 2317m; STRDIKE (near submerged dike of old Strawberry Reservoir) N 40.14688 W 111.13889 elev. 2316 m; STRKB1 (north of dike, attempted core with KB sampler N 40.14300 W 111.14061 elev. 2314 m; STRKB2 (north of dike, second attempted core with KB sampler N 40.14400 W 111.13999 elev. 2316 m; Class members (not all on boat): Riley Nelson, Dennis Shiozawa, Becky Miller, Paul Evans, Dan Eddington, Tom Krebs, Martha Yoke, matt Pyne, Bekah Pyne, Jill Ayala, and Seth Lyman. plankton 7797

7798 USA: UTAH: Wasatch Co. Strawberry Reservoir, Island Mountain, 3 mi NE of Renegade Point Marina, 40.13567 W 111.11729 2316 m 11 October 2003, C. R. Nelson# 7798 & class 43 STRCRAW Photos: people and crayfish.

Class members (not all on boat): Riley Nelson, Dennis Shiozawa, Becky Miller, Paul Evans, Dan Eddington, Tom Krebs, Martha Yoke, matt Pyne, Bekah Pyne, Jill Ayala, and Seth Lyman. crayfish; ripple Marks on Eocene sandstone. Dennis thought it was the shore of Lake Flagstaff. Crayfish area on rocky slope. 7798

7799 USA: UTAH: Wasatch Co. Strawberry Reservoir, midway between Island Mountain and Renegade Point Marina, to the northeast of Marina, 40.13353 W 111.13634 2317 m 11 October 2003, C. R. Nelson# 7799 & class 43 STRRBV1 Photos: people sampling. Samples: secchi disk, 14 m, less than north of dike, probably due to denser plankton; KB core pulled by Tom Krebs; Hydrolab; Plankton tows, 1 horizontal and 1 vertical. Used about 15 gallons of mixed gas on this trip in the Boston Whaler with Johnson outboard. It has a terribly worn propeller.

Class members (not all on boat): Riley Nelson, Dennis Shiozawa, Becky Miller, Paul Evans, Dan Eddington, Tom Krebs, Martha Yoke, matt Pyne, Bekah Pyne, Jill Ayala, and Seth Lyman. plankton 7799

7800 USA: UTAH: Utah Co., Provo River, Provo Canyon, 1 mi E of Bridal Veil Falls, N 40.34196 W 111.60191 1455 m 17 October 2003, C. R. Nelson# 7800 & class 43 PROVBRID electrofishing with aquatic ecology laboratory.

Photos: people & scenery,

Class members : Riley Nelson, Dennis Shiozawa, Becky Miller, Dan Eddington, Tom Krebs, Martha Yoke, matt Pyne, Mike Ferrara, Andy Johnson, Jill Ayala, and Seth Lyman. Two or

three others. brown trout

sculpin

Pteronarcys californicus, leeches 7800

7801 USA: UTAH: Washington Co. Ivins, Kayenta neighborhood, N 37.18733 W 113.70644 969 m 17 October 2003, C. R. Nelson# 7801 & family 43 KAYENTA ran mercury vapor light, starting around 10:00 pm. Too cool, little else besides moths. With family: Kaye, Andrea, and Amy. We travelled south for a few short hours to collect insects for Andrea's entomology class. We stayed at the home of John and Carolee Hawkins. They are also teachers at BYU. I have home taught them for years. moths 7801

7802 USA: UTAH: Washington Co. Santa Clara River bridge, Hwy 91?, Shivwits, N 37.18100 W 113.74213 944 m 18 October 2003, C. R. Nelson# 7802 & family 43 SHIVW We travelled south for a few short hours to collect insects for Andrea's entomology class. We stayed at the home of John and Carolee Hawkins. They are also teachers at BYU. I have home taught them for years. Noctuidae, Catocala, common; Cynipidae galls on Quercus turbinella; Meloidae; Curculionidae. 7802

7803 USA: UTAH: Washington Co. Beaver Dam Slope, Welcome Spring, 3 mi NW of Castle Cliff, Hwy number? N 37.18100 W 113.74213 944 m 18 October 2003, C. R. Nelson# 7803 & family 43 WELCOME We travelled south for a few short hours to collect insects for Andrea's entomology class. We stayed at the home of John and Carolee Hawkins. They are also teachers at BYU. I have home taught them for years. Asilidae: Sintoria cazieri and Promachus aldrichii; Libethyidae, Nymphalidae: Precis (Junonia) coenia; Adelphia bredowii, Vanessa cardui?; Syrphidae; Reduviidae. 7803

7804 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 elev. 4900 feet (Provo, home) 1495 m 19 October 2003, C. R. Nelson# 7804 43 WELCOME Photo: Muscidae, I hand fed this prey to a robber fly, Sintoria cazieri, collected yesterday CRN #7803. 7804

7805 USA: UTAH: Sevier Co. 2 mi N of Koosharem Reservoir, 24 October 2003, C. R. Nelson# 7805 43 Photo: golden eagle and magpies on road kill deer. Photos not good. 7805

7806 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Sand Creek, east side canyon just below south mail Trail Crossing, N 37.85333 W 111.48277 1759 m 24 October 2003, C. R. Nelson# 7806 43 SANDRIGHT Photo: scenery, tinaja 7806

7807 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Sand Creek, pictographs just below south mail Trail Crossing, N 37.85686 W 111.49065 1783 m 24 October 2003, C. R. Nelson# 7807 43 SANDPICT Photo: pictographs 7807

7808 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Sand Creek, at south mail Trail Crossing, N 37.85897 W 111.49246 1858 m 24 October 2003, C. R. Nelson# 7808 43 SANDTRAPOC emptied malaise trap and took it down, good catch. Last emptied 11 Sep 2003, CRN #7741. Photos: Cottonwoods and scenery. Cecidomyiidae galls on Cercocarpa intricata taken to lab to rear. Checked plant identification with Robert Johnson. 7808

7809 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Sand Creek, north end mail Trail Crossing, N 37.86267 W 111.49027 1857 m 24 October 2003, C. R. Nelson# 7809 43 SANDmail GPS of 11 Sep 2003 photos: cottonwood and scenery on hike back to truck. 7809

7810 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Upper Calf Creek Falls, below falls, N 37.85432 W 111.45157 1822 m 24 October 2003, C. R. Nelson# 7810 43 CALFUPDW2 Emptied and took down malaise trap. Last emptied 10 Sep 2003, CRN # 7736. Good catch. Photos: falls, long exposures in evening light. 7810

7811 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Upper Calf Creek Falls, above falls, N 37.85580 W 111.45240 1823 m 24 October 2003, C. R. Nelson# 7811 43 CALFUPUP2 Emptied and took down malaise trap. Last emptied 10 Sep 2003, CRN # 7735. Good catch. Photos: malaise trap and sheet falls nearby (big plunge pool swimming hole) 7811

7812 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Calf Creek Campground N 37.79338 W 111.41485 1628 m 24 October 2003, C. R. Nelson# 7812 43 CALFCMP photos: people, campground hosts Ruth , Lloyd and wife from Louisiana. 7812

7813 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Calf Creek, 0.5 mi N of Calf Creek Campground, trap site, N 37.79902 W 111.41108 1656 m 24 October 2003, C. R. Nelson# 7813 43 CALFTRAP Emptied and took down malaise trap. Last emptied by Andrea a couple weeks ago (after my 11 Sep 2003 trip). Good catch. Walked in the dark, the end of a long day. Ate at Cowboy Blues Cafe in Escalante at (:00 pm. Howard Hutchinson joined me for dessert. 7813

7814 USA: UTAH: Garfield Co. Escalante, Padre Motel N 37.77007 W 111.59972 1699 m 25 October 2003, C. R. Nelson# 7814 43 ESCMOTEL dried corn from motel owner, Richard Lyman Sr.: RLYmanSR@USA.NET. Pest problem with small boring maggots earlier in the summer. Corn from starts from Lyman, Utah. Business card in notebook. I found no insect pests on close examination back in the lab. 7814

7815 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, springs of Henrieville Creek, 8 mi NE of Henrievill, Hwy 12, N 37.61156 W 111.89503 2013 m 25 October 2003, C. R. Nelson# 7815 43 HENTRAP The malaise trap had been knocked down by flood. Check for date of September Tropic flood, no, not right date. No major rains recorded in the interval between now and the last check. Recovered many specimens. Cleaned trap, but it is quite badly torn. Fix it! No insects flying at 11:30 am, 55 degrees F. 7815

7816 USA: UTAH: Garfield Co. Cannonville, N 37.56522 W 112.05415 1787 m 25 October 2003, C. R. Nelson# 7816 43 CANNON photos: Cannonville church and four wheeler. 7816

7817 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Coyote Canyon Road, #431, near jct Cottonwood Canyon Road, N 37.12767 W 111.84979 1446 m 25 October 2003, C. R. Nelson# 7817 43 COTCOY photos: cliffs on south end of Brigham Plains and surrounding badlands. Including one 9 photo panorama. 7817

7818 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Ring tank near jct Cottonwood Canyon and Coyote Canyon Roads, 2 mi N of Hwy 89 N 37.13078 W 111.85890 1444 m 25 October 2003, C. R. Nelson# 7818 43 COTCOYRING photos: scenery, cattails in ring tank, Dolichopodidae, drowned Hemerobiidae, Scatophagidae: Scatophaga stercoraria, drowned moth Noctuidae. Photos: cow pies without plants on clay plain. . . Notonectidae: Buena and Notonecta; Dolichopodidae; Hemerobiidae, drowned on water. 7818

7819 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, White House Campground, 2 mi S of Paria Contact Station & Hwy 89, N 37.08013 W 111.89024 1320 m 25 October 2003, C. R. Nelson# 7819 43 WHITECAMP photos: scenery, mud of Paria River, White House Rocks and shadows. photos: Acrididae grasshopper on rocks; saw pygmy blue butterfly, Brephidium?; saw monarch Danaus plexippus; caught bees & misc on Chrysothamnus nauseosus. Miridae: narrow black on Artemesia filifolia. Asilidae: Backomyia seminoensis on rock walls of about 45 degrees facing the directly setting sun. 7819

7820 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, White House Spring, 2.5 mi S of Paria Contact Station & Hwy 89, N37.07417 W 111.89364 1315 m 25 October 2003, C. R. Nelson# 7820 43 WHITETRAP Emptied malaise trap, full catch mostly Noctuidae, last changed (probably) 14 Oct 2003 by Dennis Pope. Photos malaise trap. 7820

7821 USA: UTAH: Utah Co., Provo River, Provo Canyon, Hwy 189 at tunnels below Sundance turnoff, N 40.3627 W 111.5607 1585 m 11 November 2003, C. R. Nelson# 7821 43 from internet Much *Ranunculus* floating down stream; gammarus, Asellus, Hydropsychidae, Brachycentridae 7821

7822 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.6 mi S of Vivian Park, Provo River, and Hwy 189, N 40.34771 W 111.54800 1667 m 11 November 2003, C. R. Nelson# 7822 43 SOFKPARK, old *Hesperoperla pacifica* nymphs Skwala nymphs, Zapada nymphs, Rhyacophila larvae 7822

7823 USA: UTAH: Utah Co., Provo River, Provo Canyon, Hwy 189 at Provo Falls Park on scenic drive N 40.34617 W 111.59379 1500 m 11 November 2003, C. R. Nelson# 7823 43 PROVOFALLS Much *Ranunculus* floating down stream; gammarus, Asellus, Hydropsychidae, Brachycentridae. High flow! 7823

7824 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95883 W 111.26775 elev. 1860 m (spring at Wheeler sawmill) 1860 m 8 November 2003, C. R. Nelson# 7824 43 CR Nelson not present when Paul Ashton emptied and took down the malaise trap for the season. It was last emptied on 13 September 2003, CRN #7754. The collecting bottle was very full of insects. 7824

7825 USA: UTAH: Utah Co., Provo, BYU lab 11 November 2003, C. R. Nelson# 7825 & J. Ayala. 43 photo session in lab of Jill Ayala: fish: least chub, source? *Gambusia affinis*, source?

Algae in fish tanks. 7825

7826 USA: UTAH: Utah Co., Provo, BYU Campus 18 November 2003, C. R. Nelson# 7826 43 photos: Dr. Jared Diamond of UCLA, on lecture visit. 7826

7827 USA: UTAH: Utah Co., Provo foothills, south ridge of Slate Canyon, N 40.2221 W 111.6227 1646 m 20 November 2003, C. R. Nelson# 7827 43 Collection by Joshua W. Nehring. C. R. Nelson not present in the field, but photos in lab: Gryllidae: Myrmecophilinae: *Myrmecophilus* probably *manni*, with *Crematogaster* ants. 7827

7828 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 elev. 1495 m 27 November 2003, C. R. Nelson# 7828 43 photos: Otitidae: *Ceroxys* female 7828

7829 USA: UTAH: Utah Co., Provo, Brigham Young University, M. L. Bean Museum 4
December 2003, C. R. Nelson# 7829 43 photos: Christmas Party of the Department of
Integrative Biology; many people pictures. 7829

7830 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W
111.64922° 1495 m 9 December 2003, C. R. Nelson# 7830 43 photos: full moon in pink
morning light; Mount Timpanogos; Utah Valley at home: mantodea egg Masses. 7830

7831 USA: UTAH: Utah Co., Provo, East Lawn Cemetery N 40.29379 W 111.64680 1500 m 4
Jan 2004, C. R. Nelson# 7831 & Amy Leah Nelson 43 photos: scenery for Amy's
photography assignment. 7831

7832 USA: UTAH: Utah Co., Rock Canyon, East of Provo N 40.26466 W 111.62995 1452 m
10 Jan 2004, C. R. Nelson# 7832 & class Bio 100H 43 photos: scenery; video me talking to
class. photos & video: Cynipidae on snow 7832

7833 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W
111.64922° 1495 m 14 Jan 2004, C. R. Nelson# 7833 43 photos: frosty plants and
scenes 7833

7834 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W
111.64922° 1495 m 20 Jan 2004, C. R. Nelson# 7834 43 spider: *Dysderus crocatus*
7834

7835 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95623°W
111.26763° 1829 m 19 Jan 2004, C. R. Nelson# 7835 43 photos: snowmobiling; group
playing cards. 7835

7836 USA: UTAH: Utah Co., Provo, Canyon Road jct 4525 North Street N 39.95623°W
111.26763° 1495 m 30 Jan 2004, C. R. Nelson# 7836 43 photos: morning skies & farms
and sheep near Johnson Sheep Pasture. 7836

7837 USA: UTAH: Utah Co., Provo, BYU, Maeser Building 30 Jan 2004, C. R. Nelson# 7837
43 photos: Karl Maeser statue. 7837

7838 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle N 39.95623°W
111.26763° 1829 m 31 Jan 2004, C. R. Nelson# 7838 43 photos: people, scenery,
wheels, snowmobiling; With J. Kaye Nelson, F. Shirlene Wheeler, Jim & Rona Jurgens, Jan &
McKade Gray, Taylar Allen, and Sabryna Mead. 7838

7839 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building N 40.24634°W 111.63977° 1308 m 3 Feb 2004, C. R. Nelson# 7839 43 BYUWIDB photos: tied flies; Todd Anderson at
microscope and Adam Frischknecht at light trap. 7839

7840 USA: UTAH: Utah Co., Provo, BYU, Greenhouses N 40.24509°W 111.64891°W, 1384 m 27 Feb 2004, C. R. Nelson# 7840 43 BYUGREEN photos: Luis, Frenely, and Luis Gordillo in tomato greenhouse. Photos: Ephydridae, Scatella (Scatella) sp. 7840

7841 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.6 mi S of Vivian Park & Hwy 189 N 40.3477°W 111.54761°W, 1716 m 28 Feb 2004, C. R. Nelson# 7841 & Thomas Krebs, Allison Bingham, Todd Anderson, Mark Nelson, Seth Lyman, Janet Lee, and Scott Ryneerson. 43 SFK Zapada cinctipes; Capnia gracilaria; Baetidae, saw Skwala, saw Baetis 7841

7842 USA: UTAH: Utah Co., Bunnells Fork Creek ject South Fork Creek, South Fork Park, 1.6 mi S of Vivian Park & Hwy 189 N 40.34745°W 111.54627°W, 1707 m 28 Feb 2004, C. R. Nelson# 7842 & Thomas Krebs, Allison Bingham, Todd Anderson, Mark Nelson, Seth Lyman, Janet Lee, and Scott Ryneerson. 43 SFK photos: group of people, individuals. Zapada cinctipes, teneral; Rhyacophila adults; Dixia larva 7842

7843 USA: UTAH: Utah Co., springs of South Fork, South Fork Park, 1.5 mi S of Vivian Park & Hwy 189 N 40.34842°W 111.55046°W, 1657 m 28 Feb 2004, C. R. Nelson# 7843 & Thomas Krebs, Allison Bingham, Todd Anderson, Mark Nelson, Seth Lyman, Janet Lee, and Scott Ryneerson. 43 BUN Ephydridae; Isopoda: Asellus, gammarus; Agabus larva; Staphylinidae 7843

7844 USA: UTAH: Utah Co., Provo, Lions Park, on moss N 40.2512°W 111.6759°W, 1340 m 4 March 2004, C. R. Nelson# 7844 Peck lab, Quinton Lord 43 C. R. Nelson not present at collection spot photos & video: Collembola 7844

7845 USA: UTAH: Utah Co., American Fork River, just below jct South Fork American Fork River, Hwy 92, N 40.45275°W 111.66395°W, 1763 m 6 March 2004, C. R. Nelson# 7845 & T. Anderson & Brett Smith 43 AFJCT video & photos: Zapada cinctipes, Capnia nana males with short wings, Chironomidae: Diamesinae midges and small midges (are the large ones Prodiamesa?) Capnia gracilaria females with long wings. 7845

7846 USA: UTAH: Utah Co., South Fork American Fork River, jct North Fork American Fork River, Hwy 92, N 40.45191°W 111.65742°W, 1865 m 6 March 2004, C. R. Nelson# 7846 & T. Anderson & Brett Smith 43 SFKJCT (of 22 May 2003) Capnia gracilaria in 100% Ethanol; Zapada cinctipes 7846

7847 USA: UTAH: Utah Co., American Fork River, Hwy 92, bridge at mouth of canyon, N 40.43282°W 111.74823°W, 1535 m 6 March 2004, C. R. Nelson# 7847 & T. Anderson 43 AFBR photos: Capnia gracilaria; Zapada cinctipes; photos: Tephritidae on dead Artemisia

ludoviciana (Tephritis webbi Doane, det. C. R. Nelson, 21 April 2004; no photo of Utacapnia logana female; Galls on Chrysothamnus nauseosus: photos: Aciurina trixa det CRN 2 April 2004, emerged in lab on 29 March 2004. This species was a focal point for the Nature Experience by Natalia Haynie of Branson, Missouri. Nice paper. 7847

7848 USA: UTAH: Utah Co., Grove Creek, Grove Canyon, diversion dam, 0.5 mi E of canyon mouth, E of Pleasant Grove, N 40.37703°W 111.70757°W, 1606 m 6 March 2004, C. R. Nelson# 7848 & T. Anderson 43 AFBR Zapada cinctipes; Capnia gracilaria; Empididae: Clinocera; Rhyacophilidae?; Trichoceridae. 7848

7849 USA: UTAH: Utah Co., Diamond Fork River, Road 029, 1 mi NE of Palmyra Campground, N 40.07701°W 111.41049°W, 1600 m 20 March 2004, C. R. Nelson# 7849 & T. M. Krebs. 43 DIAM1 mileage wasn't written on field label. Chang campground references to Palmyra, not Diamond. Chironomidae: Diamesinae; Saldidae; Hydrophilidae: Tropisternus. Chrysomelidae on Chrysothamnus nauseosus and Artemesia tridentata. Kept the host series segregated. Later Shawn Clark told me they are probably two different species of Monoxia. Cucujidae larva under bark of Populus angustifolia, narrowleaf cottonwood. Nabidae on Chrysothamnus nauseosus. Pentatomidae on Artemesia tridentata. 7849

7850 USA: UTAH: Utah Co., Wanrhodes Creek, Road 029, near jct Diamond Fork River N 40.07362°W 111.43025°W, 1600 m 20 March 2004, C. R. Nelson# 7850 & T. M. Krebs. 43 DIAMWANR mileage wasn't written on field label. Chang campground references to Palmyra, not Diamond. photos: Cimbicidae (probably Oeceacus vicarius) and Siphonaptera. Taken with both Nikon DIX handheld, and with Olympus DP11 on a dissecting scope. 7850

7851 USA: UTAH: Utah Co., Diamond Fork River, Road 029, Palmyra Campground, N 40.07200°W 111.42879°W, 1600 m 20 March 2004, C. R. Nelson# 7851 & T. M. Krebs. 43 DIAMCAMP Field label says Diamond Campground, but Palmyra is correct. Ephemeroptera: Mayfly adults, probably Baetidae 7851

7852 USA: UTAH: Sanpete Co. Gunnison, 20 February 2004, C. R. Nelson# 7852 & Sandy Schauers. 43 C. R. Nelson not present when collected. It was collected by Sandy and Neil Schauers, P. O. Box 345, Gunnison, Utah 84634. 435-528-5496 jnSL@gtelco.net photos: Dermestidae larva. 7852

7853 USA: UTAH: Utah Co., Provo, BYU, Botany Pond, N 40.24458°W 111.65118°W, 1395 m 30 March 2004, C. R. Nelson# 7853 & Angela Sanchez 43 BYUBOTPOND Angela Sanchez was the collector. I, C. R. Nelson was not present when collected, but I took the GPS

reading on 2 April 2004. photos: Nematoda, cryptobiotic in Bryophyte identified as: "Order" Dorylaimidae by Dr. Byron Adams of BYU. 7853

7854 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 1495 m 1 April 2004, C. R. Nelson# 7854 43 BYUBOTPOND photos: Baetidae and Simuliidae. Chloropidae, flying early in the morning. 7854

7855 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 1495 m 4 April 2004, C. R. Nelson# 7855 43 Set up malaise trap over compost in garden. photos: Scatopsidae and Tenebrionidae. 7855

7855.5 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6/50, 12 mi E of Thistle N 39.95883°W 111.26775°elev. 1860 msl 1495 m 10 April 2004, C. R. Nelson# 7855.5 43 Set up malaise trap near spring. 7855.5

7856 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 1495 msl (Provo, home) 1495 m 11 April 2004, C. R. Nelson# 7856 43 emptied and reset malaise trap. Last changed 4 April 2004, CRN #7855 Scatopsidae 7856

7857 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 1495 msl (Provo, home) 1495 m 18 April 2004, C. R. Nelson# 7857 43 emptied and reset malaise trap. Last changed 11 April 2004, CRN #7856 Scatopsidae Syrphidae Tipulidae Baetidae Dolichopodidae on window, thought first to be an Anisopodidae. 7857

7858 USA: UTAH: Utah Co., Provo, Rock Canyon mouth N 40.26466 W 111.62995 1452 msl 5 March 2004, Natalia Haynie & C. R. Nelson# 7858 43 C. R. Nelson not present when collected, but had been there on 10 January 2004, CRN #7832. photo session in lab of moth and pupa emerged from on stem of sunflower (*Helianthus annuus*) stalk. 7858

7859 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.43329 W 111.73836, 1547 m, 24 April 2004, C. R. Nelson# 7859 & T. J. Anderson 43 Changed 4 lindgren funnels and 1 malaise trap. Last changed by Todd J. Anderson last Saturday? 17 April 2004. Photos of site and scenery. Trichoptera adult flying - 1, Hydropsychidae, medium to large, *Arctopsyche* sp. det CRN, I thought it was Rhyacophilidae. 7859

7860 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, N 40.44749 W 111.68305, 1818 m, 24 April 2004, C. R. Nelson# 7860 & T. J. Anderson 43 Changed 4 lindgren funnels and 1 malaise trap. Last changed by Tod J. Anderson last Saturday? 17 April 2004.

Photos of site and scenery. Last photo was of Little Mill sign. photos: *Eucapnopsis brevicauda* male. two other males were collected. 7860

7861 USA: UTAH: Utah Co., American Fork Canyon, Hwy 92, American Fork River, South Fork American Fork River, South Fork Ranger Station, site 3 N 40.45180 W 111.65754, 1862 msl 24 April 2004, C. R. Nelson# 7861 & T. J. Anderson 43 Changed 4 lindgren funnels and 1 malaise trap. Last changed by Tod J. Anderson last Saturday? 17 April 2004. Good catch of stoneflies and caddis flies.

Photos of site and scenery. photos: *Paraleuctra occidentalis*; *Capnia nana* female with eggs; *Taenionema pallidum*; small Diptera, Acalypterate, 2 larvae(No! Cecidomyiidae, *Winnertzia* sp., reared in lab, emerged 10 May 2004, photos adults and pupal skins). *Zapada*, millipede Diplopoda; caddis adults; Cucujidae larva. *Isocapnia* male in lindgren funnel 7861

7862 USA: UTAH: Utah Co., American Fork Canyon, Hwy 92, South Fork American Fork River (Timpoooneke Creek), Timpoooneke Campground, site 4 N 40.43226 W 111.63741 2213 msl 24 April 2004, C. R. Nelson# 7862 & T. J. Anderson 43 Set up 4 lindgren funnels and 1 malaise trap. Hiked in about 2 miles from Pine Hollow winter gate on Highway 92. It was a beautiful blue and puffy cloud day.

Photos of site and scenery. photos: Empididae: Clinocera?, *Zapada*, caddis adult. 7862

7863 USA: UTAH: Utah Co., American Fork Canyon, Hwy 92, Pine Hollow Trailhead (locked seasonal gate) N 40.44986 W 111.64364 2008 msl 24 April 2004, C. R. Nelson# 7863 & T. J. Anderson 43 AFPINEHOL Photos: Scenery, Bear Canyon to Julie Andrews Meadow & Woolly Hole & Peak. Mutual Dell Camp at base. 7863

7864 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 msl 1495 m 25 April 2004, C. R. Nelson# 7864 43 emptied and reset malaise trap. Last changed 18 April 2004, CRN #7857 many Calypterates and a few Scatopsidae 7864

7865 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6/50, 12 mi E of Thistle N 39.95883 W 111.26775 1860 msl 25 April 2004, C. R. Nelson# 7865 43 Emptied and reset malaise trap near spring. Last checked 10 April 2004, CRN #7855.5 Found fish fossils in Green River shale near spring, on left side of canyon, perhaps 40 feet from the upper steel tank near big rock slab. fish fossils; many Calypterates and 1 Therevidae. 7865

7866 USA: UTAH: Tooele Co. road on plain east of Davis Mountains between Lookout Pass and Dugway N 40.20 W 112.63 1615 msl 26 April 2004, C. R. Nelson# 7866 & R. L. Johnson. 43 pronghorn & cattle, photos. 7866

7867 USA: UTAH: Tooele Co. Dugway Proving Grounds, East Dugway Dunes, vegetated N 40.21118 W 112.83308 1361 msl 26 April 2004, C. R. Nelson# 7867 & R. L. Johnson. 43 EDUGDU photos: scenery.

Additional collectors: Brad Jessop, Neal Bryan, and Duane Smith. photos: Rhaphidiophoridae sand treader, Brassicaceae: *Erysimum aspersum*; Polygonaceae *Rumex venosus*. 7867

7868 USA: UTAH: Tooele Co. Dugway Proving Grounds, East Dugway Dunes, juniper ridge N 40.23916 W 112.84614 1490 msl 26 April 2004, C. R. Nelson# 7868 & R. L. Johnson. 43 photos: scenery, dunes, and junipers.

Additional collectors: Brad Jessop, Neal Bryan, and Duane Smith. Papilio, Pieridae, Scutellaridae 7868

7869 USA: UTAH: Tooele Co. Dugway Proving Grounds, Cedar Mountains, west slope N 40.31662 W 112.96184 1563 msl 26 April 2004, C. R. Nelson# 7869 & R. L. Johnson. 43 DUGCEDAR photos: scenery, view to Granite Mountain and Deep Creek Mountains. Additional collectors: Brad Jessop, Neal Bryan, and Duane Smith. 7869

7870 USA: UTAH: Tooele Co. Dugway Proving Grounds, Cedar Mountains, Cane Springs N 40.33709 W 112.96861 1751 msl 26 April 2004, C. R. Nelson# 7870 & R. L. Johnson. 43 DUGCANE photos: scenery and people, view to Granite Mountain.

Additional collectors: Brad Jessop, Neal Bryan, and Duane Smith. photos: dead mouse with maggots, Calliphoridae, and Sarcophagidae; Sceloporus lizard; Sciomyzidae: *Pherbellia*; Chrysomelidae; Hydrophilidae; Curculionidae; Tetrigidae. Opomyzidae: *Geomyza* sp.; Pieridae; Hesperidae; *Juncus balteatus* 7870

7871 USA: UTAH: Tooele Co. 4.5 mi W of Vernon, Lookout Pass Road (5.2 mi W of Hwy 36), N 40.08768 W 112.51575 1714 msl 26 April 2004, C. R. Nelson# 7871 & R. L. Johnson. 43 DUGCANE photos: Tettigoniidae: *Anabrus simplex*, mormon crickets, early instars, thousands! Some dead in the borrow pit of the road. 7871

7872 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 msl, 02-May-2004 C. R. Nelson # 7872 44 emptied and reset malaise trap, last emptied 25 April 2004, CRN #7864 Syrphidae, Anisopodidae, Scatopsidae, Tenthredinidae, Therevidae. 7872

7873 USA UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883 W 111.26775 elev. 1860 msl, 06-May-2004 C. R. Nelson # 7873 & R. L. Johnson. 44 emptied and reset malaise trap, last emptied 25 April 2004, CRN #7865

Photos: Bombyliidae Geron NO! Oligodranes and Phthiria NO! now called Poecilognathus and something else; Conophorus, OK CRN; Scatopsidae: Rhegmoclemina sp.; acalypterate: Tethinidae: Pelomyia; Mycetophilidae: Sciophila; Chrysomelidae, now Orsodacnidae: Orsodacne atra; Heleomyzidae, NO Sciomyzidae: Pherbellia, non spotted wings; Empididae: Rhampomyia male.

Rhyacophilidae: Rhyacophila males. 7873

7874 USA UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775°E elev. 1860 msl, 08-May-2004 C. R. Nelson # 7874 & P. J. Ashton. 44 A limnephilid caddis larva was near a newly developed crack in the water hose about 20 feet up the sidehill from the trickle of the stream. I wondered whether it had crawled up the 20 feet in such a short time or whether it had grown to 3/4 inch in a few weeks since being sprayed out through the miniscule crack as an egg. I favored the long-distance crawl idea more. saw: monarch butterfly, Danaus plexippus; swallowtail butterfly, Papilio indra?, seemed to have more black on leading edge of wing than a usual tiger swallowtail, rutulus. mating Trimerotropis pallidipennis. No asilidae. 7874

7875 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E 1495 msl, 09-May-2004 C. R. Nelson # 7875 44 emptied and reset malaise trap, last emptied 2 May 2004, CRN #7872. Mothers Day. 7875

7876 USA UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775°E elev. 1860 msl, 15-May-2004 C. R. Nelson # 7876 & P. J. Ashton. 44 emptied and reset malaise trap, last emptied 6 May 2004, CRN #7873. Started running 1 lindgren funnel trap with propylene glycol in cup. in trap: Therevidae, Bombyliidae, Empididae, Mycetophilidae. 7876

7877 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E 1495 msl, 16-May-2004 C. R. Nelson # 7877 44 emptied and reset malaise trap, last emptied 2 May 2004, CRN #7872. Mothers Day. orange sawflies, Tenthredinidae, abundant, this is the third week of their abundance. bees, Cerambycidae, Mycetophilidae, Scatopsidae. 7877

7878 USA UTAH: Grand Co. Bartlett Wash, 17 mi NW of Moab, 1 mi SW of Brink Spring N 38.72520°W 109.81329°E 1524 msl, 18-May-2004 C. R. Nelson # 7878 & Kent A. Hatch Tim Graham & Heather L Stutz & Drew E. Larson. 44 BARTDIV Measured GPS at downslope point of pool, at breast height. Gathered water and invertebrates for stable isotope studies. BARTDIV, point of peninsula between two whiterock drainage or at divide from Bartlett Wash: N 38.72520 W 109.81320 1524 msl; BROCK, begin rock at head: N 38.72538 W 109.81266 1497 msl; BARTLOW1: N 38.72847 W 109.80920 1467 msl; B00 0, headwater

most tinaja: N 38.72728 W 109.81043 1478 msl; B00 1, 1st water: N 38.72741 W 109.81049 1479 msl; B1, 1st water: N 38.72741 W 109.81048 1476 msl; B2: N 38.72815 W 109.81013 1471 msl; B3: N 38.72921 W 109.81008 1468 msl; B4: N 38.72827 W 109.80996 1466 msl; B5: N 38.7245? W 109.80957 1468 msl; B6: N 38.72843 W 109.80961 1468 msl; B7: N 38.72845 W 109.80953 1468 msl; B8: N 38.72847 W 109.80923 1466 msl; B9 2 (Hatch #): N 38.72857 W 109.80901 1464 msl; B10 1(Hatch#): N 38.72860 W 109.80894 1463 msl; B11: N 38.73082 W 109.80827 1456 msl =BTAD? (tadpoles); B12 TREES, hit big pool with trees: N 38.73138 W 109.80816 1451 msl; B13FLOW, sheet flow stream: N 38.73185 W 109.80802 1449 msl.

Tinaja water samples, many photographs, numbered pools from top down start at BARTDIV end B13 FLOW. Missed B00 0 on way down, notice pebbles by pools for Hatch's numbering system. Scarabaeidae, Tipulidae, Cicadidae 7878

7879 USA UTAH: Grand Co. Sand Flats Recreation Area, Moab, Sand Flats Fin, near Hell's Revenge Trail N 38.58420 W 109.53622 1480 msl, 18-May-2004 C. R. Nelson # 7879 & Kent A. Hatch & Tim Graham & Heather L Stutz & Drew E. Larson. 44 SAFLATLONG Measured GPS at downslope point of pool, at breast height. Continued gathering water and invertebrates for stable isotope studies.

SAFLATPARK, parking area: N 38.57549 W 109.52229 1411 msl; SAFLATCAT, pothole bat shape on fin (SF 5): N 38.58420 W 109.53693 1481 msl; SAFLTLONG, long pool, used for site as it is central: N 38.58420 W 109.53622 1480 msl. Drawing of SAFLATCAT as SF5. Tim's Potholes on top of fin. Branchiopoda: Anostraca: fairy shrimp; Conchostraca: clam shrimp; Ostracoda; Dytiscidae larvae; Chironomidae larvae. My samples came from lower long pool (SAFLTLONG); SAFLATCAT (SF5, called 4 in field) bat pool and small pool just west of bat pool not sampled by Hatch. I called it bat pool for it's batman shape. SF6: also large fairy shrimp in narrow pool with few cattails. 7879

7880 USA UTAH: Grand Co. Moab, Red Rock Motel N 38.57456 W 109.55341 1230 msl, 19-May-2004 C. R. Nelson # 7880 & Kent A. Hatch & Heather L Stutz & Drew E. Larson. 44 SAFLATLONG silverfish, firebrat, Thermobia? speckled. Chrysomelidae 7880

7881 USA UTAH: Grand Co. Bartlett Wash, 17 mi NW of Moab, 1 mi SW of Brink Spring N 38.72678 W 109.81599 1491 msl, 19-May-2004 C. R. Nelson # 7881 & Kent A. Hatch & Heather L Stutz & Drew E. Larson. 44 BD2 4TOAD Measured GPS at downslope point of pool, at breast height. Continued gathering water and invertebrates for stable isotope studies.

BD2TOP, rim top of BD2 drainage: N 38.72432 W 109.81747 1528 msl; BD2ROCK, edge of rock, Navajo Sandstone: N 38.72457 W 109.81750 1516 msl; BD2 1: N 38.72614 W 109.81625 1495 msl; BD2 2 N 38.72618 W 109.81627 1495 msl; BD2 3 N 38.72673 W

109.81602 1493 msl; BD2 4TOAD, used for entire site because central: N 38.72678 W 109.81599 1491 msl; BD2 5 N 38.72737 W 109.81544 1487 msl; BD2 6: N 38.72793 W 109.81532 1485 msl; BD2 7 8, between 7 and 8 because so close: N 38.728110 W 109.81525 1484 msl; BD2 9: N 38.72820 W 109.81522 1481 msl; BD2 10: N 38.72824 W 109.81514 1480 msl; BD2 11: N 38.72830 W 109.81511 1480 msl; BD2 12 N 38.72849 W 81512 1479 msl; BD2 13: N 38.72853 W 109.81509 1479 msl; BD2 14DROP, drop off: N 38.72868 W 109.81503 1475 msl; BD2 15 16, between because close: N 38.73053 W 109.80997 1463 msl; BD2 17 N 38.73084 W 109.80998 1456 msl; BD2 18 N 38.73092 W 109.80998 1459 msl; BD2 19 20 between because close: N 38.73097 W 109.81001 1459 msl; BD2 21DROP, dropoff: N 38.73143 W 109.80988 1456 msl; BD2 22END: N 38.73175 W 109.80968 1449 msl; BD2 23COT, end rock now trees: N 38.73239 W 109.80936 1451 msl; BD2 24DEAD, by big dead log: N 38.73253 W 109.80907 1449 msl; BD2 25FLOW, flowing water: N 38.73265 W 109.80888 1447 msl; BD2 B JCT, drainage confluence with B of yesterday: N 38.73320 W 109.80836 1440 msl; BBLOWRIDGE, low ridge between B and BD2 near jct: N 38.73204 W 109.80866 1460 msl; BBRINKS, Brink Spring: N 38.73178 W 109.80234 1423 msl, developed water source for cattle; BYY, Y in road to Bartlett Wash: N 38.74559 W 109.80318 1407 msl; BTURN, turnoff Hwy 91 to get to Bartlett Wash Area: N 38.74849 W 109.73851 1365 msl. photos Bufo punctatus and Scaphiopus in BD2 4; Chironomidae hand on walls, each under a flocculent patch of sediment. Sampled tinajas in second drainage north from parking area, Called 2nd north: BD2 for Bartlett Drainage #2; I particularly sampled for vouchers from pools BD2 12. many photos of sites. 7881

7882 USA UTAH: Grand Co. Bartlett Wash, 17 mi NW of Moab, 1 mi SW of Brink Spring N 38.72485 W 109.81029 1486 msl, 19-May-2004 C. R. Nelson # 7882 & Kent A. Hatch & Heather L Stutz & Drew E. Larson. 44 BPARK 1 Measured GPS at downslope point of pool, at breast height. Continued gathering water and invertebrates for stable isotope studies. Parking spot, three readings, same spot: BPARK1: N 38.72485 W 109.81029 1486 msl; B2PARK: N 38.72485 W 109.81031 1488 msl; BPARK3: N 38.72488 W 109.81030 1506 msl. BS0, end walk upstream, no pool: N 38.72281 W 109.81133 1499 msl; BS1 BLACK, from side drainage, blackwater: N 38.72287 W 109.81091 1498 msl; BS2: N 38.72380 W 109.81009 1495 msl; BS3: N 38.72387 W 109.80988 1493 msl; BS4: N 38.72385 W 109.80857 1488 msl; BS 5 6, close: N 38.72395 W 109.80811 1486 msl; steep pour off downstream, flowing water below. Sampled water and some animals tinajas in deep drainage south of parking area. Called BS for Bartlett South. Mostly sampled animals from BS 1, a blackwater plunge pool on south side of main channel. There were some reeds growing in a pool upstream of this pool. Did some collecting in BS 6. Buprestidae at truck where parked; Ephemeroptera in BS1, including a subimago. Finished around 5 pm then

drove through Hanksville to Boulder and Escalante, nice sunset. Late dinner at Cowboy Blues Restaurant in Escalante. 7882

7883 USA UTAH: Garfield Co. Grand Staircase - Escalante National Monument, head of Calf Creek, near Boulder mail Trail, tinajas N 37.86729°W 111.46251° 1882 msl, 20-May-2004 C. R. Nelson # 7883 & Kent A. Hatch & Heather L Stutz & Drew E. Larson. 44 CC 4 5 Photos: Tinajas, scenery, rock, and grain, people. Continued gathering water and invertebrates for stable isotope studies. Measured GPS at downslope point of pool, at breast height.

CC1, first pool measured in Calf Creek drainage, N 37.86959 W 111.46822 elev. 1942 msl; CC2, second: N 37.86786 W 111.46314 elev. 1882 msl; CC3: N 37.86749 W 111.46350 elev. 1884 msl; CC4 5, close: N 37.86729 W 111.46251 elev. 1882 msl; CCGREEN, pea soup, green algae: N 37.86715 W 111.46227 elev. 1881 msl; CC7: N 37.86706 W 111.46221 elev. 1880 msl; CC8: N 37.86698 W 111.46214 elev. 1878 msl; CC9 Beach, sand at one end: N 37.86658 W 111.46186 elev. 1873 msl; CCTREES, end rock now trees: N 37.86623 W 111.46144 elev. 1866 msl. Sampled several rock pools: Culicidae, Dytiscidae, Chironomidae, Gerridae. Photos: Chrysomelidae larvae skeletonizing birch leaves (CCTREES). Mutillidae, Simuliidae, Tenebrionidae: Eusattus. Photos: Thysanura-Archaeognatha: Machilidae. 7883

7884 USA UTAH: Garfield Co. Grand Staircase - Escalante National Monument, wash with tinaja and lone cottonwood, 1 mi East of Old Sheffield Road and 12 mi East of Escalante, Hwy 12 N 37.74995°W 111.44492° 1735 msl, 20-May-2004 C. R. Nelson # 7884 & Kent A. Hatch & Heather L Stutz & Drew E. Larson. 44 COTTINAJ1 Walked up the drainage above the Cottonwood Pool (COTTINAJ1) and found no more tinajas upstream.

Measured GPS at downslope point of pool, at breast height, except for pool 6 where I had to walk downstream 10-50 m to get out of the narrow canyon where I had no GPS reception. I also called this "Cottonwood Tinaja Wash" in some notes. Mileages: site of wash 1607.1; Old Sheffield Road turnoff & cattle guard 1608.1; scenic overlook 1608.7; radio tower road 1609.2; Post office in Escalante 1619.0.

COTTINAJ1, cottonwood tree plunge pool next to Highway: N 37.74995 W 111.44492 elev. 1735 msl; COTTINAJ2: N 37.74965 W 111.44493 elev. 1732 msl; COTTINAJ3: N 37.74902 W 111.44437 elev. 1724 msl; COTTINAJ4: N 37.73813 W 111.44366 elev. 1719 msl; COTTINAJ5: N 37.74786 W 111.44355 elev. 1717 msl; COTPOUR, pour off, end of easy access downstream, no pool: N 37.74578 W 111.44258 elev. 1712 msl; COTTINAJ6, upstream second drainage, Limnephilidae!: N 37.74768 W 111.44659 elev. 1719 msl. Examined several rock pools. Limnephilidae cases on the rock wall above pool 6. Saw bee nests, probably Micranthophora or related in vertical sandstone wall at: BEENESTS: N 37.75236 W 111.44851 1754 msl. 7884

7885 USA: UTAH: Kane Co., Paria Canyon - Vermilion Cliffs Wilderness Area, The Dive, West Clark Bench, potholes on rim, cement water guide pool N 37.02879°W 111.99419°W 1674 msl, 21-May-2004 C. R. Nelson # 7885 & Kent A. Hatch & Heather L Stutz & Drew E. Larson. 44 DIVEPOND Collected invertebrates for stable isotope analysis. Directions to the parking spot: Go east from Kanab, take road to right immediately after Paria Outpost Restaurant. If get to Paria River, gone too far (look for road 750) 789.3. Y at top of Long Canyon, 793.5; Veer left 793.8; turn right (blue knocked down sign) 794.4; Road ends and is blocked off by red "road closed" sign Marking edge of wilderness area 796.2; Continue walking about 1.5 miles down road to Navajo Sandstone slickrock. Directions to the Dive Potholes following map instructions of Mike Salamaca of the BLM. More notes: road ends at wilderness sign, walk about 1.5 miles to the rim. Found one "permanent" pothole with cement gathering wing on slickrock. Took water samples, insects samples. Photos: scenery and old feeder trough. Sandy roads, be careful.

DIVEPARK, park truck, end road, edge wilderness area: N 37.04073 W 111.96783 elev. 1646 msl; DIVEENDRD, end road, edge slickrock: N 37.03345 W 111.98856 elev. 1692 msl; DIVEFEEDER, cattle feed trough: N 37.03268 W 111.99072 elev. 1684 msl; DIVEPOND, cement guide pool: N 37.02879 W 111.99419 elev. 1674 msl, use as main site. photos: Scenopinidae: Prorates; photos: Dytiscidae, 2 or 3 spp., Corixidae, Corisella?, Rana tadpoles. photos: Opuntia, Poliomenantha, junipers. Notonectidae, Chironomidae (blook red, Chironomus?). 7885

7886 USA UTAH: Kane Co., Paria Canyon - Vermilion Cliffs Wilderness Area, The Dive, West Clark Bench, dry temporary potholes on rim, South of cement water guide pool N 37.02532°W 111.99444°W 1701 msl, 21-May-2004 C. R. Nelson # 7886 & Kent A. Hatch & Heather L Stutz & Drew E. Larson. 44 DIVEDRY photos: scenery, arch, honeycombed sandstone. Dry flat pools with dead fairy shrimp crust. Track in GPS ends at a small arch on the skyline. Anostraca: fairy shrimp, in dried crust 7886

7887 USA UTAH: Kane Co., Mount Carmel Junction, Hwy 89 & 9 N 37.24417°W 112.66873°W 1625 msl, 21-May-2004 C. R. Nelson # 7887 & Kent A. Hatch & Heather L Stutz & Drew E. Larson. 44 MTCAR crinoid fossils in rim rock north of Texaco Station, north of Hwy 9 & 89 intersection. 7887

7888 USA UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775°W 1860 msl, 22-May-2004 C. R. Nelson # 7888 & J. K. Nelson 44 emptied and reset malaise trap and lindgren funnel trap. Last reset 15 May 2004, CRN#7876. Not sorted immediately. 7888

7889 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°W 1495 msl, 23-May-2004 C. R. Nelson # 7889 44 emptied and reset malaise

trap. Last reset 16 May 2004, CRN#7877. Not sorted immediately. photos: Carabidae larva. 7889

7890 USA UTAH: Utah Co., Timpanogos Cave National Monument, Timpanogos Cave system, N 40.43781° W 111.71178 2039 msl, 26-May-2004 C. R. Nelson # 7890 & A. J. Nelson & Jon Jasper & Camille Pulham & Brandon Kowallis. 44 Set pitfall traps throughout caves with 2.5% salt solution and some soap. Did not place traps #62-67. they need placement in the Lower Passage, but were unmarked on the available map. 7890

7891 USA UTAH: Utah Co., Timpanogos Cave National Monument, Timpanogos Cave, Soda Pop Pit N 40.43781° W 111.71178 2039 msl, 26-May-2004 C. R. Nelson # 7891 & A. J. Nelson & Jon Jasper & Camille Pulham & Brandon Kowallis. 44 photos: Opilionida, Taracus? 7891

7892 USA UTAH: Utah Co., Timpanogos Cave National Monument, Middle Cave, Ladder Ledge over Big Room, N 40.43781° W 111.71178 2039 msl, 26-May-2004 C. R. Nelson # 7892 & A. J. Nelson & Jon Jasper & Camille Pulham & Brandon Kowallis. 44 Retrieved trap #23, open all winter, specimens in reasonable condition, accidentally left all winter, last emptied 1 Oct 2003 or 23 Sep 2003? Sciaridae: Corynoptera, 9 poor individual specimens; Acari, good specimens. 7892

7893 USA UTAH: Utah Co., Timpanogos Cave National Monument, Hansen Cave, Seven Up Rock N 40.43781° W 111.71178 2039 msl, 26-May-2004 C. R. Nelson # 7893 & A. J. Nelson & Jon Jasper & Camille Pulham & Brandon Kowallis. 44 Retrieved trap #2, open all winter, specimens in quite reasonable condition, accidentally left all winter, last emptied 1 Oct 2003 or 23 Sep 2003? Rhaphidiophoridae, Ceuthophilus 7; Sciaridae Corynoptera 7, poor preservation; Opilionida 2, one as one chela only, poor preservation; Acari 2; spider 1. 7893

7894 USA UTAH: Utah Co., Timpanogos Cave National Monument, Hansen Cave, Tank Room Lookout, N 40.43781° W 111.71178 2039 msl, 26-May-2004 C. R. Nelson # 7894 & A. J. Nelson & Jon Jasper & Camille Pulham & Brandon Kowallis. 44 Retrieved trap #36, open all winter, specimens in reasonable condition, accidentally missed being emptied 1 Oct 2003 or 23 Sep 2003? Collembola, Entomobryidae? 16; Sciaridae, Corynoptera 1. 7894

7895 USA UTAH: Utah Co., Timpanogos Cave National Monument, Timpanogos Cave, Velcro Tubes N 40.43781° W 111.71178 2039 msl, 26-May-2004 C. R. Nelson # 7895 & A. J. Nelson & Jon Jasper & Camille Pulham & Brandon Kowallis. 44 mites in pack rat midden; Photos: Tomoceridae, Tomocerus sp. 7895

7896 USA UTAH: Utah Co., Springville, 161 East 200 South 28-May-2004 C. R. Nelson # 7896 & family 44 photos: Birthday Party for Sherry Wheeler, 75 years. 7896

7897 USA UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.43329° W 111.73836° 1547 m, 29-May-2004 C. R. Nelson # 7897 44 emptied & reset malaise and lindgren funnel traps, last done 22 May 2004 by Scott Ryneearson. Took some limestone rocks from nearby for photographs. 7897

7898 USA UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, N 40.44749° W 111.68305°, 1818 m, 29-May-2004 C. R. Nelson # 7898 44 emptied & reset malaise and lindgren funnel traps, last done 22 May 2004 by Scott Ryneearson. small tear in malaise trap. 7898

7899 USA UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180° W 111.65754°, 1862 msl 29-May-2004 C. R. Nelson # 7899 44 emptied & reset malaise and lindgren funnel traps, last done 22 May 2004 by Scott Ryneearson. small tear in malaise trap. 7899

7900 USA UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River (Timpooneke Creek), Timpooneke Guard Station, site 4, N 40.43226° W 111.63741°, 2213 msl 29-May-2004 C. R. Nelson # 7900 44 emptied & reset malaise and lindgren funnel traps, last done 22 May 2004 by Scott Ryneearson. small tear in malaise trap.

malaise trap down, moved it slightly, needs to be reset, more string. 1.9 miles from Pine Hollow Gate; 22 miles from Nelson home; home 125, Timpooneke 147; Salamander Flat 149; Cascade Springs turnoff Hwy 92 150.5; Sundance turnoff Hwy 92 & 189 159; home 168. 40 minutes Timpooneke to home by way of Sundance. 7900

7901 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343° W 111.64922° 1495 msl 30-May-2004 C. R. Nelson # 7901 44 emptied & reset malaise trap, last done 23 May 2004 CRN#7889. Syrphidae; Cerambycidae; Tenthredinidae, including 2-3 of orange ones previously abundant last few weeks. Elateridae. 7901

7902 USA UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883° W 111.26775° 1860 msl 31-May-2004 C. R. Nelson # 7902 & P. F. Ashton & S. Ashton 44 Paul Ashton emptied & reset malaise trap, last done 22 May 2004 CRN#7888. CRN not present when trap emptied. 7902

7903 USA UTAH: Box Elder Co. Wood Creek, 2 mi SW of Corinne, Woods Creek Duck Club N 41.51706° W 112.13987° 1290 msl 31-May-2004 C. R. Nelson # 7903 & J. K. & A. L.

Nelson 44 FARMHOUSE Photos: panoramas from chimney of cabin; photos: scenery near west pond. Saw a buck deer in velvet buck deer in velvet 7903

7904 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775°W 1860 msl 05-Jun-2004 C. R. Nelson # 7904 & J. K. Nelson 44 emptied & reset malaise trap, last done 31 May 2004 by P. F. Ashton. Lindgren funnel was down, I retired it. Mycetophilidae, Empididae, Therevidae, Micropezidae 7904

7905 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°W 1495 msl 07-Jun-2004 C. R. Nelson # 7905 44 emptied & reset malaise trap, last done 30 May 2004

CRN #7901 Mycetophilidae, Empididae, Bombyliidae, Stratiomyidae, Archaeognatha, Pseudoscorpionida 7905

7906 USA: UTAH: Millard Co. Pavant Range, maple Hollow 07-Jun-2004 C. R. Nelson # 7906 44 photos: people Leland Roberts & Robert Johnson. CRN not present when collected by Robert Johnson. rotting large puffball fungus; photos: Acalypterate, Sphaeroceridae, Staphylinidae, Calypterate larvae, Histeridae. 7906

7907 USA: UTAH: Utah Co., Timpanogos Cave National Monument, Timpanogos Cave System N 40.43765 W 111.71175 2042 msl 09-Jun-2004 C. R. Nelson # 7907 & Cami Pulham, Brandon K. Kowallis, and Bridgett Dart. 44 TIMPENT Emptied and reset pitfall traps, first change of season after set up on 26 May 2004, CRN #7890. Saw things in #6, 12, 15, 19, 24, 32, 33, 37, 45, 48, 59, 72, 73, 77, 78, 80, 81, 82, 83, 86. Traps mapped carefully by Brandon Kowallis in ArcView. Also HANSENT N 40.43765 W 111.71169 elev. 2058 msl. photos: Theridiidae, outside entrance in twilight zone. 7907

7908 USA: UTAH: Utah Co., Timpanogos Cave National Monument, outside entrance of Timpanogos Cave N 40.43765 W 111.71175 2041 msl 09-Jun-2004 C. R. Nelson # 7908 & Cami Pulham, Brandon K. Kowallis, and Bridgett Dart. 44 TIMPENT photos: Theridiidae, outside entrance in twilight zone. Theridiidae, large brown & white. 7908

7909 USA: UTAH: Utah Co., Timpanogos Cave National Monument, Timpanogos Cave, Soda Pop Pits N 40.43765 W 111.71175 2041 msl 09-Jun-2004 C. R. Nelson # 7909 & Cami Pulham, Brandon K. Kowallis, and Bridgett Dart. 44 TIMPENT Heleomyzidae: Aecothea; Formicidae. 7909

7910 USA: UTAH: Utah Co., Timpanogos Cave National Monument, Timpanogos Cave, Soda Pop Pits: Velcro Tubes; N 40.43765 W 111.71175 2041 msl 09-Jun-2004 C. R. Nelson # 7910 & Cami Pulham, Brandon K. Kowallis, and Bridgett Dart. 44 TIMPENT Opiliona: one small light & one large; Collembola: Tomoceridae: Tomocerus on pack rat dung. 7910

7911 USA: UTAH: Utah Co., Timpanogos Cave National Monument, Hansen Cave, inside entrance door, N 40.43765 W 111.71179 2058 msl 09-Jun-2004 C. R. Nelson # 7911 & Cami Pulham, Brandon K. Kowallis, and Bridgett Dart. 44 TIMPENT Furnace Cave: also took a sample of packrat midden to run through a berlese funnel. No insects resulted. Heleomyzidae: Aeocothea; 7911

7912 USA: UTAH: Utah Co., Santaquin Canyon 08-Jun-2004 C. R. Nelson # 7912 44 TIMPENT C.R. Nelson not present when collected by "Ruth" and brought in by Robert Johnson. Asteraceae: Agoseris aurantiaca. Photos: Tephritidae: Paroxyna dupla, pupae emerged as adults on 10 June 2004 7912

7913 USA: UTAH: Box Elder Co. Grouse Creek area N 40.70 W 113.88 1623 msl 11-Jun-2004 C. R. Nelson # 7913 44 TIMPENT C.R. Nelson not present when collected by Hal Black and Clayton White. Tettigoniidae: mormon crickets, Anabrus simplex 7913

7914 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883 W 111.26775 1860 msl 12-Jun-2004 C. R. Nelson # 7914 & J. K. Nelson & P. F. Ashton. 44 emptied & reset malaise trap, last done 5 June 2004 CRN #7904 Nice catch; Stratiomyidae, Therevidae, Asilidae 7914

7915 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883 W 111.26775 1860 msl 19-Jun-2004 C. R. Nelson # 7915 & family 44 emptied & reset malaise trap, last done 5 June 2004 CRN #7914 Nice catch; Stratiomyidae, Therevidae, Asilidae 7915

7916 USA: UTAH: Utah Co., Timpanogos Cave National Monument, Hidden Mine Cave 23-Jun-2004 C. R. Nelson # 7916 & Brandon K. Kowallis, Timothy Barnhardt, and Bridgett Dart. 44 saw pack rat nest; suggested setting up a malaise trap inside; cave with a vertical shaft at back; part way up the trail. GPS recorded as HIDDEN on GPS III Plus 7916

7917 USA: UTAH: Utah Co., Timpanogos Cave National Monument, Timpanogos Cave, inside entrance door N 40.43765 W 111.71175 2041 23-Jun-2004 C. R. Nelson # 7917 & Brandon K. Kowallis, Timothy Barnhardt, and Bridgett Dart. 44 TIMPENT near St Bernard: Calliphoridae: Protocalliphora?; photos: formations, including Cascade of Energy. Brandon went into Soda Pop Pits and collected: Opilionidae, Boletina, & checked traps in Timpanogos and Middle Cave. Heleomyzidae; Theridiidae spiders, 2 spp. 7917

7918 USA: UTAH: Utah Co., Timpanogos Cave National Monument, Timpanogos Cave, Chimes Room N 40.43765 W 111.71175 2041 23-Jun-2004 C. R. Nelson # 7918 & Brandon

K. Kowallis, Timothy Barnhardt, and Bridgett Dart. 44 TIMPENT photos: formations, helictites, soda straws (mouse formation is a plugged soda straw). 7918

7919 USA: UTAH: Utah Co., Timpanogos Cave National Monument, Middle Cave, lake N 40.43765 W 111.71175 2041 23-Jun-2004 C. R. Nelson # 7919 & Brandon K. Kowallis, Timothy Barnhardt, and Bridgett Dart. 44 TIMPENT photos: Middle Cave Lake 7919

7920 USA: UTAH: Utah Co., Timpanogos Cave National Monument, Hansen Cave, inside entrance door N 40.43765 W 111.71175 2041 23-Jun-2004 C. R. Nelson # 7920 & Brandon K. Kowallis, Timothy Barnhardt, and Bridgett Dart. 44 TIMPENT Mycetophilidae: Boletina. 7920

7921 FRENCH POLYNESIA: Society Islands Windward Islands (Iles du Vent) Tahiti S 17.553 W 149.595 54 msl 27 - 30 June 2004 C. R. Nelson # 7921 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. 44 TAHIFAAA Temple in Papeete, 29 June 2004. Coordinates are actually TAHIFAAA for Faaa. photos: Evaniidae, Stratiomyidae, Cicadellidae (glassy winged sharpshooter, mouche pisseuse)

photos: large hermit crab in scorpion shell at Point Venus. 7921

7922 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Borabora S 16.50126 W 151.75117 10 msl 30-Jun-2004 C. R. Nelson # 7922 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. 44 est. near LDS church photos: near church and leaving for Maupiti on the Maupiti Express. Saw fish: auhopu, Bonita; tore, medium bonita; toheveri, larger bonita (15 kg). 7922

7923 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) trip from Borabora to Maupiti S 16.47486 W 152.09576 0 msl 01-Jul-2004 C. R. Nelson # 7923 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. 44 ROPU (between) photos: boat trip, Tupai, Tahaa, Raiatea, Borabora, and Maupiti on the Maupiti Express. 7923

7924 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Onoiau Pass S 16.48444 W 152.24577 0 msl 01-Jul-2004 C. R. Nelson # 7924 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. 44 MAU PASS photos: pass; MOHI (Mick and Emilta Mohi's house at Terei'a: S 16.44850 W 152.27417 elev. 0 msl. TEREIA (extreme point in Maupiti near Mohi's house) S 16.44817 W 152.27496 0 msl, GPS read as 16 msl. 7924

7925 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Auirā, Hoatatea (Hoakatea) area S 16.44032 W 152.28491 1 msl 02-Jul-2004 C. R. Nelson # 7925, J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. Alice & Pava'u Teave. 44 MAUHOACOCO, in coconut thicket MAU AUI HOA R(eef) on the reef S 16.43971 W 152.29201 0 msl read as 4 msl on GPS; MAU HOAKA(tea), lagoon side: S. 16.44099 W 152.28488 0 msl read as -3 msl.

Set three malaise traps on ocean side (tua), on the reef side of the motu; Set three malaise traps on the lagoon side near a brackish pond, one in a coconut thicket. photos:

watermelon farm, Sarcophagidae mating; Heteroptera.

three dominant plants near ocean side (tua):

naupata = aihere tapau or tiare tapau; tahina: big leaves; turamoa: medium leaves, somewhat succulent spirally in whorls, beautiful! 7925

7926 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, mountains S 16.44693 W 152.25523 360 msl 03-Jul-2004 C. R. Nelson # 7926, J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. Alice & Pava'u Teave. 44 MAU URU GPS is top of Urufatiu, the famous peak of legend, but not the highest. Walked up to the peaks on the path from Farauru, near the city buildings. Stopped for a knife at Augustin & Sabine's house. Visited 5 peaks, set up two traps near the summits one at mid elevation.

MAU EA (beginning of trail on road) S 16.44569 W 152.24797 elev. 0 msl. MAU EA TRP1: S 16.44600 W 152.25099, elev. 116 msl; MAU PTRAP2 (malaise trap 2): S 16.44698 W 152.25507 elev. false GPS! 306 msl; MAU EATR2 (malaise trap 2, same as PTRAP2), in purau forest before peak 1 (Urufatiu): S 16.44702 W 152.25491 elev. 360 msl. MAU PEAK2 (peak 2, above best view from Urufatiu, with shelf beneath where I spent a cold rainy night with SHAN manihī on my mission in 1976): S 16.44694 W 152.25542 elev. 362 msl; MAU P3 (peak 3, ridge near peak 4, site of malaise trap 3 and pan traps: S 16.44675 W 152.25552 elev. 370 msl. Redo at malaise trap 3: MAU PTRAP 3 on 7 July 2004: S 16.44669 W 152.25566 elev. 344 msl). MAU P4 (peak 4, nice view! near end of pan traps headed to peak 5, not far from peak 3 which is in trees): S 16.44671 W 152.25583 elev. 370 msl, excellent spot for hilltopping flies!). MAU P5 (peak 5, highest but view obscured by trees; highest rock engraved in Japanese in May of 2004): S 16.44635 W 152.25758, elev. 376 msl. 7926

7927 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a S 16.44817 W 152.27496 0 msl 04-Jul-2004 C. R. Nelson # 7927, J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. 44 TEREIA beetle, manumanu haari, Cerambycidae?; isopod; Dermaptera; Sphingidae; ticks (Acari) on dog; lice, Anoplura, Pediculus. 7927

7928 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Auirā, land of Bowie Torope S 16.44618 W 152.28403 7 msl 05-Jul-2004 C. R. Nelson # 7928 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. Alice & Pava'u Teave. Emilta & Tehani Mohi. 44 MAU BOWIE Crossed motu on path to ocean side, collecting as we went. I divided collections into: tai, on lagoon side; uta, midway across islet, and tua, on the ocean side. We continued north to the Hoakatea cross road, collecting along the way at the high water strand line.

MAU BOWIE (Bowie's land) S 16.44618 W 152.28403, elev. 7 msl. MAU BOW REEF (reef, ocean side at path from Bowie's land) Bowie is Emilta MOHI's brother. S 16.44565 W 152.29393 elev. 0 msl, gps read as 12 msl. swept many small flies from stranded seaweed on lagoon side. 7928

7929 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Auirā, Hoatatea (Hoakatea) ocean reef side. S 16.43860 W 152.29053 0-4 msl 05-Jul-2004 C. R. Nelson # 7929 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. Alice & Pava'u Teave. Emilta & Tehani Mohi. 44 MAUAUIHOARE2 emptied and reset malaise trap and set 20 yellow and 10 blue pans. MAUAUIHOAR (on reef): S 16.43971 W 152.29201 elev. 0 msl. MAUAUIHOARE2 (slightly inland at malaise trap 2 and pans site): S 16.43860 W 152.29053 elev. 4 msl. MAUJANNICK (Jannick Teriihaunui's melon farm. Thrips killing buds of watermelon. Near malaise trap 3 set on a burned coconut stump inland from trap 2 on path, S 16.43956 W 152.28859 elev. 7 msl. Syrphidae: Ornidia, picture winged flies; 7929

7930 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Auirā, Hoatatea (Hoakatea) lagoon side. S. 16.44099 W 152.28488 0-4 msl 05-Jul-2004 C. R. Nelson # 7930 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. Alice & Pava'u Teave. Emilta & Tehani Mohi. 44 MAU HOAKA emptied and reset malaise traps, 1 near dark coconut thicket path and 2 near small pond with two freshwater eels. Set 20 yellow and 10 blue pans. MAU HOAKA(tea), lagoon side: S. 16.44099 W 152.28488 0 msl. Collected back along beach to Bowie Torope's house. Syrphidae: Ornidia, picture winged flies; 7930

7931 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a S 16.44817 W 152.27496 0 msl 04-Jul-2004 C. R. Nelson # 7931 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. 44 TEREIA set 20 yellow and 10 blue pans. wasps 7931

7932 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Tutturiraa Ninahaere Rocks near Terei'a S 16.44974 W 152.27318 0 msl 05-Jul-2004 C. R. Nelson # 7932 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee &

Sarah I. Kendall. 44 MAU TUTURI coordinates calculated from map on GPS. Set 3 malaise traps 7932

7933 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a S 16.44817 W 152.27496 0 msl 06-Jul-2004 C. R. Nelson # 7933 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. 44 TEREIA ate at VAETUA Gerard and Georgina's, in the evening, chinese food. Asilidae, Otitidae 7933

7934 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, mountains S 16.44693 W 152.25523 360 msl 07-Jul-2004 C. R. Nelson # 7934 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. Alice & Pava'u Teave. 44 MAU URU emptied and reset malaise traps: trap 1 at low elevation; trap 2 near peak 1; trap 3 near peak 3 (good stuff!). also set about 23 yellow pans and about 11 blue pans. Also collected and photographed ants and millpedes near fungus covered mango log (MAU FUNG, mid elevation mango forest, fungus log: S 16.44699 W 152.25389, 272 msl), amazed there were no beetles. MAU URU (Urufatiu peak), calculated: S 16.44693 W 152.25523 elev. 360 msl. Photos of leaf mines in nono (noni, *Morinda citrifolia*). Photos: Chrysopidae, large yellow at all elevations, first seen at high, photo voucher from mid-elevation. Photos: Tetragnatha, high elevation; Lycaenidae at many elevations. Photos & collections at highest elevations, at least 3 spp. of ants Formicidae, also millipedes, no beetles. 7934

7935 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a S 16.44817 W 152.27496 0 msl 08-Jul-2004 C. R. Nelson # 7935 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall, Pava'u Teave. 44 TEREIA emptied and reset pan traps. This reset was lost to high water. photos: Coenagrionidae, Ischnura?, Libellulidae, "Purehua". Some insects collected nearby in Faanoa by Pava'u Teave at his house near Faatauhi cliff. Also some by Pava'u near LDS Church in the Harana'e Valley. Dermaptera 7935

7936 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Auira, Hoatatea (Hoakatea) S. 16.44099 W 152.28488 0-4 msl 09-Jul-2004 C. R. Nelson # 7936 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. Pava'u Teave. Mick Mohi. 44 MAU HOAKA emptied and reset malaise traps, near lake (roto) near lagoon (also roto) 1 near dark coconut thicket path Good catch! All 20 yellow and 10 blue pans flipped and emptied by the high winds, fewer (those we could find!) were reset. Big headed ants seen for the first time. uta, mid motu: Bombyliidae, Sarcophagidae; photos watermelon patches and soil profiles. tua, ocean reef side: emptied and reset 3 malaise traps. Mick and Pava'u mistakenly mixed all pan traps together, very good catch! Photos: Araneidae from lagoon side 7936

7937 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a S 16.44817 W 152.27496 0 msl 09-Jul-2004 C. R. Nelson # 7937 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall, Pava'u Teave. 44 TEREIA Pan reset of 8 July 2004 was lost to high water and no more were set on this beach for the rest of the trip. Set light traps, one in front of house, second near freshwater pond near back of house, ran 9-10 July 2004. Ate at VAETUA Gerard house in the evening, lamb and salad, song and dance. 7937

7938 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a S 16.44817 W 152.27496 0 msl 10-Jul-2004 C. R. Nelson # 7938 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall, Pava'u Teave. 44 TEREIA Set light traps, one on beach near front of house, second near freshwater pond near back of house, ran 10-11 July 2004. Hemiptera; sweepings on the beach 7938

7939 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Tukuriraa Ninahaere Rocks near Terei'a S 16.44974 W 152.27318 0 msl 10-Jul-2004 C. R. Nelson # 7939 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. 44 MAU TUTURI emptied and reset malaise traps 7939

7940 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, circle island anthropology tour with Maui S 16.45630 W 152.25052 0 msl 10-Jul-2004 C. R. Nelson # 7940 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. 44 MAU 1 start at wharf, MAU 1 (GPS read as -6 msl at about 2 msl) continue through MAU 10 and petroglyphs. photos, video, tape: Visits to:

Wharf: legend of Maupiti's name.

Rock at base of Hotu Parao'a, hit rock with coconut leaf base (faniu) to tempt out birds.

Site of circumcisions

Marae, Vaiahu, several stops.

Seat of the King, Parahiraa arii

Centipede skin woman

Legend of Tubuai's hero, a mahu who killed the aito, hero of Maupiti, Faatauhi by spearing him from the back.

Coconut grater and break coconut with hand.

Turtle petroglyphs in Harana'e Valley. 7940

7941 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Harana'e or Haranai Valley, LDS church valley 0 msl 11-Jul-2004 C. R. Nelson # 7941 & Mick Mohi & Patrick Loyat. 44 photos: church members. Called Borabora, Tahiti, and Moorea for more places to stay for remainder of trip. 7941

7942 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a S 16.44817 W 152.27496 0 msl 11-Jul-2004 C. R. Nelson # 7942 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. 44 TEREIA Took photographs of heirloom photos for LOYAT Patrick & Marjolene. Set UV light traps, 11-12 July 2004, one on beach, one at pond. Hemiptera; sweepings on the beach 7942

7943 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, mountains S 16.44693 W 152.25523 360 msl 12-Jul-2004 C. R. Nelson # 7943 , E. S. Bybee & S. I. Kendall, Mohi: Mick, Emilta, Tehani, Rico, and Faneti. 44 MAU URU After getting Jason's stitches extracted at the infirmary by Tayeb the Moroccan intern, I caught up with the others at Urufatiu Peak. It took me 43 minutes to climb. We emptied and reset the 3 malaise traps and about 30 plus pan traps. Beautiful clear day! We visited all five peaks. On our way home we took pictures of heirloom photos at Emilta's sister's, Louella's house. We had Family Home Evening at MOHI's in Terei'a. 7943

7944 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Auira, Hoatatea (Hoakatea) S. 16.44099 W 152.28488 0-4 msl 13-Jul-2004 C. R. Nelson # 7944 , E. S. Bybee & S. I. Kendall. Pava'u & little Hitarani Teave. Mick Mohi. 44 MAU HOAKA emptied and took down all six malaise traps and all pan traps. 2 malaise and about 15 pans near the pond. 1 malaise near lagoon in a coconut grove; 1 malaise inland some from the ocean side (tua) over naupata, tiare tapau; 2 malaise traps on ocean side in groves of tefanu, tahinu, and turamoa. about 30 good pans here. Sarah took soil samples from the farm of TERIIHAUNUI Jannick, many photos. 7944

7945 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a S 16.44817 W 152.27496 0 msl 13-Jul-2004 C. R. Nelson # 7945 44 TEREIA photos: giant crab spider?, large Anax dragonfly; Micropezidae; Libellulidae, red with white wing patches, Diptera sweepings on wrack. 7945

7945 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Petei, City Hall. S 16.44569 W 152.24797 0 msl 14-Jul-2004 C. R. Nelson # 7945 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. 44 near MAU 1 photos: food weighing, city council, and people at Bastille Day celebration. 7945

7946 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Puhi TEUPOOHUITUA's soil excavation near Faatauhi 0 msl 14-Jul-2004 C. R. Nelson # 7946 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. 44 photos: Sarah with soil samples. 7946

7947 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a S 16.44817 W 152.27496 0 msl 14-Jul-2004 C. R. Nelson # 7947 , J. K. Nelson, J. R. Nelson, A. J. Nelson, and A. L. Nelson. Emily S. Bybee & Sarah I. Kendall. 44 TEREIA photos: old, with Marjolene & Patrick Loyat; old, with Emilta Mohi. Others in group went to a dance, drum practice in Faanoa at the TEAVE house after Emily and I flew to Tahiti. 7947

7948 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) flight, Maupiti to Tahiti 0 msl 14-Jul-2004 C. R. Nelson # 7948 & E. S. Bybee 44 photos: Raiatea and Maiao 7948

7949 FRENCH POLYNESIA: Society Islands Windward Group (Iles Du Vent) Tahiti, Faaa S 17.55314 W 149.59515 54 msl 14-Jul-2004 C. R. Nelson # 7949 & E. S. Bybee 44 TAHIFAAA photos: dance festival, Heiva, at Faaa City Center, with Alvarez family, especially Kelly who now lives in Hamilton, New Zealand. Emily's brother David Married Herenui ALVAREZ, daughter of Moroni and Monoihere ALVAREZ. Cerambycidae in Alvarez home. 7949

7950 FRENCH POLYNESIA: Society Islands Windward Group (Iles Du Vent) Tahiti, Papeete 0 msl 15-Jul-2004 C. R. Nelson # 7950 & E. S. Bybee 45 photos: Papeete market, Territorial Assembly, and Motu Uta looking to Moorea 7950

7951 FRENCH POLYNESIA: Society Islands Windward Group (Iles Du Vent) Tahiti, Tiarei, Three Waterfalls 0 msl 15-Jul-2004 C. R. Nelson # 7951 & E. S. Bybee & Kelly Alvarez, with Moroni and Monoihere Alvarez. 45 photos: three waterfalls, get names from a tour book 7951

7952 FRENCH POLYNESIA: Society Islands Windward Group (Iles Du Vent) Tahiti, Mahina, Orofara leper colony 0 msl 15-Jul-2004 C. R. Nelson # 7952 & E. S. Bybee & Kelly Alvarez, with Moroni and Monoihere Alvarez. 45 photos: two rocks off shore and church at leper colony 7952

7953 FRENCH POLYNESIA: Society Islands Windward Group (Iles Du Vent) Tahiti, Faaa 0 msl 15-Jul-2004 C. R. Nelson # 7953 & E. S. Bybee & Kelly Alvarez, with Moroni and Monoihere Alvarez. 45 photos: baptism of Kimi Ora Malgrin, grand daughter of Moroni and Monoihere Alvarez, daughter of Thierry and Tetaina Malgrin. photos of fafaru (rotten fish) sauce in chinese market at base of hill from Alvarez home. photos: old photos for Kelly Alvarez. 7953

7954 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, mountains S 16.44693 W 152.25523 360 msl 15-Jul-2004 C. R. Nelson # 7954 & J. Kl. Nelson, A. J. Nelson, A. L. Nelson, & S. I. Kendall, Mohi: Mick, Emilta, Tehani, and Rico. 45 MAU URU CR Nelson not present but group climbed mountain and removed all the traps.

Photos by others at dance practice at Haranai Valley arena of G. O. D. Jason Nelson took down all the traps at Tuteuriraa Ninahaere. 7954

7955 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) flight, Tahiti to Raiatea and Maupiti, 0 msl 16-Jul-2004 C. R. Nelson # 7955 45 photos: Borabora from Raiatea, Maupiti airport, and Onoiau Pass from air. 7955

7956 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a S 16.44817 W 152.27496 0 msl 16-Jul-2004 C. R. Nelson # 7956, J. K. Nelson, J. R. Nelson, A. J. Nelson, A. L. Nelson, & Sarah I. Kendall. 45 TEREIA Interview with Nicole Richardeau about genealogy. Photos: Emilta's old photos, some from book about Maupiti. Underwater shots. 7956

7957 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Farauru 0 msl 16-Jul-2004 C. R. Nelson # 7957 & Sarah I. Kendall. 45 photos and interview: Rua and Apau manUARII about melon and nono (*Morinda citrifolia*) farming. 7957

7958 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a S 16.44817 W 152.27496 0 msl 17-Jul-2004 C. R. Nelson # 7958, J. K. Nelson, J. R. Nelson, A. J. Nelson, A. L. Nelson, & Sarah I. Kendall. 45 TEREIA packing, goodbyes. 7958

7959 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, wharf at base of Hotu Paraoa 0 msl 17-Jul-2004 C. R. Nelson # 7959, J. K. Nelson, J. R. Nelson, A. J. Nelson, A. L. Nelson, & Sarah I. Kendall. 45 photos: farewell, and ship in pass, trip to Borabora 7959

7960 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Borabora, Nunue & Faanui 0 msl 18-Jul-2004 C. R. Nelson # 7960, J. K. Nelson, J. R. Nelson, A. J. Nelson, A. L. Nelson, & Sarah I. Kendall. 45 photos: at church services 7960

7961 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Borabora, Faanui 0 msl 18-Jul-2004 C. R. Nelson # 7961, J. K. Nelson, J. R. Nelson, A. J. Nelson, A. L. Nelson, & Sarah I. Kendall & Ueva ATIU. 45 BORAFaan photos: Marae, ancient temple. 7961

7962 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Borabora, Bertrand's house 0 msl 18-Jul-2004 C. R. Nelson # 7962, J. K. Nelson, J. R. Nelson, A. J. Nelson, A. L. Nelson, & Sarah I. Kendall & Ueva ATIU. 45 photos: Bertrand & Leria Durasse family, Marona ATIU 7962

7963 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Borabora, Faanui, American cannons S 16.49586 W 151.75868 57 msl 19-Jul-2004 C. R. Nelson #

7963 , J. K. Nelson, J. R. Nelson, A. J. Nelson, A. L. Nelson, & Sarah I. Kendall & Ueva, To'erau, Haumea, and Temanava ATIU. Temanava's fourth birthday! 45 BORACAN photos: walk to cannons. Also BORAVIEW, view on walk to cannons, S 16.49199 W 151.75490, elev. 58 msl. 7963

7964 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Borabora, lagoon reefs, Coral Gardens, south of Motu Toopua S 16.49586 W 151.75868 57 msl 19-Jul-2004 C. R. Nelson # 7964 , J. K. Nelson, J. R. Nelson, A. J. Nelson, A. L. Nelson, & Sarah I. Kendall & Marona ATIU. Temanava's fourth birthday! 45 BORACORAL photos: butterfly fish feeding, many other fish! Good underwater photos. 7964

7965 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Borabora, lagoon sands W of Motu Toopua S 16.52186 W 151.78070 0 msl 19-Jul-2004 C. R. Nelson # 7965 , J. K. Nelson, J. R. Nelson, A. J. Nelson, A. L. Nelson, & Sarah I. Kendall & Marona ATIU. Temanava's fourth birthday! 45 BORAFAL photos: stingrays and people Stingrays: Hlmantura sp., called fai in Tahitian 7965

7966 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Borabora, outside barrier reef NW of Motu Toopua, slightly S of pass 0 msl 19-Jul-2004 C. R. Nelson # 7966 , J. K. Nelson, J. R. Nelson, A. J. Nelson, A. L. Nelson, & Sarah I. Kendall & Marona ATIU. Temanava's fourth birthday! 45 photos: sharks and people Sharks: black tipped reef sharks, *Caracharhinus melanopterus*. Remora, sharksucker, *tatiiauri*, *Echeneis naucrates* (Linnaeus). black triggerfish, oiri, *Melichthys niger* and other species! Needlefish, ihe 7966

7967 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Borabora, sand bar E of Motu Tevairoa S 16.46966 W 151.76636 0 msl 19-Jul-2004 C. R. Nelson # 7967 , J. K. Nelson, J. R. Nelson, A. J. Nelson, A. L. Nelson, & Sarah I. Kendall & Marona ATIU. Temanava's fourth birthday! 45 BORAONE photos: people and island on sand flat. Use for a Christmas Card photo. 7967

7968 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Borabora, small motu, SW of Motu Mute and NE of Motu Tevairoa, Marona's motu, given by tavana (Mayor). S 16.44650 W 151.76527 0 msl 19-Jul-2004 C. R. Nelson # 7968 , J. K. Nelson, J. R. Nelson, A. J. Nelson, A. L. Nelson, & Sarah I. Kendall & Marona ATIU. Temanava's fourth birthday! 45 BORAMax RO photos: people, sea urchins, moray eel, and sea cucumbers. 7968

7969 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Borabora, Nunue - Faanui 0 msl 19-Jul-2004 C. R. Nelson # 7969 , J. K. Nelson, J. R. Nelson, A. J. Nelson, A. L. Nelson, & Sarah I. Kendall & Ueva and Marona ATIU. Temanava's fourth

birthday! 45 photos: people, ATIU clan for Family Home Evening and birthday party for Temanava. 7969

7970 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Borabora, Vaitape Wharf 0 msl 20-Jul-2004 C. R. Nelson # 7970 , J. K. Nelson, J. R. Nelson, A. J. Nelson, A. L. Nelson, & Sarah I. Kendall. 45 photos: Farewell 7970

7971 FRENCH POLYNESIA: Society Islands Windward Group (Iles Du Vent) ferry trip, Tahiti to Moorea 0 msl 20-Jul-2004 C. R. Nelson # 7971 , J. K. Nelson, J. R. Nelson, A. J. Nelson, A. L. Nelson, & Sarah I. Kendall. 45 photos: ferry ride: Tahiti, Moorea, sunset on Moorea, between deep bays looking west. 7971

7972 FRENCH POLYNESIA: Society Islands Windward Group (Iles Du Vent) Moorea, Cooks Bay, University of California Berkeley Gump Biological Station S 17.49011 W 149.82626 0 msl 21-22 July 2004 C. R. Nelson # 7972 , J. K. Nelson, J. R. Nelson, A. J. Nelson, A. L. Nelson, & Sarah I. Kendall. 45 MOORGUMP photos: hen & chicks; canoes & hula hoops; talking at meeting given in Tahitian. 7972

7973 FRENCH POLYNESIA: Society Islands Windward Group (Iles Du Vent) Tahiti, Faaa S 17.55314 W 149.59515 0 msl 22-Jul-2004 C. R. Nelson # 7973 & E. S. Bybee & Kelly Alvarez, with Monoihere Alvarez. 45 TAHIFAAA photos: Alvarez home, old photos. 7973

7974 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775° 1860 msl 19 June - 25 July 2004 C. R. Nelson # 7974 & P. F. Ashton. 45 Paul Ashton emptied & reset malaise traps, last done 19 June 2004 CRN #7915. Reset on: 5 July 2004, 15 July 2004, and 25 July 2004. Good catches! 7974

7975 USA: UTAH: Utah Co., Provo, BYU lab, 30-Jul-2004 C. R. Nelson # 7975 45 for Amy Bell photos: Formicidae: Tetramorium caespitum (L.) queens, workers, founding colonies with minimums 7975

7976 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775° 1860 msl 31-Jul-2004 C. R. Nelson # 7976 & family 45 I emptied & reset malaise traps, last done 2 July 2004 by Paul F. Ashton. CRN #7915. Good catch. With family: J. K. Nelson, Jan & Mackade Gray, Meads, and Sherry Wheeler. Pupal skin of large Asilidae from bare ground hole in middle of trail. 7976

7977 USA: UTAH: Utah Co., American Fork Canyon, Timpanogos Cave National Monument, trail to Timpanogos Cave, N 40.43781°W 111.71178° 2039 msl 04-Aug-2004 C. R. Nelson # 7977 & others 45 with E. S. Bybee, David , Brandon Kowallis, and Bridgett Dart. millipede 7977

7978 USA: UTAH: Utah Co., American Fork Canyon, Timpanogos Cave National Monument, Timpanogos Cave System, N 40.43781° W 111.71178° 2039 msl 04-Aug-2004 C. R. Nelson # 7978 & others 45 Emptied and reset pitfall traps, last reset 21 July 2004 by B. Kowallis and B. Dart. Previous to that, last reset 7 July 2004 by B. Kowallis and B. Dart. Previous to that last reset CRN #7917. Collecting with E. S. Bybee, David , Brandon Kowallis, and Bridgett Dart. 7978

7979 USA: UTAH: Utah Co., American Fork Canyon, Timpanogos Cave National Monument, Timpanogos Cave inside entrance, N 40.43781° W 111.71178° 2039 msl 04-Aug-2004 C. R. Nelson # 7979 & others 45 Collecting with E. S. Bybee, David , Brandon Kowallis, and Bridgett Dart. spiders, Boletina, and Heleomyzidae. 7979

7980 USA: UTAH: Utah Co., American Fork Canyon, Timpanogos Cave National Monument, Hansen Cave inside entrance, N 40.43781° W 111.71178° 2039 msl 04-Aug-2004 C. R. Nelson # 7980 & others 45 Collecting with E. S. Bybee, David , Brandon Kowallis, and Bridgett Dart. Heleomyzidae, Noctuidae, spider: Amaurobiidae: Callobius. 7980

7981 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883° W 111.26775° 1860 msl 07-Aug-2004 C. R. Nelson # 7981 & family & college friends. 45 I emptied & reset malaise trap, last done 31 July 2004 by CRN #7976. 7981

7982 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883° W 111.26775° 1860 msl 14-Aug-2004 C. R. Nelson # 7982 & J. K. Nelson. 45 I emptied & reset malaise trap, last done 7 August 2004 by CRN #7981. Machimus, Bombyliidae, Therevidae. 7982

7983 USA UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River (Timpooneke Creek), Timpooneke Guard Station, site 4, N 40.43226° W 111.63741° , 2213 msl 20-Aug-2004 C. R. Nelson # 7983 & Sanaa Enkhtaivan. 45 emptied & reset one malaise and four lindgren funnel traps, last done 14 August 2004 by Todd Anderson.

malaise trap down, added string to trap and resecured it. 2:30 pm. Sweltsa, Empididae, photos: Perlodidae: 2 specimens: Pictetiella expansa?; photos: Baetidae: subimago; 7983

7984 USA UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180° W 111.65754° , 1862 msl 20-Aug-2004 C. R. Nelson # 7984 & Sanaa Enkhtaivan 45 emptied & reset one malaise and four lindgren funnel traps, last done 14 August 2004 by Todd Anderson. 3:00 pm. photo: Perlodidae: Pictetiella expansa? 7984

7985 USA UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, N 40.44749° W 111.68305° 1818 m, 20-Aug-2004 C. R. Nelson # 7985 & Sanaa Enkhtaivan 45 emptied & reset one malaise and four lindgren funnel traps, last done 14 August 2004 by Todd Anderson. 3:30 pm. 7985

7986 USA UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.43329° W 111.73836° 1547 m, 20-Aug-2004 C. R. Nelson # 7986 45 emptied & reset one malaise and four lindgren funnel traps, last done 14 August 2004 by Todd Anderson. 4:00 pm. 7986

7987 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883° W 111.26775° 1860 msl 20-Aug-2004 C. R. Nelson # 7987 & J. K. Nelson. 45 J. Kaye Nelson emptied & reset malaise trap, last done 14 August 2004 by CRN #7982. I, CRN, was not present during the changing. 7987

7987.5 USA: UTAH: Box Elder Co. mantua and Brigham City, from commercial airliner. N 39.95883° W 111.26775° 1860 msl 20-Aug-2004 C. R. Nelson # 7987.5 & Sanaa Enkhtaivan 45 photo mantua and Brigham City, from commercial airliner. 7987.5

7988 USA: MONTANA: Flathead Co. Ousel Creek, Hwy 2, 2.3 mi West of Moccasin Creek Access N 48.49396° W 113.88901° 1070 msl 21-Aug-2004 C. R. Nelson # 7988 & Sanaa Enkhtaivan & R. W. Baumann & S. M. Clark & R. L. Newell. 45 MON1 Site mileage: 140, at next creek east 140.9; at Ousel Peak Trail 141.4; at Drift boat site 142.1; at Moccasin Creek Access 142.3. photos: Suwallia and spider and Leuctridae. 7988

7989 USA: MONTANA: Flathead Co., Stanton Creek, Hwy 2, N 48.39783° W 113.71426° 1106 msl 21-Aug-2004 C. R. Nelson # 7989 & Sanaa Enkhtaivan & R. W. Baumann & S. M. Clark & R. L. Newell. 45 MONSTANT photos: Miridae, Salticidae, Syrphidae; caddis adults to Baumann, photos: Epilobium fireweed, knapweed, Eumenidae on yellow composite. 7989

7990 USA: MONTANA: Flathead Co., Bear Creek, jct Middle Fork of the Flathead River, Hwy 2 N 48.23407° W 113.56078° 1208 msl 21-Aug-2004 C. R. Nelson # 7990 & Sanaa Enkhtaivan & R. W. Baumann & S. M. Clark & R. L. Newell. 45 MONBEAR1 photos: Suwallia, dark; Chrysomelidae yellow; Arctiidae caterpillar; Curculionidae bumpy; Miridae, Lygus; Tachinidae black and orange, mating. 7990

7991 USA: MONTANA: Flathead Co., springs near Skyland Creek, Road 569, 2 mi S of Maria Pass N 48.28680° W 113.36851° 1594 msl 21-Aug-2004 C. R. Nelson # 7991 & Sanaa Enkhtaivan & R. W. Baumann & S. M. Clark & R. L. Newell. 45 MONSPRG photos: malenka all females; Sweltsa short wings (revelstoka?); Yoraperla brevis female; Mycetophilidae, one live and one dead in photos; Bombyliidae (Anthrax?); Geometridae larva. 7991

7992 USA: MONTANA: Flathead Co., Marias Pass, Hwy 2 N 48.31759° W 113.35271° 1594 msl 21-Aug-2004 C. R. Nelson # 7992 & Sanaa Enkhtaivan & R. W. Baumann & S. M. Clark & R. L. Newell. 45 MONMaria photos: Laphria gilva? NO ferox; Laphria sp. 2 aimatus??? NO, columbica; Sesiidae 7992

7993 USA: MONTANA: Lake Co., Flathead Lake, Yellow Bay, Flathead Lake Biological Station, N 47.87576° W 114.03438° 891 msl 22-Aug-2004 C. R. Nelson # 7993 45 MONFLATB photos: scenery photos: Cicindela nebrascensis?; Buprestidae, large with yellow face and red near tail underneath; Cercopidae: large brown, Amphiphora 7993

7994 USA: MONTANA: Lewis and Clark Co., Helena National Forest; Trout Creek, Vigilante Campground, 21-Aug-2004 C. R. Nelson # 7994 & B. P. Stark & I. Sivec. 45 C. R. Nelson not present at this collection, but photographed specimen in room at Flathead Lake. photos: Alloperla adult. 7994

7995 USA: MONTANA: Lake Co., Porcupine Creek, tributary of Swan River, 22-Aug-2004 C. R. Nelson # 7995 & B. P. Stark & I. Sivec. 45 C. R. Nelson not present at this collection, but photographed specimen in room at Flathead Lake. photos: Setvena adult 7995

7996 USA: MONTANA: Lake Co., Talking Water Creek, tributary of Flathead Lake, 23-Aug-2004 C. R. Nelson # 7996 & B. P. Stark & I. Sivec. 45 C. R. Nelson not present at this collection, but photographed specimen in room at Flathead Lake. photos: Setvena nymph 7996

7997 USA: MONTANA: Lake Co., Flathead Lake, Yellow Bay, Flathead Lake Biological Station, N 47.87576° W 114.03438° 891 msl 24-Aug-2004 C. R. Nelson # 7997 45 MONFLATB 23 August 2004, photos, scenery. photos: Paraleptophlebia adult male; Ephemera subimago; Ceraclea?; Suwallia salish adults; Paraperla wilsoni nymphs from well near Roys Creek; Leptoceridae: Oecetis inconspicua? 7997

7998 USA: MONTANA: Flathead Co., Beaver Creek, Nyack floodplain of the Middle Fork of the Flathead River, N 48.46755° W 113.82307° 1044 msl 25-Aug-2004 C. R. Nelson # 7998 & conference crowd. 45 MONBEAV photos: people; scenery; Kogotus nonus? male to Richard Baumann and female to Toru Kishimoto (these female photos taken 6:00 pm 26 August 2004; also Claassenia sabulosa to Jana Willkommen, 7998

7999 USA: MONTANA: Flathead Co., Nyack floodplain of the Middle Fork of the Flathead River, N 48.46301° W 113.81593° 1019 msl 25-Aug-2004 C. R. Nelson # 7999 & conference crowd. 45 MONNYFLAT The GPS is from Wally B well site only, not H7 site. Water temperature in river: 13 degree C. Later learned that river was at it's highest recorded level ever for this date due to the rain we have been receiving. photos: people; scenery; Perlidae: Claassenia sabulosa; Brian Reid pumped hyporheic wells Wally B and C: photos:

Isocapnia sp. nymph (*grandis*, *crinita*, *vedderensis* and *integra* (missouri) all present here).
photos: *Stygobromus tritus*, nice!, *Kathroperla perdita* nymph, *Paraperla frontalis* nymph.
7999

8000 USA: MONTANA: Flathead Co., Big Creek, Glacier Institute, North Fork Flathead River,
N 48.60137° W 114.16690° 1019 msl 25-Aug-2004 C. R. Nelson # 8000 & conference
crowd. 45 MONBIG Heavy rain; Glacier Institute Education Area; collected green rock for
photo substrate. photos: *Sweltsa occidens*, NO! *Neaviperla forcipata*. Also caught a series
of *Suwallia* sp.; *Archaeognatha*; Empididae: *Clinocera* or *Weidemannia*; *Rhyacophilidae*:
Rhyacophila. 8000

8001 USA: MONTANA: Lake Co., Flathead Lake, Yellow Bay, Flathead Lake Biological
Station, N 47.87576° W 114.03438° 891 msl 26-Aug-2004 C. R. Nelson # 8001 45
MONFLATB photos: awards ceremonies, lifetime awards for Richard William Baumann and
Bill Poulson Stark, and others. 8001

8002 USA: MONTANA: Flathead Co., Kalispell area from air 27-Aug-2004 C. R. Nelson #
8002 45 photos: sunset and moon rise 8002

8003 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N
39.95883° W 111.26775° 1860 msl 28-Aug-2004 C. R. Nelson # 8003 & P. F. Ashton 45
Paul Ashton emptied & reset malaise trap, last done 20 August 2004 by J. K. Nelson, CRN
#7987. I, CRN, was not present during the changing. 8003

8004 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N
39.95883° W 111.26775° 1860 msl 04-Sep-2004 C. R. Nelson # 8004 & P. F. Ashton 45
Paul Ashton emptied & reset malaise trap, last done 28 August 2004 by P. F. Ashton, CRN
#8003. I, CRN, was not present during the changing. 8004

8005 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N
39.95883° W 111.26775° 1860 msl 06-Sep-2004 C. R. Nelson # 8005 & J. K. Nelson & P.
F. Ashton 45 inspected malaise trap. Held mother siamese cat, put chicken wire over
chimneys to keep birds out. Removed broken window above main porch door. 8005

8006 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343° W
111.64922° 1495 msl 06-Sep-2004 C. R. Nelson # 8006 & J. K. Nelson 45 bull snake
crossing 650 East jct Foothill Road. 8006

8006.5 USA UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging
Rock, American Fork River, site 2, N 40.44697° W 111.68664°, 1818 m, 08-Sep-2004 C.
R. Nelson # 8006.5 & B. Ahlstrom & class 45 ran UV light and looked for benthics and
streamside insects at night. 8006.5

8007 USA: IDAHO: Bannock Co. Red Rock Pass N 42.35459° W 112.04889° 1473 msl
10-Sep-2004 C. R. Nelson # 8007 45 photos: scenery, Lake Bonneville outflow. Aquatic Ecology Laboratory: Dennis Shiozawa, Russell Rader, Andrew Johnson, David Janetski, and Cynthia Penaflor. 8007

8008 USA: IDAHO: Franklin Co. Bear River, Oneida Narrows, Red point Campground, N 42.23426° W 111.75839° 1354 msl 11-Sep-2004 C. R. Nelson # 8008 45 IDAONEIDA
Discuss transverse bar, regulated stream, armoring, and Potamogeton. Aquatic Ecology Laboratory: Dennis Shiozawa, Russell Rader, Andrew Johnson, David Janetski, and Cynthia Penaflor. photos: flatworms, grasshoppers acrididae, scenery, & people. nice reflections. 8008

8009 USA: IDAHO: Caribou Co. Soda Springs N 42.65704° W 111.60504° 1762 msl 11-Sep-2004 C. R. Nelson # 8009 45 Photos: spring, geyser, people. Aquatic Ecology Laboratory: Dennis Shiozawa, Russell Rader, Andrew Johnson, David Janetski, and Cynthia Penaflor. 8009

8010 USA: WYOMING: Teton Co. Gros Ventre River, near Gros Ventre Slide N 43.63886° W 110.58607° 2064 msl 11-Sep-2004 C. R. Nelson # 8010 45 WYGORVEN Photos: spring, geyser, people. Aquatic Ecology Laboratory: Dennis Shiozawa, Russell Rader, Andrew Johnson, David Janetski, and Cynthia Penaflor. photos: Empididae: Weidemannia and Hemerodromia; Tachinidae, Ephemeroptera, Plecoptera: Nemouridae: malenka californica 1 m 1f. 8010

8011 USA: WYOMING: Teton Co. Grand Teton National Park, Antelope Flat Road. 12-Sep-2004 C. R. Nelson # 8011 45 Photos: sunrise on the Tetons. Aquatic Ecology Laboratory: Dennis Shiozawa, Russell Rader, Andrew Johnson, David Janetski, and Cynthia Penaflor. 8011

8012 USA: WYOMING: Park Co. Yellowstone National Park, Old Faithful, 12-Sep-2004 C. R. Nelson # 8012 45 Photos: scenery and people. Aquatic Ecology Laboratory: Dennis Shiozawa, Russell Rader, Andrew Johnson, David Janetski, and Cynthia Penaflor. 8012

8013 USA: WYOMING: Park Co. Yellowstone National Park, Grand Prismatic Spring, Firehole River 12-Sep-2004 C. R. Nelson # 8013 45 Photos: scenery and people. Aquatic Ecology Laboratory: Dennis Shiozawa, Russell Rader, Andrew Johnson, David Janetski, and Cynthia Penaflor. 8013

8014 USA: WYOMING: Park Co. Yellowstone National Park, Madison River, near Madison, 12-Sep-2004 C. R. Nelson # 8014 45 Aquatic Ecology Laboratory: Dennis Shiozawa, Russell Rader, Andrew Johnson, David Janetski, and Cynthia Penaflor. photos: Bison bison. 8014

8015 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883° W 111.26775° 1860 msl 12-Sep-2004 C. R. Nelson # 8015 & P. F. Ashton 45 P. F. Ashton emptied & reset malaise trap, last done 4 Sep 2004, C. R. Nelson #8004, CRN not present. 8015

8015.5 USA: UTAH: Utah Co., Timpanogos Cave National Monument, Timpanogos Cave System, trap line N 40.43781° W 111.71178° 2039 msl 16-Sep-2004 C. R. Nelson # 8015.5 & C. Pulham, B. Kowallis, and J. Jasper. 45 emptied and reset pitfall traps, caught stuff at Soda Pop Pits. Also, found a bottle, Dennie's Own, from the 1930's in Hansen Cave. 8015.5

8016 USA: UTAH: Millard Co. Cove Fort, I-15 N 38.61294° W 112.60493° 1814 msl 17-Sep-2004 C. R. Nelson # 8016 & class 45 Entomology class & others: Andrea Nelson, Nikki Hanegan, Betsey Ahlstrom, matt Zmolek, Chris Miller, Julie Christie, Shannon Moos, Annaliese Oswald, Sarah Kendall, Emily Bybee, Sarah Oler, Kentaro Miwa, Julie Ward, David Janetski, and James Stockdale. Phymatidae, Cerambycidae, and Andrenidae: Perdita. 8016

8017 USA: UTAH: Washington Co. Leeds Creek, I-15 N 37.20741° W 113.39666° 913 msl 17-Sep-2004 C. R. Nelson # 8017 & class 45 UTLEED15 Entomology class & others: Andrea Nelson, Nikki Hanegan, Betsey Ahlstrom, matt Zmolek, Chris Miller, Julie Christie, Shannon Moos, Annaliese Oswald, Sarah Kendall, Emily Bybee, Sarah Oler, Kentaro Miwa, Julie Ward, David Janetski, and James Stockdale. crayfish, saw Aeshna, Noctuidae: Catocala, Hetaerina americana. 8017

8018 USA: UTAH: Washington Co. Quail Creek at Red Cliffs Campground, N 37.22419° W 113.40554° 964 msl 17-Sep-2004 C. R. Nelson # 8018 & class 45 UTREDC Entomology class & others: Andrea Nelson, Nikki Hanegan, Betsey Ahlstrom, matt Zmolek, Chris Miller, Julie Christie, Shannon Moos, Annaliese Oswald, Sarah Kendall, Emily Bybee, Sarah Oler, Kentaro Miwa, Julie Ward, David Janetski, and James Stockdale. Aeshna 8018

8019 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Preserve N 37.14333° W 114.02220° 863 msl 17-18 September 2004 C. R. Nelson # 8019 & class 45 UTLYTHQ GPS at headquarters where we ran the mercury vapor lamps. malaise trap 1: UTLYT1: N 37.14504 W 114.02397 elev. 842 msl. malaise trap 2: UTLYT2 N 37.14782 W 114.02252 elev. 856 msl. North Property Line: UTLYTUP N 37.16075 W 114.01688 elev. 870 msl. Entomology class & others: Andrea Nelson, Nikki Hanegan, Betsey Ahlstrom, matt Zmolek, Chris Miller, Julie Christie, Shannon Moos, Annaliese Oswald, Sarah Kendall, Emily Bybee, Sarah Oler, Kentaro Miwa, Julie Ward, David Janetski, and James Stockdale. photos: Cicindelidae, bright green; Mallophora; Bombardier beetles, Carabidae: Brachinus;

Carabidae with yellow legs; Conopidae, small. Efferia albibarbis. Saturniidae: Hemileuca neumogeni; many crayfish in Beaver Dam Wash. 8019

8020 USA: UTAH: Kane Co., Coral Pink Sand Dunes, Ponderosa Grove Campground and walk to Sand Spring, N 37.08747° W 112.66978° 1923 msl 18-19 September 2004 C. R. Nelson # 8020 & class 45 UTCORBLOW photos: scenery, people, group shot at blowout area of UTCORBLOW left of path todunes from campground. UTCPHALF (halfway between blowout and Sand Spring) N 37.08424 W 112.66678 elev. 1915 msl. UTCPROCK (small rock exposure in pan south of Sand Spring) N 37.07848 W 112.66760 elev. 1898 msl. UTSANSPR (Sand Spring) N 37.07668 W 112.66480 elev. 1891 msl. Entomology class & others: Andrea Nelson, Nikki Hanegan, Betsey Ahlstrom, matt Zmolek, Chris Miller, Julie Christie, Shannon Moos, Annaliese Oswald, Sarah Kendall, Emily Bybee, Sarah Oler, Kentaro Miwa, Julie Ward, David Janetski, and James Stockdale. Stenopelmatidae: Stenopelmatus; Noctuidae; Arctiidae; Saturniidae: Coloradia; Cerambycidae: Lepturinae and Crossidius. Bombyliidae large and photos of Lordotus. 8020

8021 USA: UTAH: Kane Co., Mount Carmel Junction, Hwy 89, Chevron Gas Station, N 37.22416° W 112.68089° 1575 msl 19-Sep-2004 C. R. Nelson # 8021 & class 45 Entomology class & others: Andrea Nelson, Nikki Hanegan, Betsey Ahlstrom, matt Zmolek, Chris Miller, Julie Christie, Shannon Moos, Annaliese Oswald, Sarah Kendall, Emily Bybee, Sarah Oler, Kentaro Miwa, Julie Ward, David Janetski, and James Stockdale. Scarabaeidae: Dynastes granti, attracted to lights previously. We collected at 3:30 pm 8021

8022 USA: UTAH: Kane Co., Orderville, Hwy 89, Valley Elementary School, N 37.27560° W 112.63631° 1684 m, 19-Sep-2004 C. R. Nelson # 8022 & class 45 UTORDER GPS at Valley Elementary School. We also caught a few scarabs from the gas station and from Valley High School. Entomology class & others: Andrea Nelson, Nikki Hanegan, Betsey Ahlstrom, matt Zmolek, Chris Miller, Julie Christie, Shannon Moos, Annaliese Oswald, Sarah Kendall, Emily Bybee, Sarah Oler, Kentaro Miwa, Julie Ward, David Janetski, and James Stockdale. Scarabaeidae: Dynastes granti, attracted to lights previously. We collected at 3:40 pm 8022

8023 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883° W 111.26775° 1860 msl 18-Sep-2004 C. R. Nelson # 8023 & J. K. Nelson. 45 J. K. Nelson emptied & reset malaise trap, last done 12 Sep 2004, C. R. Nelson #8015, CRN not present. 8023

8024 USA: UTAH: Utah Co., Soldier Creek Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95324° W 111.26463° 1801 msl 25-Sep-2004 C. R. Nelson # 8024 & J. K. Nelson. 45 UTSOLD Entomology Class and others: Kaye Nelson, Betsey Ahlstrom, Nikki Hanegan,

Patty Smith, Josh Rasmussen, Jill Skinner, Emily Bybee, Mark Nelson, matt Zmolek, with Andrea and her friends Elizabeth and Jill.

Perlodidae: *Isogenoides zionensis*; NO *Pteronarcella*; *Baetis*; *Drunella*; *Heptagenia*? or *Cinygmula*?; *Dytiscidae*; *Gomphidae*; *Hydropsychidae*. 8024

8025 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775° 1860 msl 25-Sep-2004 C. R. Nelson # 8025 & J. K. Nelson. 45 Entomology Class and others: Kaye Nelson, Betsey Ahlstrom, Nikki Hanegan, Patty Smith, Josh Rasmussen, Jill Skinner, Emily Bybee, Mark Nelson, matt Zmolek, with Andrea and her friends Elizabeth and Jill. Sat at UV light night of 24-25 September 2004.

Emptied & reset malaise trap, last done 18 Sep 2004 by J. K. Nelson, C. R. Nelson #8023. *Machimus griseus*; photos near cabin of: *Rhipiceridae*! and *Mycetophilidae* with long antennae. 8025

8026 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 1495 msl 26-Sep-2004 C. R. Nelson # 8026 45 photos: pearls given as gifts in Maupiti by Aro & Puhi Teupoohuitua, CRN #7945, on mother of pearl collected by our group near Tereia. Hand is that of C. R. Nelson, also the photographer. 8026

8027 USA: UTAH: Utah Co., Diamond Fork River at Three Forks N 40.08462°W 111.35519° 1662 msl 01-Oct-2004 C. R. Nelson # 8027 & class 45 UT3FORKS others: Todd Anderson, Mark Nelson, Jill Skinner, Chris Miller, Sarah Oler. *Pteronarcys californica*, *Pteronarcella badia*, *Isogenoides zionensis*, *Baetis*, *Empididae*, *Hydropsychidae*, *Brachycentridae*, *Dryopidae*, *Elmidae*. 8027

8028 USA: UTAH: Utah Co., Sixth Water at Three Forks N 40.08462°W 111.35519° 1662 msl 01-Oct-2004 C. R. Nelson # 8028 & class 45 UT3FORKS others: Todd Anderson, Mark Nelson, Jill Skinner, Chris Miller, Sarah Oler.

Todd also collected on Cottonwood Creek at Three Forks. *Pteronarcella badia*, *Isogenoides zionensis*, *Hydropsychidae*, *Brachycentridae*, *Athericidae*. 8028

8029 USA: UTAH: Utah Co., Diamond Fork Ridge at Springville Crossing, N 40.15469°W 111.33099° 1900 msl 02-Oct-2004 C. R. Nelson # 8029 & R. Rader 45 UTDIAMCAMP (riverside) class work: 3 students each took 3 First 100 samples. They each took one surber sample. We ran a drift net for an hour. Those present were: me, Russ Rader, Dennis Shiozawa, Andrew Johnson, David Janetski, and Cynthia Penaflor. They camped overnight. I rode up again on Saturday, 2 Oct, after going to my Tahitian reunion Friday night. *Pteronarcys californica*, *Pteronarcella badia*, *Brachycentridae*, *Heptageniidae*, *Baetidae*, *Elmidae*, *Hirudinea*. 8029

8030 USA: UTAH: Utah Co., Diamond Fork River, Diamond Campground, N 40.07096° W 111.43019° 1536 msl 02-Oct-2004 C. R. Nelson # 8030 & class 45 Springville Crossing photos: Troy and Scott Miller preparing to fish on Sixth Water. Troy is Scott's father. He was the Scoutmaster of Troop 103 in the Third Ward of Brigham City. This was the sister ward of ours, the 15th Ward. He is an outdoorsman who inspired me, in part, to be a biologist. He was my father's good friend. He is the son of James Miller our neighbor to the south while I grew up at 211 N 300 W. 8030

8031 USA: UTAH: Utah Co., Wanrhodes Creek, Road 029, near jct Diamond Fork River N 40.07333° W 111.43029°, 1598 m 2 October 2004, C. R. Nelson # 8031 & R. Rader. 45 UTWANRO Cimbicidae (probably *Oeceacus vicarius*) and Siphonaptera. in swallow nest under bridge. 8031

8032 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883° W 111.26775° 1860 msl 02-Oct-2004 C. R. Nelson # 8032 & R. Rader. 45 Emptied & reset malaise trap, last done 25 Sep 2004, C. R. Nelson #8025. Viewed isolated wetlands near highway gate, then lower beaver dams on Soldier Creek, then upper meadow beaver dams. photos: Mutillidae, *Dasymutilla* collected near highway gate. 8032

8033 USA UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River (Timpooneke Creek), Timpooneke Guard Station, site 4, N 40.43226° W 111.63741° 2213 msl 04-Oct-2004 C. R. Nelson # 8033 & T. J. Anderson. 46 emptied and reset malaise trap, many caddis and emptied and reset 4 lindgren funnel traps. One full of Mycetophilidae. Last done by ? on about 25 Sep 2004. photos: Empididae: *Rhamphomyia* sp. Mycetophilidae. 8033

8034 USA UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180° W 111.65754° 1862 msl 04-Oct-2004 C. R. Nelson # 8034 & T. J. Anderson. 46 emptied and reset malaise trap and 4 lindgren funnel traps. Last done by ? on about 25 Sep 2004. 8034

8035 USA UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.44749° W 111.68305°, 1547 m, 04-Oct-2004 C. R. Nelson # 8035 & T. J. Anderson. 46 Monday, 7:30 pm. emptied and reset malaise trap and 4 lindgren funnel traps. Last done by ? on about 25 Sep 2004. We did not reset site 1. Todd had done this on Saturday, 2 October 2004. 8035

8036 USA UTAH: Utah Co., Utah Lake, Lincoln Point, Marsh west of Lincoln Beach Park, N 40.14109° W 111.82088°, 1366 msl 05-Oct-2004 C. R. Nelson # 8036 & J. K. Nelson. 46 UTLIN looked for limpets, Ancyliidae: *Ferrissia* sp., found none. collected pupae of

Sciomyzidae from Scirpus and Typha, they emerged as adults in the lab, probably Sepodon sp. I took photos of one. 8036

8037 USA UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home msl 08-Oct-2004 C. R. Nelson # 8037 46 UTLIN mantodea: Mantidae: mantis religiosus. 8037

8038 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775°W 1860 msl 10-Oct-2004 C. R. Nelson # 8038 46 Emptied & reset malaise trap, last done 2 Oct 2004, C. R. Nelson #8032? with Russ Rader. 8038

8039 USA: UTAH: Duchesne Co. Strawberry River, 5 air miles South of Fruitland, N 40.11880°W 110.83163°W 1929 msl 15-Oct-2004 C. R. Nelson # 8039 & class 46 UTSTRAW Electorshock brown trout for Mike Hadley and aquatic ecology lab class. photos of scenery and people. Those present: Riley Nelson, Dennis Shiozawa, Andy Johnson, Mike Hadley, David Janetski, Cynthia Penaflor, Becky Shiozawa Miller, Heather Stutz, Chris Hansen, Lance Bastian, and Shauna Piper. GPS reading at bridge, shocked downstream for about 100 m. Photos: malenka or Amphinemura; Empididae: Hemerodromia sp. specimens of: Perlodidae: Isogenoides; Ephemerellidae: Drunella; clams: Sphaeriidae. 8039

8040 USA: UTAH: Utah Co., Spanish Fork River, Spanish Fork River Park, above jct Diamond Fork River, N 40.01468°W 111.49683°W 1500 msl 16-Oct-2004 C. R. Nelson # 8040 & family 46 with Kaye and Sherry Wheeler.
Photo: Spanish Fork River. Ephemeroptera adult 8040

8041 USA: UTAH: Utah Co., Lake Fork Canyon, 1 mi S of Soldier Creek and Hwy 89, near Thistle. N 39.98768°W 111.47527°W 1550 msl 16-Oct-2004 C. R. Nelson # 8041 & family 46 with Kaye and Sherry Wheeler.
Photo: Spanish Fork River. photos, wild turkeys. 8041

8042 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775°W 1860 msl 16-Oct-2004 C. R. Nelson # 8042 & family 46 Emptied & reset malaise trap, last done 10 Oct 2004, C. R. Nelson #8038. At cabin with Kaye, Sherry Wheeler, Paul Ashton, Andrea Nelson, her friend Elizabeth and her friend Tammi. 8042

8043 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home 1495 msl 21-Oct-2004 C. R. Nelson # 8043 46 photos: tomato fruit 8043

8044 USA: UTAH: Utah Co., Provo, BYU lab N40.24625 W111.64984 1420 msl 23-Oct-2004 C. R. Nelson # 8044 46 specimens from Dennis K. Shiozawa: Ostracoda and Cladocera from Takahanne River pond nearby (pool) Yukon, Alaska. Copepoda shoshone and

Cladocera from WYOMING: Fremont Co., Lower Saddlebag Lake, 17 August 1994.

Cladocera: *Daphnia Magna*, no locality, approx. 21 days old. photos: microcrustacea, Ostracoda, Cladocera, Copepoda. 8044

8045 USA: UTAH: Utah Co., Provo, BYU, shrub beds of Harris Fine Arts Center, N40.24719 W111.64962 1430 msl 23-Oct-2004 C. R. Nelson # 8045 & T. J. Anderson. 46 C. R. Nelson not present when collected by T. J. Anderson. I took the photos on my kitchen table using a pack of frozen hamburger under the leaves to cool the fast running specimen. It worked well! photos: Diptera: Empididae: *Crossopalpus* sp. on aspen leaves from my yard. 8045

8046 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775°W 1860 msl 26-Oct-2004 C. R. Nelson # 8046 & P. F. Ashton. 46 Emptied & reset malaise trap, last done 16 Oct 2004, C. R. Nelson #8042. Good catch despite heavy rains for many days. 8046

8047 USA: UTAH: Utah Co., Provo, BYU, Smoot Building, dead or dying spruce tree, *Picea pungens*, N 40.25175°W 111.64958°W 1417 msl 27-Oct-2004 C. R. Nelson # 8047 & T. J. Anderson. 46 UTBYUASB collected by T. J. Anderson, C. R. Nelson is photographer, he wasn't present when collected. photos: Trogossitidae, adults and larvae; Scolytidae; two other beetes; Anthocoridae 8047

8048 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°W 1495 msl 30-Oct-2004 C. R. Nelson # 8048 & S. Fernstedt, J. Gibson, M. Hintze. 46 photos: Araneidae: *Aranea*, pale catface. 8048

8049 USA: UTAH: Utah Co., Provo, BYU, Wymont Terrace N 40.26208°W 111.63857°W 1450 msl 28-Oct-2004 C. R. Nelson # 8049 & Quinton Lords. 46 UTBYUWYMO"U C. R. Nelson not present when collected by Quinton Lords. photos: Pholcidae, long legged male. 8049

8050 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775°W 1860 msl 06-Nov-2004 C. R. Nelson # 8050 & P. F. Ashton. 46 Emptied & reset malaise trap, last done 26 Oct 2004, C. R. Nelson #8046. photos: Cynipidae on Gambels Oak. 8050

8051 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°W 1495 msl, 15-Nov-2004 C. R. Nelson # 8051 46 Agromyzidae: galls on quaking aspen, *Populus tremuloides*, in yard. given to Sonja Scheffer of the USDA Systematic Entomology Laboratory in Beltsville, Maryland. 8051

8052 USA: UTAH: Salt Lake Co. Salt Lake City, Salt Palace & Crossroads mall, N 40.29343°W 111.64922°W 1495 msl, 16-Nov-2004 C. R. Nelson # 8052 46 Photos in

Crossroads mall: Wayne mathis, Greg Courtney. Photos in exhibits hall of the meeting of the Entomological Society of America: Louise Fall, of BioQuip. Photos in Diptera symposium: Wayne mathis, Paul & madeline Arnaud, Chris Thompson, Will Reeves, Betsey Ahlstrom, Brian Brown, Greg Courtney, Michelle Trautwein, Brian Wiegmann, Josh Ogawa, Scott Fitzgerald, Owen Lonsdale, Richard Hurley, Brett Smith, Robert Johnson, John Oswald, Peter Adler, Steve Gaimari, Riley Nelson. Next day, Henry Hespenheide. 8052

8053 USA: UTAH: Utah Co., Provo, BYU, Bean Museum, 18-Nov-2004 C. R. Nelson # 8053 46 Photos: Norman Penny. Copies of Vasco M. Tanner photo. 8053

8054 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775° 1860 msl 06-Nov-2004 C. R. Nelson # 8054 & J. K. Nelson. 46 Emptied & reset malaise trap, last done 6 November 2004, C. R. Nelson #8050. 8054

8055 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 1495 msl, 04-Dec-2004 C. R. Nelson # 8055 46 photos: copies of Riley Nelson's Baby Book, infant information, nursery school graduation, report cards, art, elementary school classes, and newspaper announcements. 8055

8056 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 1495 msl, 12-Dec-2004 C. R. Nelson # 8056 46 photos: copies of World War II scrapbook of Aileen L. and Winston P. Nelson, photos and postcards, more to come 8056

8057 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building N 40.24625° W 111.64984°, 1420 msl, 15-Dec-2004 C. R. Nelson # 8057 46 photos: Dermestidae adult on pheasant feather; feather at different magnifications. 8057

8058 USA: COLORADO: Adams Co. Westminster, near Parker's home N 39.84° W 105.04°, 5480 ft., 28-29 December 2004 C. R. Nelson # 8058 & family: Kaye, Andrea, Amy. 46 photos: wedding reception of Maegan Parker and Nick Stoddard (some at temple in Littleton). photos: canada geese and prairie dogs 8058

8059 USA: UTAH: Utah Co., Rock Canyon, Provo, East of LDS temple, N 40.26482° W 111.63008°, 1420 msl, 15-Jan-2005 C. R. Nelson # 8059 & J. K. Nelson and Biology 100H class 46 chickadee, magpie, towhee, scrub jay. photos: purple and orange beetle larva, from under rocks 8059

8060 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775° 1860 msl 17-Jan-2005 C. R. Nelson # 8060 & J. K. Nelson. 46 Emptied & reset malaise trap, last done 20 November 2004, C. R. Nelson #8054. Photos: Kaye & Riley, skull and carcass of deer mouse, wasp nest (petiole open type). 8060

8061 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 1495 msl, 17-Jan-2005 C. R. Nelson # 8061 46 photos: Curculionidae, metallic blue. 8061

8062 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.43329°W 111.73836° 1547 m, 22-Jan-2005 C. R. Nelson # 8062 46 emptied and reset 4 lindgren funnels, 4 samples intact & frozen, last done November by Brett Smith. Antifreeze absent, it must have flooded out during rains. Cold and frosty from valley inversion fog, but nearly clear. Others present: Riley Nelson, Kaye Nelson, Brett Smith, Joss Wertz, Brita Ball, Melissa Orsak, and Max Deaver. Times: Timpooneke 1:20 pm with Hobo thermometer Serial Number #805651, South Fork 3:30 pm SN 805652, Hanging Rock 3:47 pm, 805650. photos: people and scenery; started at 11:05 am. 8062

8063 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River, Timpooneke Guard Station, site 4, N 40.43226°W 111.63741° 2213 msl, 22-Jan-2005 C. R. Nelson # 8063 46 emptied and reset lindgren funnels, only 1 sample intact, two had fallen and must be completely buried in snow. one fallen, but fixed and rehung. thus only one sample. last done November by Brett Smith. Antifreeze absent, it must have flooded out during rains. Others present: Riley Nelson, Kaye Nelson, Brett Smith, Joss Wertz, Brita Ball, Melissa Orsak, and Max Deaver. Times: Timpooneke 1:20 pm with Hobo thermometer Serial Number #805651. Cores of trees taken with new increment borer from Douglas fir and Engelmann spruce or subalpine fir. Walked on packed snow from Pine Hollow Parking lot to the site. Used snowshoes when we went off the road. Bright, sunny and warm, above the inversion of fog in the valley. photos: people and scenery also of Tipulidae: Chionea sp. from halfway on walk 8063

8064 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180°W 111.65754° 1862 msl, 22-Jan-2005 C. R. Nelson # 8064 46 emptied and reset 4 lindgren funnels,. last done November by Brett Smith. Antifreeze absent, it must have flooded out during rains. Three of four samples recovered. Others present: Riley Nelson, Kaye Nelson, Joss Wertz, Melissa Orsak, and Max Deaver. South Fork 3:30 pm HOBO SN 805652. Samples frozen solid. Heavy fog when sampling. photos: people and scenery also dense fog with crystals on branches. 8064

8065 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, N 40.44749°W 111.68305° 1818 m, 22-Jan-2005 C. R. Nelson # 8065 46 emptied and reset 4 lindgren funnels,. last done November by Brett Smith. Antifreeze mostly absent, it must have flooded out during rains. Three of four

samples recovered. Others present: Riley Nelson, Kaye Nelson, Joss Wertz, Melissa Orsak, and Max Deaver. Times: Hanging Rock 3:47 pm, HOBO SN 805650. Questionable sample labeling, need to look at start labels to fix, reorganize in lab. Heavy fog when sampling.

8065

8066 USA: UTAH: Utah Co., Rock Canyon, Provo, East of LDS temple, N 40.26482° W 111.63008° W, 1420 msl, 25-Jan-2005 C. R. Nelson # 8066 & Betsey Ahlstrom. 46 C. R. Nelson not present when collected, but has been to the exact spot often, photos in lab. photos: Mecoptera: Boreidae: *Boreus coloradensis* on moss from my home (CRN #8067) *Tortula* sp. 8066

8067 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343° W 111.64922° W 1495 msl, 26-Jan-2005 C. R. Nelson # 8067 46 photos: moss, from roof of house, tentatively identified as *Tortula* sp. using Flowers (1973). Used as prop in photos of Boreidae CRN #8066. 8067

8068 USA: UTAH: Cache Co. Logan 27-Jan-2005 C. R. Nelson # 8068 46 Photos: Wilford J. Hanson (& C. R. Nelson), yellow snow downtown near the Straw Ibis, barn near College Ward "Dr. Pierce's: the woman's tonic." Traveled with Terry Tolbert and Missy (Melissa) Siders of the Grand Staircase Escalante National Monument. 8068

8069 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building N 40.24625° W 111.64984° W, 1420 msl, 31-Jan-2005 C. R. Nelson # 8069 46 from specimen: WYOMING: Washakie Co., Leigh Creek, Bighorn National Forest, UTM Zone 13, N4883383 W0315324, 3 August 2004, matt Pyne and David Martin. C. R. Nelson not present when collected. photos: Ephemeroptera: Baetidae: *Baetis tricaudatus villipore*. 8069

8070 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.6 mi S of Vivian Park & Hwy 189 N 40.34771° W 111.54800° W, 1667 m 01-Feb-2005 C. R. Nelson # 8070 & N. L. Hanegan & Hank Nelson 46 We also made non-collecting stops at Upper Falls, North Fork at Timp Lodge, Canyon Glen, Paul Ream Park, Utah Lake State Park. *Zapada cinctipes* 1m 1 f; *Capnia gracilaria* 1f 8070

8071 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343° W 111.64922° W 1495 msl, 03-Feb-2005 C. R. Nelson # 8071 46 photos: beetle: Dermestidae, flying at window. I put it on wheat and a corn chip for the photo. It is probably *Anthrenus verbasci*. 8071

8072 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building N 40.24625° W 111.64984° W, 1420 msl, 03-Feb-2005 C. R. Nelson # 8072 46 photos: indian meal moth. Family: Pyralidae, *Plodia interpunctella* Hubner. Caught flying in office, photographed on wheat and corn chip. 8072

8073 USA: UTAH: Sanpete Co. Fountain Green Fish Hatchery N 39.63610° W 111.67328°, 2000 msl, 05-Feb-2005 C. R. Nelson # 8073 & J. K. Nelson 46 photos: rainbow trout in hatchery runs; scenery, view to Mount Nebo. We went to view bald eagles for Kaye's Nature Experience. 8073

8074 USA: UTAH: Sanpete Co. Chester N 39.47430° W 111.57238°, 1698 msl, 05-Feb-2005 C. R. Nelson # 8074 & J. K. Nelson 46 UTCHESTER photos: bald eagle in tree and flight. Kaye with tree and eagle, eagle sculpture. 8074

8075 USA: UTAH: Sanpete Co. 1 mi S of Chester, N 39.46116° W 111.58028°, 1689 msl, 05-Feb-2005 C. R. Nelson # 8075 & J. K. Nelson 46 UTCHES2 photos: bald eagle in tree and one in flight. 8075

8076 USA: UTAH: Sanpete Co. 1 mi N of Moroni, Blue Hills Road, N 39.55602° W 111.58153°, 1750 msl, 05-Feb-2005 C. R. Nelson # 8076 & J. K. Nelson 46 UTMORONI photos: bald eagles on snow, rock, and in flight. 8076

8077 USA: UTAH: Utah Co., Utah Lake, 1 mi West of Lincoln Beach, Hwy ? N 40.14051° W 111.82029°, 1366 msl, 05-Feb-2005 C. R. Nelson # 8077 & J. K. Nelson 46 UTLINPAST photos: view to Mount Timpanogos, Cascade Mountain, Provo Peak, and sunset to the west. 8077

8078 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building N 40.24625° W 111.64984°, 1420 msl, 11-Feb-2005 C. R. Nelson # 8078 46 photos: mites, thousands, from either moss or wheat bran mealworm (*Tenebrio molitor*) colony. 8078

8079 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883° W 111.26775° 1860 msl 12-Feb-2005 C. R. Nelson # 8079 & family 46 Emptied & reset malaise trap, last done 17 January 2005, C. R. Nelson #8060. In trap: chironomidae and moth chironomidae and moth 8079

8080 USA: UTAH: Utah Co., rock knob north of spring, Weeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.96322° W 111.26795° 2099 msl 12-Feb-2005 C. R. Nelson # 8080 & A. J. Nelson and friends. 46 ANDREATOP photos: people at erecting of flag (pillow case) at high point as Andrea leaves on her mission on Wednesday, 16 February 2005. Fossil bird tracks in Green River shale. 8080

8081 USA: UTAH: Utah Co., Hwy 6, 10 mi East of Thistle, N 39.96654° W 111.32170° 1763 msl 12-Feb-2005 C. R. Nelson # 8081 & J. K. Nelson. 46 UTMILL Bald eagles, 2 adults in tall cottonwood trees along Soldier Creek 8081

8082 USA: UTAH: Utah Co., Provo, Utah Lake State Park, near main entrance along Provo River, on Provo River Trail Road, N 40.23886° W 111.73055° 1362 msl 12-Feb-2005 C.

R. Nelson # 8082 & J. K. Nelson. 46 UTPROBOAT Bald eagles, 4 adults in tall cottonwood trees 8082

8083 USA: UTAH: Utah Co., Provo, Utah Lake State Park, near main entrance, N 40.23886°W 111.73055° 1362 msl 21-Feb-2005 C. R. Nelson # 8083 & J. K. Nelson. 46 photos: Bald eagles, scenery 8083

8084 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, South Fork American Fork River, Hwy 92, Mutual Dell N 40.44824°W 111.64474° 1952 msl 26-Feb-2005 C. R. Nelson # 8084 & Ed DeWalt. 46 MUTDEL Prostoia to Ed 8084

8085 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, junction North and South Forks of the American Fork River, Hwy 92, N 40.45355°W 111.66206° 1868 msl 26-Feb-2005 C. R. Nelson # 8085 & Ed DeWalt. 46 AFJCTNS Capnia nana 1f, Skwala 1ny, Zapada cinctipes, Prostoia besametsa, all to Ed 8085

8086 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Little Mill Campground, Hwy 92, N 40.44806°W 111.68176° 1825 msl 26-Feb-2005 C. R. Nelson # 8086 & Ed DeWalt. 46 AFJCTNS saw Zapada cinctipes & Dixidae, none kept. 8086

8087

USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775° 1860 msl 12-Mar-2005 C. R. Nelson # 8087 & J. K. Nelson & B. A. Sisson. 46 Emptied & reset malaise trap, last done 12 February 2005, C. R. Nelson #8079. fossils: fish: Knightia & Priscacara?, crocodile tooth, plant: legume fruit. 8087

8088 USA: UTAH: Utah Co., Provo, BYU, Wilkinson Center, 22-Mar-2005 C. R. Nelson # 8088 46 photos: BYU Luau, Polynesian dancing. Brittany Brown, Sarah Young, Sarah Kendall, Chantilly Toelupe, Camilla Faamuli, Ammon Kau. 8088

8089 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775° 1860 msl 26-Mar-2005 C. R. Nelson # 8089 & family 46 Emptied & reset malaise trap, last done 12 March 2005, C. R. Nelson #8087. Easter Overnight Party. 8089

8090 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922° 1495 msl, 03-Apr-2005 C. R. Nelson# 8090 46 larva deep in cultivated maple log, Cerambycidae? 8090

8091 USA: UTAH: Washington Co. 0.2 mi West of Anderson Junction, I-15, 3.5 mi North of Leeds, N 37.28674°W 113.30598° 1170 msl, 07-Apr-2005 C. R. Nelson# 8091 , R. L.

Johnson, M. P. Deaver, J. M. Mudrick, and S. Walker. 46 UTANDER Set up malaise trap, took down 9 April 2005, good catch. photos: leopard lizard, horned lizard *Phrynosoma platyrhinos*; photos: Asilidae: *Ablautus*; Tipulidae. 8091

8092 USA: UTAH: Washington Co. Castle Cliff, Hwy 91 between Santa Clara and Littlefield, N 37.06583°W 113.88816° 1159 msl, 07-Apr-2005 C. R. Nelson# 8092 , R. L. Johnson, M. P. Deaver, J. M. Mudrick, and S. Walker. 46 UTCASTLE Mycetophilidae, Culicidae, Syrphidae (*Eupeodes* and *Scaeva pyrastris*). Alcohol trap in cave: Tipulidae, Staphylinidae 8092

8093 USA: UTAH: Washington Co. Bitter Springs, Beaver Dam Slope, 7 mi East of Lytle Preserve, N 37.08649°W 113.92844° 1179 msl, 07-Apr-2005 C. R. Nelson# 8093 , R. L. Johnson, M. P. Deaver, J. M. Mudrick, and S. Walker. 46 UTBEASPR running water with a cottonwood and much *Mimulus*.

Set malaise trap on 7 April 2005 and took down on 9 April 2005. Snow on the ground when we took down the trap. Good catch in trap! Photos: scenery and people. Tipulidae, Mycetophilidae, 8093

8094 USA: ARIZONA: Mohave Co. Virgin River, Littlefield Bridge, I-15, Little Jamaica springs, N 36.89355°W 113.91823° 589 msl, 08-Apr-2005 C. R. Nelson# 8094 , M. P. Deaver, J. M. Mudrick, and S. Walker. 46 AZJAM photos: scenery & maidenhair fern; Virgin River 8094

8095 USA: ARIZONA: Mohave Co. Virgin River, above Littlefield, access from west bank N 36.91122°W 113.89843° 566 msl, 08-Apr-2005 C. R. Nelson# 8095 , M. P. Deaver, J. M. Mudrick, and S. Walker. 46 AZVIRG Syrphidae; no Asilidae; 8095

8096 USA: UTAH: Washington Co. wash, 1.5 mi SE of Bulldog Knolls, Woodbury Desert Research Area, N 37.01706°W 113.89149° 923 msl, 08-Apr-2005 C. R. Nelson# 8096 , M. P. Deaver, J. M. Mudrick, and S. Walker. 46 UTWASHAZ The *Eupeodes* were in a sex ratio of 74 males to 2 females. Why the bias? photos: Syrphidae (*Eupeodes* shot, but *Scaeva pyrastris* also seen), Aphididae, Tachinidae, Thomisidae, Coccinellidae (all on desert plum, *Prunus fasciculatus* or *Baileyia* sp.). Photos: Orthoptera: Tanaoceridae, *Tanaocerus koebelei*. Photos: people. 8096

8097 USA: UTAH: Washington Co. Beaver Dam Slope, 5 mi East of Lytle Preserve, N 37.09266°W 113.93896° 1184 msl, 09-Apr-2005 C. R. Nelson# 8097 , R. L. Johnson, M. P. Deaver, J. M. Mudrick, and S. Walker. 46 UTSNOW photos: Beaver Dam Slope in snow. 8097

8098 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Preserve N 37.14333°W 114.02220° 863 msl, 8-9 April 2005 C. R. Nelson# 8098 , R. L. Johnson, M. P. Deaver, J. M. Mudrick, and Sarah Walker. 46 UTLYTHQ malaise trap in desert scrub set on the hillside

above the orchard. Coordinates used from those taken last fall. in wash: Lasiocampidae: photos: Malacosoma larvae & pupae; photos: Curculionidae: Curculio? sp.; photos: Noctuidae: Catocala sp. larva. photos: Carabidae, Calosoma, fiery hunter. photos: parasitic wasps, emerged from pupae of Malacosoma disstria?, on or about 18 April 2005. photographed in lab, also photos of pupae of Malacosoma and Catocala. 8098

8099 USA: UTAH: Washington Co. Paradise Canyon, Hwy 18, east of Snow Canyon State Park, 3 mi West of St. George, N 37.16108°W 113.61111°W 1020 msl, 09-Apr-2005 C. R. Nelson# 8099, R. L. Johnson, M. P. Deaver, J. M. Mudrick, and S. Walker. 46 UTPARADISE We had a lunch of a baguette and tortillas with brie cheese, raspberry jam, and peanut butter, while sitting on the rim, where I took the GPS reading. saw desert tortoise and Uta stansburiana. Cold day. photos: people and scenery. 8099

8100 USA: UTAH: Utah Co., Provo, BYU N 40.24625°W 111.64984°W 1420 msl, 13-Apr-2005 C. R. Nelson# 8100 & A. L. Nelson 46 photos: Clayton White with stuffed passenger pigeon and falcon (parentage of bird half from Fiji and half from Australia). Riley Nelson with pigeon too. 8100

8101 USA: CALIFORNIA: Monterey Co. Monterey, Hopkins Marine Station, N 36.61902°W 121.90321°W 0 msl, 26-Apr-2005 C. R. Nelson# 8101 46 CALMONTER photos: sunrise, sea birds, seals, canada geese, Anthomyiidae: Fucellia sp., sea anemone. Others in group: Lee & Judy Braithwaite, Nikki Hanegan, Russ Rader, Clint Rader, Christine (Yamamoto) Scott, Irv Yamamoto, Joe Hanks, and Paul Dunn. firewood of Monterey Cypress. photos: Anthomyiidae: Fucellia sp., seals, canada geese, sea anemone 8101

8102 USA: CALIFORNIA: Monterey Co. Monterey, Monterey Bay Aquarium N 36.61902°W 121.90321°W 0 msl, 26-Apr-2005 C. R. Nelson# 8102 46 CALMONTER Others in group: Nikki Hanegan, Russ Rader, Clint Rader, Christine (Yokoyama) Scott, and Irv Yokoyama. photos: fish and jellyfish, Cnidaria. 8102

8103 USA: CALIFORNIA: Monterey Co. Point Lobos State Preserve N 36.5216°W 121.9527°W 0 msl, 26-Apr-2005 C. R. Nelson# 8103 46 topozone.com Others in group: Nikki Hanegan, Russ Rader, Clint Rader, Christine (Yokoyama) Scott, and Irv Yokoyama.

CRN paid \$9.00 for park entry. photos: scenery & lichen 8103

8104 USA: CALIFORNIA: Santa Cruz Co. Scotts Beach, Hwy 1, 5 mi S of Ano Nuevo Point, 36 mi S of Half Moon Bay N 37.03897°W 122.22882°W 0 msl, 27-Apr-2005 C. R. Nelson# 8104 46 CASCOTBEAC Others in group: Nikki Hanegan, Russ Rader, Clint Rader, and Christine (Yokoyama) Scott.

nice sand, rocky shore, and estuary. By the Wind sailors, Velella jellyfish remains. 8104

8105 USA: CALIFORNIA: San Mateo Co. Ano Nuevo Point, N 37.11507°W 122.32613°W 0 - 7 msl, 27-Apr-2005 C. R. Nelson# 8105 46 CAANONUEVO Others in group: Nikki Hanegan, Russ Rader, Clint Rader, and Christine (Yokoyama) Scott.
photos: Northern elephant seals 8105

8105.5 USA: CALIFORNIA: San Mateo Co. South San Francisco, Arnaud home, 3955 Reston Court, 27-Apr-2005 C. R. Nelson# 8105.5 46 Others in group: Nikki Hanegan, Russ Rader, Clint Rader, and Christine (Yokoyama) Scott.
photos: Paul and madeline Arnaud with Riley Nelson. 8105.5

8106 USA: CALIFORNIA: Humboldt Co. Redwood National Park, Redwood Creek Trail, 3 mi N of Orick, N 41.29913°W 124.03330°W, 28 msl, 28-Apr-2005 C. R. Nelson# 8106 46 CARREDWOOD Others in group: Nikki Hanegan, Russ Rader, Clint Rader, and Christine (Yokoyama) Scott.
photos: banana slug, snails, Tachinidae, Batrachoseps salamanders, Rana, Tipulidae, Chrysomelidae, Cerambycidae, Carabidae, Scaphinus snail eater. 8106

8107 USA: CALIFORNIA: Humboldt Co. Prairie Creek Redwoods State Park, James Irvine Trail, N 41.36387°W 124.02289°W, 51 msl, 28-Apr-2005 C. R. Nelson# 8107 46 CAPRAIRIE Others in group: Nikki Hanegan, Russ Rader, Clint Rader, and Christine (Yokoyama) Scott.
photos: redwood trees, Sequoia sempervirens, salamander (Ensatina?), and snail. 8107

8108 USA: OREGON: Coos Co. Charleston, Coos Head, rocky shore, Oregon Institute of Marine Biology, N 43.34964°W 124.33080°W, 0 - 3 msl, 29-Apr-2005 C. R. Nelson# 8108 46 ORCHARLES Others in group: Nikki Hanegan, Russ Rader, Clint Rader, Joe Hanks, and Paul Dunn. photos: Marine life in tidepools, list later, star fish Pisaster, sea anemone, barnacles, Staphylinidae. Identified one yellow and reddish fly as Opomyzidae: Geomyza sp. 8108

8108.5 USA: OREGON: Coos Co. Charleston, Coos Head, rocky shore, Oregon Institute of Marine Biology, N 43.34964°W 124.33080°W, 0 - 3 msl, 30-Apr-2005 C. R. Nelson# 8108.5 46 ORCHARLES Others in group: Nikki Hanegan, Russ Rader, Clint Rader, Joe Hanks, and Paul Dunn.

Set up two malaise traps on 29 April 2005 and emptied on 4 May 2005, left Jill Skinner to change them each week for six weeks (4-7 May 2005; 7-14 May 2005; 14-23 May 2005; 23-28 May 2005; 28 May - 9 June 2005). One is in the skunk cabbage Lysichiton americanus wetland behind the dining hall (also called site 1 or Boardwalk by Jill) and the other is 200

meters west near the Coast Guard Residences (also called site 2 or trail by Jill). 2 May 2005: photos: rocky shore invertebrates, Pacific tree frog, *Hyla regilla*, intertidal insects: Chironomidae, Dolichopodidae, and Anthomyiidae. Saw *Isoperla* skins. photos: Nemouridae: *Ostrocerca*, *Soyedina*, and *malenka*; Raphidiidae 8108.5

8109 USA: OREGON: Coos Co. Cape Arago, South Cove, N 43.30431°W 124.39819°W, 0 - 16 msl, 30-Apr-2005 C. R. Nelson# 8109 & N. L. Hanegan & C. Scott. 46 ORARAGO photos: scenery and fishing boats, cage & exclusion experiments in the intertidal zone. photos: huge Masses of *Velella velella*, By the Wind Sailor jellyfish on the beach. green anemone, purple sea urchins, mussels, barnacles, red coralline algae, red sea urchin, gum shoe chiton, 8109

8110 USA: OREGON: Coos Co. Cape Arago, Simpson Reef, N 43.31248°W 124.39612°W, 26 msl, 30-Apr-2005 C. R. Nelson# 8110 & N. L. Hanegan & C. Scott. 46 ORSIMPSON photos: scenery sea lion rocks photos: seals, sea lions, 8110

8111 USA: OREGON: Douglas Co. 10 mi N of Reedsport N 43.31248°W 124.39612°W, msl, 01-May-2005 C. R. Nelson# 8111 & R. & C. Rader. 46 photos: scenery, dunes 8111

8112 USA: OREGON: Lane Co. Cleawox Lake, J. M. Honeyman Memorial State Park, N 43.9295°W 124.1134°W, 30 msl, 01-May-2005 C. R. Nelson# 8112 & R. & C. Rader. 46 topozone photos: Clint and Russ Rader swimming photos: *Taricha* newts, *Rhododendron* flowers and Empididae 8112

8113 USA: OREGON: Lane Co. Darlingtonia State Botanical Wayside Park N 44.0463°W 124.0939°W, 30 msl, 01-May-2005 C. R. Nelson# 8113 & R. & C. Rader. 46 topozone Talked with Bob and Joan from Philomath. photos: *Darlingtonia californica*, carnivorous plant 8113

8114 USA: OREGON: Coos Co. Cape Arago, Simpson Reef, N 43.31248°W 124.39612°W, 26 msl, 03-May-2005 C. R. Nelson# 8114 & C. & R. Rader. 46 ORSIMPSON photos: scenery sea lion rocks photos: seals, sea lions, elephant seals. osprey 8114

8115 USA: OREGON: Coos Co. Sunset Bay State Park N 43.31248°W 124.39612°W, xx msl, 03-May-2005 C. R. Nelson# 8115 & C. & R. Rader. 46 xx photos: scenery photos: Syrphidae, skunk cabbage *Lysichiton americanus* 8115

8116 USA: OREGON: Coos Co. Charleston, Boat Basin N 43.34964°W 124.33080°W, 0 - 3 msl, 03-May-2005 C. R. Nelson# 8116 & C. & R. Rader. 46 ORCHARLES photos: crabbing, tunicates, star fish on heads, anemones, worms, etc. 8116

8117 USA: OREGON: Douglas Co. Hwy 230, summit northwest of Crater Lake N 43.09290°W 122.20596°W, 1629 msl, 04-May-2005 C. R. Nelson# 8117 & C. & R. Rader.

46 ORSUM looked for Grylloblatta, none found, kept some pumice. Substrate seemed too fine. 8117

8118 USA: OREGON: Klamath Co. Crater Lake National Park, Discovery Point, N 42.90237°W 122.16244°W, 2146 msl, 04-May-2005 C. R. Nelson# 8118 & C. & R. Rader. 46 ORCRATER photos: panoramas of lake, much snow 8118

8119 USA: OREGON: Lake Co. head of Drews Valley, 25 mi NW of Goose Lake, Hwy 140, N 42.26471°W 120.72427°W, 1521 msl, 04-May-2005 C. R. Nelson# 8119 & C. & R. Rader. 46 ORLICH bright green lichens on ponderosa pine, Pinus ponderosa. 8119

8120 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°W 1495 msl, 08-May-2005 C. R. Nelson# 8120 47 photos: Empididae and Agromyzidae on leaves of aspen, Populus tremuloides 8120

8120.5 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°W 1495 msl, 13-May-2005 C. R. Nelson# 8120.5 47 photos: Chloropidae, Anthomyiidae? (small), Empididae and Agromyzidae on leaves of aspen, Populus tremuloides 8120.5

8121 USA: MONTANA: Lake Co., Flathead Lake, Yellow Bay, Flathead Lake Biological Station, N 47.87576°W 114.03438°W 891 msl 06-May-2005 C. R. Nelson # 8121 47 MONFLATB photos CR Nelson not present when collected. Robert Newell sent me some live Perlomyia and I photographed them. Received 9 May 2005, by FEDEX. photos: Perlomyia utahensis also present: Paraperla wilsoni, too damaged to photograph. 8121

8122 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775°W 1860 msl 14-May-2005 C. R. Nelson # 8122 & J. K. Nelson 47 Emptied & reset malaise trap, last done 26 March 2005, C. R. Nelson #8089. high flow in Soldier Creek. Water ponding at spring, cutting over road in flow that would fit in a 6 inch pipe. With Jack and Joanne Sites. photos: fish fossils in Green River Formation, and sagebrush lizard, and scenery. 8122

8123 USA: UTAH: Utah Co., Mount Timpanogos, from Provo near Nelson Home, N 40.29343°W 111.64922°W 1495 msl 15-May-2005 C. R. Nelson # 8123 47 photos: Mount Timpanogos with Massive late season avalanche, first noticed yesterday. Photo taken from 4525 North Street from property line on sidewalk between Bruce Cole's and Brereton's houses. Construction of new stake center in the foreground. photos pet

Phrynosoma lizard from Nevada, probably Phrynosoma platyrhinos. photos someone's pet
Phrynosoma lizard from Nevada, probably Phrynosoma platyrhinos.
photos: beetle, tenerionid? no, perhaps Agyrtidae, photos taken 18 May 2005. 8123

8124 USA: UTAH: Utah Co., Provo, BYU, Nelson lab, 18-May-2005 C. R. Nelson # 8124 47
microphotos of Bolitophila n. sp. from:
USA: UTAH: Utah Co., American Fork Canyon, off Hwy 92, 0.5 miles from mouth of canyon,
N 40.43329 W 111.73836, elev. 1547 msl, 19 March - 12 April 2005, J. R. Wertz, lindgren
funnel #2. 8124

8125 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South
Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180 W
111.65754 1862 msl 20-May-2005 C. R. Nelson # 8125 & B. B. Smith, E. J. Bankhead,
and J. T. Osborne. 47 Couldn't get to Timpooneke, road closed for rock demolition.
Changed four funnel traps and one malaise trap. Water very high! photos: larvae under
bark, Stratiomyidae, Acalypterate pupae Lonchaeidae, Setisquamalonchaea fumosa?
adults emerged in lab 26 May 2005, photos taken of ptilinum and adults. photos
Cerambycidae, Xylophagidae larva, Polyxenidae millipede. 8125

8126 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging
Rock, American Fork River, site 2, N 40.44749 W 111.68305 1818 m, 20-May-2005 C.
R. Nelson # 8126 & B. B. Smith, E. J. Bankhead, and J. T. Osborne. 47 Changed four funnel
traps and one malaise trap. Water very high! photos: bat, little brown bat, Myotis lucifugus.
8126

8127 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi
East of canyon mouth, American Fork River, site 1, N 40.43329 W 111.73836 1547 m,
20-May-2005 C. R. Nelson # 8127 & B. B. Smith, E. J. Bankhead, and J. T. Osborne. 47
Changed four funnel traps and one malaise trap. Lost bottom to one funnel trap. This long
term site is 0.5 miles from entrance station; 0.8 miles from Pleasant Grove turnoff. photos:
site 8127

8128 USA: UTAH: Box Elder Co. Brigham City, Snow Park 22-May-2005 C. R. Nelson #
8128 & J. K. Nelson 47 Family reunion for Ole Peter Nelson family: his children were
Virginia, Rhoda, Oleen, Rhea, Grant, and Winston. photos: people. photos of old photos
belonging to Rhea Anderson and Carol Anne MacArthur in three long Books of
Remembrance. Those attending: Carolyn Stiimpson (Rhea's daughter) with her daughter
Tonya. Carol Anne MacArthur (Virginia's daughter), Gloria (Nelson) & Mike _____, with
Virginia a grown daughter. Nola (Nelson) Silva & daughter Nancy. Nancy (Nelson) _____

and husband. David Anderson (Rhea's son) and wife. Rick and Lana Nelson. Sally & Jerry Wright. 8128

8128.5 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°W 1495 msl, 23-May-2005 C. R. Nelson# 8128.5 47 copied photos of Winston P. Nelson, sailor, from World War II, at home in Provo. 8128.5

8129 USA: UTAH: Utah Co., Provo, BYU, Bean Museum, 26-May-2005 C. R. Nelson# 8129 47 photos: in museum, drawers of material from the projects at Coral Pink Sand Dunes and the Grand Staircase - Escalante National Monument: Asilidae, Bombyliidae, Dolichopodidae, Syrphidae, Tachinidae. 8129

8130 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Lab, 26-May-2005 C. R. Nelson# 8130 47 CRN photos session (not present when collected) of:
USA: UTAH: Utah Co., Provo, Y Mountain, trail base, under rock, 25 May 2005, Brad CarMack. photos: Cixiidae.

Also photos of: William Shakespeare in Joseph F. Smith Building. Also photos: statue, bust, of John A. Widtsoe in Widtsoe Building. Photos: Gingko biloba by Herald R. Clark Building. 8130

8131 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775°W 1860 msl 27-May-2005 C. R. Nelson # 8131 & D. Parker & P. f. Ashton. 47 Emptied & reset malaise trap, last done 14 May 2005, C. R. Nelson #8122. Replaced old torn one. 8131

8132 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°W 1495 msl, 27-May-2005 C. R. Nelson# 8132 47 photos: ants, Formicidae: Monomorium minimum? 8132

8133 USA: UTAH: Garfield Co. Boulder Mountain, Hwy 12, Larb Hollow Scenic Overlook, N 38.13228 W 111.32595 2261 msl, 03-Jun-2005 C. R. Nelson# 8133 & E. J. Bankhead, N. L. Hanegan, K. L. Frieden. 47 photos: panorama, Henry Mountains. 8133

8134 USA: UTAH: Kane Co., Deer Springs Ranch, Skutumpah Road, 21 miles S of Cannonville N 37.33223 W 112.22287 1925 msl, 04-Jun-2005 C. R. Nelson# 8134 & E. J. Bankhead, N. L. Hanegan, K. L. Frieden, E. C. Green, K. T. Huntzinger. 47 UTDEERCAB photos: Scarabaeidae, Aradidae (quite small).
Raphidiidae 8134

8135 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Lick Wash, near jct Skutumpah Road, N 37.36312 W 112.18740 1925 msl, 04-Jun-2005 C. R.

Nelson# 8135 & E. J. Bankhead, N. L. Hanegan, K. L. Frieden, E. C. Green, K. T. Huntzinger.
47 photos, old traps on hillside, Kim & Bessie,

UTLICKTOP was up southrim, still seeing parking lot
N 37.36126° W 112.18944° elev. 1935 msl. Hillside: photos: Asilidae on cryptogam;
beautiful mutillidae

Stenopogon inquinatus, Raphidiidae, Cicadidae, Bombyliidae, Mutillidae in old trap.
Parking lot: photos: Tephritidae (*Trupanea nigricornis* and *Neotephritis finalis*) on
Chrysothamnus nauseosus and another species. Miridae: *Coquillettia*; Chrysopidae.
8135

8136 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Lick Wash,
narrows below Skutumpah Road, N 37.34017° W 112.17007° 1850 msl, 04-Jun-2005
C. R. Nelson# 8136 & E. J. Bankhead, N. L. Hanegan, K. L. Frieden, E. C. Green, K. T.
Huntzinger. 47 Lick Wash Narrows photos: Silphidae, Dolichopodidae, Muscidae?,
Cerambycidae, Opilionida, Salticidae, spider with Dolichopodidae prey. 8136

8137 USA: UTAH: Kane Co., Deer Springs Ranch, Cabin 7, Skutumpah Road, 21 miles S of
Cannonville N 37.33223 W 112.22287 1925 msl, 06-Jun-2005 C. R. Nelson# 8137 & E. J.
Bankhead, N. L. Hanegan, K. L. Frieden, & UBEST teachers. 47 UTDEERCAB sweepings
near cabin 7; photos: rattlesnake, *Crotalus viridis*, 30 cm., Scarabaeidae, mottled photos.
photos: Aradidae. photos: Sphingidae caterpillar, *Hyles lineata* on *Oenothera* sp. 8137

8138 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Lick Wash, jct
Skutumpah Road, sagebrush flat NW of narrows N 37.36603° W 112.19117° 1915 msl,
06-Jun-2005 C. R. Nelson# 8138 & E. J. Bankhead, N. L. Hanegan, K. L. Frieden, & UBEST
Teachers. 47 UTLICKPIT1 photos, old traps on flat set by Wendy and Bessie in 2000
(UTLICKPIT1: N37.36603 W112.19117 elev. 1915 msl, trap 1; trap 5: UTLICKPIT5:
N37.36624 W112.19156 elev. 1917 msl. These two traps were on a 10 m grid, so were 40
meters apart (a brief experiment with the GPS to see how the resolution is at this time using
my Garmin GPS 76s).

We set up 6 malaise traps in sets of 2, 1 coarse and 1 fine. They were separated by about 50
m. We recovered parts of pitfall trap cup array of 2000. malaise trap array 1-3: Trap 1 (LS1):
N 37.36687 W 112.18991 elev. 1911 msl; Trap 2 (LS2): N37.36646 W 112.18987 elev. 1915
msl; Trap 3 (LS3): N37.36657 W112.19036 elev. 1914 msl. *Efferia carinata* group male.
8138

8139 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Lick Wash,
Skutumpah Road, pine forest to SW of narrows N 37.36208° W 112.18893° 1935 msl,
06-Jun-2005 C. R. Nelson# 8139 & E. J. Bankhead, N. L. Hanegan, K. L. Frieden, & UBEST

Teachers. 47 UTL4

We set up 6 malaise traps in sets of 2, 1 coarse and 1 fine. They were separated by about 50 m. malaise trap array 1-3: Traps 4 (UTL4): N 37.36208 W 112.18893 elev. 1935 msl; Traps 5 (UTL5): N 37.36184 W 112.18907 elev. 1939 msl; Traps 6 (UTLS6): N 37.36107 W 112.18906 elev. 1955 msl. photos: wandering garter snake near wash: *Thamnophis elegans vagrans*. 8139

8140 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Lick Wash, Skutumpah Road, pine forest to SW of narrows N 37.36208 W 112.18893 1935 msl, 07-Jun-2005 C. R. Nelson# 8140 & E. J. Bankhead, N. L. Hanegan, K. L. Frieden, & UBEST Teachers. 47 UTL4 We checked on malaise traps and set 5 yellow pans at each trap pair in the morning. Reset malaise traps for first time in the afternoon (24 hours of running) started 6 June 2005 CRN#8139. Asilidae: *Stenopogon inquinatus*: *Lasiopogon*? NO! *Ablautus*. photos: short horned lizard: *Phrynosoma hernandesi*. 8140

8141 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Lick Wash, jct Skutumpah Road, sagebrush flat NW of narrows N 37.36603 W 112.19117 1915 msl, 07-Jun-2005 C. R. Nelson# 8141 & E. J. Bankhead, N. L. Hanegan, K. L. Frieden, & UBEST Teachers. 47 UTLICKPIT1 We checked on and restretched malaise traps and set 5 yellow pans at each trap pair in the morning. Reset malaise traps for first time in the afternoon (24 hours of running) started 6 June 2005 CRN#8138 *Efferia carinata* group male. 8141

8142 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, 1 mi N of Lick Wash, N 37.37892 W 112.18349 1925 msl, 07-Jun-2005 C. R. Nelson# 8142 & some UBEST Teachers. 47 bull snake on road, teachers took pictures of it in my hands. 8142

8142.5 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Willis Creek, above jct Skutumpah Road, N 37.48339 W 112.09734 1819 msl, 07-Jun-2005 C. R. Nelson# 8142.5 & some UBEST Teachers. 47 UTWILL1

We set up 3 malaise traps. They were separated by about 50 m. malaise trap 1-3: Traps 1 (UTWILL1): N 37.48339 W 112.09734 elev. 1819 msl; Trap 2 (UTWILL2): N 37.48383 W 112.09753 elev. 1821 msl; Traps 6 (UTWILL3): N 37.48404 W 112.09811 elev. 1822 msl. Set 5 yellow pans near each trap Sphingidae caterpillar, later photographed on *Dalea* (*Psoralea*) prairie clover. 8142.5

8143 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Lick Wash, narrows East of Skutumpah Road, N 37.34017 W 112.17007 1850 msl, 07-Jun-2005 C. R. Nelson# 8143 & E. J. Bankhead, N. L. Hanegan, K. L. Frieden, & UBEST Teachers. 47 Lick wash Walked to jct Park Wash. Photos: scenery & people. Empididae 8143

8144 USA: UTAH: Kane Co., Deer Springs Ranch, Skutumpah Road, 21 miles S of Cannonville N 37.33223 W 112.22287 1925 msl, 07-Jun-2005 C. R. Nelson# 8144 & E. J. Bankhead, N. L. Hanegan, K. L. Frieden, UBEST teachers. 47 UTDEERCAB ran mercury vapor lamp. Poor success, cold about 60 deg F 8144

8145 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Lick Wash, jct Skutumpah Road, sagebrush flat NW of narrows N 37.36603 W 112.19117 1915 msl, 08-Jun-2005 C. R. Nelson# 8145 & E. J. Bankhead, N. L. Hanegan, K. L. Frieden, & UBEST Teachers. 47 UTLICKPIT1 Set up three nested vegetation quadrat on Trap sites 1-3. 16 m x 16 m, counted plant species.

emptied and reset malaise traps and pan traps in afternoon, last done 7 June 2005
CRN#8141 8145

8146 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Lick Wash, Skutumpah Road, pine forest to SW of narrows N 37.36208 W 112.18893 1935 msl, 08-Jun-2005 C. R. Nelson# 8146 & E. J. Bankhead, N. L. Hanegan, K. L. Frieden, & UBEST Teachers. 47 UTL4 Set up three nested vegetation quadrat on Trap sites 4-6. 16 m x 16 m, counted plant species.

emptied and reset malaise traps and pan traps in afternoon, last done 7 June 2005
CRN#8140 Asilidae: Stenopogon inquinatus: Lasiopogon? NO! Ablautus. Bombylius Machimus. 8146

8147 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Willis Creek, above jct Skutumpah Road, N 37.48339 W 112.09734 1819 msl, 08-Jun-2005 C. R. Nelson# 8147 & some UBEST Teachers. 47 UTWILL1 emptied and reset malaise traps and pan traps in afternoon, last done 7 June 2005 CRN#8142. Lost one yellow pan at top (#3) site: now only four there. 8147

8147.5 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Indian Hollow, Skutumpah Road, 2 mi SW of Bull Valley Gorge msl, 08-Jun-2005 C. R. Nelson# 8147.5 & some UBEST Teachers. 47 collected flowers of Yucca angustissima with moth and beetles. Lost one yucca moth. 8147.5

8148 USA: UTAH: Kane Co., Deer Springs Ranch, Skutumpah Road, 21 miles S of Cannonville N 37.33223 W 112.22287 1925 msl, 08-Jun-2005 C. R. Nelson# 8148 & E. J. Bankhead, N. L. Hanegan, K. L. Frieden, UBEST teachers. 47 UTDEERCAB ran mercury vapor lamp. Some success, still too cold. Walkd with UV lights looking for scorpions, found

none. found one Great Basin Rattlesnake, *Crotalus viridis*, about 60 cm.

Sphingidae. 8148

8149 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument border, jct Dairy Canyon, 5.7 mi N of Hwy 89, N 37.11611° W 112.38166° 1650 msl, 08-Jun-2005 C. R. Nelson# 8149 & E. J. Bankhead, N. L. Hanegan, K. L. Frieden, UBEST teachers. 47 CR Nelson not present when the squirrel was hit and retrieved. This is a plague vector! Ed measured the location as 10.5 mi S of Jct Skutumpah Road and the Glendale Bench Road, end of pavement. I got the coordinates from Garmin's mapsource program. Ed Mulick hit a rock squirrel (*Spermophilus variegatus*) on paved road. Kept to harvest fleas by hanging over a pan of alcohol back at camp until afternoon of 9 June 2005. Three species of fleas identified by Mike Hastriter on 14 June 2005: *Echidnophaga gallinacea* 1f; *Oropsylla montana* 5f; *Hoplopsylla anomalus* 30 m and 23 f. 8149

8150 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Bull Valley Gorge, Skutumpah Road, upstream, 37 28 19 N 112 06 37 W msl, 09-Jun-2005 C. R. Nelson# 8150 & E. J. Bankhead, N. L. Hanegan, K. L. Frieden, UBEST teachers. 47 Walked along rim, too much water to get into the slot easily. photos: wrecked truck and group 8150

8151 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Lick Wash, jct Skutumpah Road, sagebrush flat NW of narrows N 37.36603° W 112.19117° 1915 msl, 09-Jun-2005 C. R. Nelson# 8151 & E. J. Bankhead, N. L. Hanegan, K. L. Frieden, & UBEST Teachers. 47 UTLICKPIT1 emptied and took down malaise traps and pan traps in afternoon, last done 8 June 2005 CRN#8145 8151

8152 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Lick Wash, Skutumpah Road, pine forest to SW of narrows N 37.36208° W 112.18893° 1935 msl, 09-Jun-2005 C. R. Nelson# 8152 & E. J. Bankhead, N. L. Hanegan, K. L. Frieden, & UBEST Teachers. 47 UTL4 emptied and took down malaise traps and pan traps in afternoon, last done 8 June 2005 CRN#8146 8152

8153 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Willis Creek, above jct Skutumpah Road, N 37.48339° W 112.09734° 1819 msl, 09-Jun-2005 C. R. Nelson# 8153 & some UBEST Teachers. 47 UTWILL1 emptied and took down malaise traps and pan traps in afternoon, last done 8 June 2005 CRN#8147. Lost another yellow pan at top (#3) site: ended with only 3 there. A minor flood passed through during the night so that the bottom 8 inches of the #3 trap was red with silt and debris. No tears. 8153

8154 USA: UTAH: Garfield Co. Escalante, Golden Loop Cafe N 37.77013 W 111.60118 W 1776 msl, 10-Jun-2005 C. R. Nelson# 8154 & E. J. Bankhead, N. L. Hanegan, K. L. Frieden, & UBEST Teachers. 47 UTGOLDEN photos: UBEST group in cafe. Formicidae, winged in salt shaker; Sciaridae walking on table. 8154

8155 USA: UTAH: Grand Co. Moab, N 38.52287 W 109.48864 W 1400 msl, 12-Jun-2005 C. R. Nelson# 8155 & Jason Wallace. 47 from mapSource photos in lab, CRN not present when collected. Collected by Jason Wallace, a student from Steve Peck's lab. photos: ant: Pogonomyrmex worker with decapitated head of another worker attached symmetrically to its petiole. 8155

8156 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Lab, N 40.24625 W 111.64984 W 1420 msl, 15-Jun-2005 C. R. Nelson# 8156 47 from mapSource photos in lab of lab workers and visitors: Brita Ball, Elizabeth Bankhead, Brandon Kowallis, and Jon Jasper 8156

8157 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883 W 111.26775 W 1860 msl, 15-Jun-2005 C. R. Nelson# 8157 & J. K. Nelson. 47 Emptied and reset malaise trap, last done 27 May 2005, CRN #8131 8157

8158 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.43329 W 111.73836 W 1547 m, 20-Jun-2005 C. R. Nelson# 8158 & lab students 47 Emptied and reset malaise trap and four lindgren funnels, last done ? by students. Water still very high! It was hitting the bottom of the crossing log.

Those present on this trip included lab students and a film crew from BYU University Communications.

Riley Nelson, Elizabeth Bankhead, Brett Smith, Jonathan Osborne, Nikki Hanegan. With Michael SMart, reporter; Steve Walters, still camera; Josh Wright, video camera. Isoperla fulva, Sweltsa coloradensis, and Sweltsa? borealis? (could be females of fulva). 8158

8159 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, N 40.44749 W 111.68305 W 1818 m, 20-Jun-2005 C. R. Nelson# 8159 & lab students 47 Emptied and reset malaise trap and four lindgren funnels, last done ? by students.

Those present on this trip included lab students and a film crew from BYU University Communications.

Riley Nelson, Elizabeth Bankhead, Brett Smith, Jonathan Osborne, Nikki Hanegan. With Michael SMart, reporter; Steve Walters, still camera; Josh Wright, video camera. photos:

Isoperla fulva, *Sweltsa coloradensis*.

One *Capnia* escaped. Nemouridae: *Prostoia besametsa* 8159

8160 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180° W 111.65754° W, 1862 msl, 20-Jun-2005 C. R. Nelson# 8160 & lab students 47 Emptied and reset malaise trap and four lindgren funnels, last done ? by students.

Those present on this trip included lab students and a film crew from BYU University Communications.

Riley Nelson, Elizabeth Bankhead, Brett Smith, Jonathan Osborne, Nikki Hanegan. With Michael SMar, reporter; Steve Walters, still camera; Josh Wright, video camera. photo: Leuctridae: *Perlomyia utahensis*, 1m. 8160

8161 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River (Timponeke Creek), Timponeke Guard Station, site 4, N 40.43226° W 111.63741° W, 2213 msl, 20-Jun-2005 C. R. Nelson# 8161 & lab students 47 Emptied and reset malaise trap and three lindgren funnels, last done ? by students. Found, repaired, and rehung long lost 4th lindgren funnel set. We set it on the same side of the stream as the campground.

Those present on this trip included lab students and a film crew from BYU University Communications.

Riley Nelson, Elizabeth Bankhead, Brett Smith, Jonathan Osborne, Nikki Hanegan. Steve Walters, still camera; Josh Wright, video camera. photo: Hydropsychidae: *Arctopsyche*; Perlodidae: *Cultus aestivalis*; *Isoperla sobria* male. Leuctridae: *Paraleuctra occidentalis* 2 m. Carabidae: broad head. 8161

8162 USA: UTAH: Utah Co., Mount Timpanogos, near Timponeke Trail, meadow below Giant Staircase, Site 5 N 40.42458° W 111.63899° W, 2291 msl, 20-Jun-2005 C. R. Nelson# 8162 & lab students 47 UT TIMP 5 Set malaise trap at narrows below lower end of meadow. It started collecting good things immediately. Started temperature logger, HOBO #832232. The stream was running very high with snowmelt. I expect it to dry up. Also took second GPS reading: UTTIMP5: N40.42465 W111.63883, elev. 2294 msl (7515 feet)

Those present on this trip included lab students and a film crew from BYU University Communications.

Riley Nelson, Elizabeth Bankhead, Brett Smith, Jonathan Osborne, Nikki Hanegan. Steve

Walters, still camera; Josh Wright, video camera. photos: Cleridae, orange and black.
8162

8163 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trail, Giant Staircase, stream entering South Fork American Fork River, from the West below Scout Falls, Site 6 N 40.41829° W 111.64149°, 2453 msl, 20-Jun-2005 C. R. Nelson# 8163 & lab students 47 UTTIMP6 Set malaise trap over avalanche melt stream that seems permanent. Started temperature logger, HOBO #832233.

Those present on this trip included lab students and a film crew from BYU University Communications.

Riley Nelson, Elizabeth Bankhead, Brett Smith, Jonathan Osborne, Nikki Hanegan. Steve Walters, still camera; Josh Wright, video camera. red colored snow, algae? 8163

8164 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trail at base of Scout Falls, N 40.41740° W 111.64051°, 2456 msl, 20-Jun-2005 C. R. Nelson# 8164 & lab students 47 UTSCOUT Photos: Falls and scenery.

Those present on this trip included lab students and a film crew from BYU University Communications.

Riley Nelson, Elizabeth Bankhead, Brett Smith, Jonathan Osborne, Nikki Hanegan. Steve Walters, still camera; Josh Wright, video camera. 8164

8165 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Lab, N 40.24625° W 111.64984°, 1420 msl, 22-Jun-2005 C. R. Nelson# 8165 47 photo session: Missy (Melissa) Siders mailed me two specimens which I photographed:

USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Johnson Lakes, N 37.1091 W 112.3321, elev. 1646 msl, 16 June 2005, Melissa Siders and Aaron Sinton, photos: Lampyridae, Pyrausta. USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, head of Dry Valley, jct Skutumpah Road, N 37.3853 W 112.1841, elev. 1953 msl, 15 June 2005, Melissa Siders, on bat Myotis volans, pregnant female, photos: Cimicidae, Cimex pilosellus. photos Cimicidae and Lampyridae 8165

8166 USA: UTAH: Utah Co., Mount Timpanogos and Mount Nebo 30-Jun-2005 C. R. Nelson# 8166 47 photos in flight on commercial airline. 8166

8167 USA: CALIFORNIA: Mohave Desert near Cajon Pass? 30-Jun-2005 C. R. Nelson# 8167 47 photos in flight on commercial airline. 8167

8168 MONGOLIA: Tov Aimag: Ulaan Baatar, city center N47.91513° E 106.90746° 1335 msl 02-Jul-2005 C. R. Nelson# 8168 47 MULAANAPT photos city scenes, near apartment. 8168

8169 MONGOLIA: Tov Aimag: Ulaan Baatar, city center N47.91513°E 106.90746° 1335 msl 03-Jul-2005 C. R. Nelson# 8169 & Charles Bartlett. 47 MULAANAPT 220 am Monday is 1120am Sunday in Utah. I created a big chart to show times 15 hours difference so I would call Kaye at appropriate times. photos: Syrphidae on dandelion; Tabaanidae; Meloidae on Artemesia abisynthum; spider, skip to my lou, Rhopalidae, Tipulidae: Nephrotoma; Eriosomatidae; Buprestidae, Anthaxia on dandelion; Thysanoptera on dandelion; Bombyliidae; Sarcophagidae, mating pair; beetle Myceophagidae?; Bibionidae 8169

8170 MONGOLIA: Tov Aimag: Ulaan Baatar, police checkpoint on road to Sukhbaatar, 1508 msl 04-Jul-2005 C. R. Nelson# 8170 & SRP crew, see CRN 8170 notes. 47 Selenge River Project Crew: Jon Gelhaus (Diptera), Barabara Halford (Chironomidae & bioassessment), Dr. Namkhaidorj (guide), Katie Hopp (undergraduate research associate, bioassessment), Debbie Baker (bioassessment), Riley Nelson (Plecoptera, Diptera, photographer), Tomas Soldan (Ephemeroptera, Czech Republic), Charles Bartlett (Homoptera, Univ. Delaware), Handaa (translator & manager), Sanaa Enkhtaivan (Ephemeroptera & Plecoptera), Sigita and Virginia Podenas (Tipulidae, Lithuania), Nara (truck driver), Bagaa (jeep driver, lead), Mygaa (jeep driver, white top), Bat gerar (jeep driver, all green), Tumur (van driver), Lena (chief cook), Bayarmaa (cook), Suvdaa (Trichoptera, Clemson), Monkhov "Mogi", (Chironomidae), Ariuna (water chemistry), Nasa (aquatic beetles), Ugnaa "Onaa" (diatoms & water chemistry), later added Oyuna (Tipulidae) in Moron. horse corral; photo scarab, shot out of order at CRN 8134 8170

8171 MONGOLIA: Tov Aimag: road crest, ovoo, shrine N 47.95761°E 106.60542° 1508 msl 04-Jul-2005 C. R. Nelson# 8171 & SRP crew, see CRN 8170 notes. 47 MONO2OOVO Selenge River Project Crew: Jon Gelhaus (Diptera), Barabara Halford (Chironomidae & bioassessment), Dr. Namkhaidorj (guide), Katie Hopp (undergraduate research associate, bioassessment), Debbie Baker (bioassessment), Riley Nelson (Plecoptera, Diptera, photographer), Tomas Soldan (Ephemeroptera, Czech Republic), Charles Bartlett (Homoptera, Univ. Delaware), Handaa (translator & manager), Sanaa Enkhtaivan (Ephemeroptera & Plecoptera), Sigita and Virginia Podenas (Tipulidae, Lithuania), Nara (truck driver), Bagaa (jeep driver, lead), Mygaa (jeep driver, white top), Bat gerar (jeep driver, all green), Tumur (van driver), Lena (chief cook), Bayarmaa (cook), Suvdaa (Trichoptera, Clemson), Monkhov "Mogi", (Chironomidae), Ariuna (water chemistry), Nasa (aquatic beetles), Ugnaa "Onaa" (diatoms & water chemistry), later added Oyuna (Tipulidae) in Moron. photos: ovoo, rock shrine; group shot (no Podenas). Circle the shrine three times clockwise.

8171

8172 MONGOLIA: Tov Aimag: Bornuur Soum Bornuur Gol River, 10 km SW of Bornuur, Road A0401

(distances on this trip are almost always straight line, not road distances), N 48.36910°E 106.20353°E 1158 msl 04-Jul-2005 C. R. Nelson# 8172 & SRP crew, see CRN 8170 notes.

47 MONO3LUNCH Selenge River Project Number(SRP):

05(year)07(month)04(day)01(aquatic site of the day): 05070401 photos: sweep caddis, acalypterates, Sepsidae, Oestridae larvae in horse dung; Muscoidea. Meloidae. 8172

8173 MONGOLIA: Selenge Aimag: Haraajiin Davaa (Pass), 19.2 km S of Bayangol, N 48.72573°E 106.13416°E 1158 msl 04-Jul-2005 C. R. Nelson# 8173 & SRP crew, see CRN 8170 notes. 47 MONO4FLAT Selenge River Project Number(SRP): none; fixing flat tire. As a convention on this trip I included translations of Gol as River or stream, Uul for nest, Nuur for lake etc. despite it being redundant. photos: butterflies, Aporeia crataegae, Satyridae; Geometridae? 8173

8174 MONGOLIA: Selenge Aimag: Baruunharaa Soum (Soum is "Co., ") Haraa Gol River, 2.3 km S of Bayangol N 48.87748°E 106.12370°E 802 msl 04-Jul-2005 C. R. Nelson# 8174 & SRP crew, see CRN 8170 notes. 47 MONZUUHA Selenge River Project Number(SRP):

05070402; left camp on morning of 5 July around 11:00 am.

Camp 1. photos: Lycaenidae, Meloidae, Cercopidae.

photos: scenery, camp, gers, & horses. 5 July 2005: Photos: Isopoda 2 spp., Siphonuridae, Notodontidae. On remainder of trip we counted the site only for the first day, not segregating overnight samples. photo of scarab from CRN 8171 out of order. 8174

8175 MONGOLIA: Selenge Aimag: Baruunharaa Soum (Soum is "Co., " 52 km S of Darkhan, N 49.01410°E 106.04008°E 824 msl 05-Jul-2005 C. R. Nelson# 8175 & SRP crew, see CRN 8170 notes. 47 965 Selenge River Project Number(SRP): none photos: wingless Tettigoniidae, Decticinae, genus Dericantia (5 spp. in Mongolia according to Namkhaidorj) animal of the steppes. 8175

8176 MONGOLIA: Selenge Aimag: xx Soum Darkhan Black market, see Jon for GPS xx msl 05-Jul-2005 C. R. Nelson# 8176 & SRP crew, see CRN 8170 notes. 47 965 Selenge River Project Number(SRP): none photos: shops and goods, boots 8176

8177 MONGOLIA: Selenge Aimag: xx Soum 6 km N of Darkhan, N 49.52655°E 105.96537°E 742 msl 05-Jul-2005 C. R. Nelson# 8177 & SRP crew, see CRN 8170 notes. 47 966 Selenge River Project Number(SRP): none photos: Marijuana with insects: Cicadellidae, Lygaeidae Nysius?, Tettigoniidae, orange and black bug Rhopalidae? 8177

8178 MONGOLIA: Selenge Aimag: xx Soum Arangajtiin Davaa (pass), 13.9 km SE of Shaamar, road to Sukhbaatar N 49.98701°E 106.29932°E 790 msl 05-Jul-2005 C. R.

Nelson# 8178 & SRP crew, see CRN 8170 notes. 47 967 Selenge River Project Number(SRP): none photos: by Jon of orange lily. Asilidae: small Dioctria; Chrysomelidae on Artemesia and Medicago. 8178

8179 MONGOLIA: Selenge Aimag: xx Soum Shaamar N 50.08232°E 106.17425°E 603 msl 05-Jul-2005 C. R. Nelson# 8179 & SRP crew, see CRN 8170 notes. 47 968 Selenge River Project Number(SRP): none mantispidae, Asilidae: Holopogon, Stichopogon, saw female of Machimus. 8179

8180 MONGOLIA: Selenge Aimag: Zuunburen Soum 4 km East of Zuunburen N 50.09079°E 105.94765°E 614 msl 05-Jul-2005 C. R. Nelson# 8180 & SRP crew, see CRN 8170 notes. 47 969 Selenge River Project Number(SRP): none mileage: 82.4 - 78.1 = 4.3 Cerambycidae 8180

8181 MONGOLIA: Selenge Aimag: Zuunburen Soum Selenge River at bridge W of Zuunburen N 50.10543°E 105.80488°E 626 msl 05-Jul-2005 C. R. Nelson# 8181 & SRP crew, see CRN 8170 notes. 47 970 Selenge River Project Number(SRP): none photos: first view of the Selenge River! 8181

8182 MONGOLIA: Selenge Aimag: Zuunburen Soum small channel of Selenge River, 7.9 km SW of Zuunburen N 50.10277°E 105.78217°E 627 msl 05-Jul-2005 C. R. Nelson# 8182 & SRP crew, see CRN 8170 notes. 47 971 Selenge River Project Number(SRP): 05070501 also spelled Zuunburen left site 11:10 am on 6 July 2005

Camp 2 photos: Isoperla, Sweltsa, Phasgonophora (probably actually Paragnetina, Tipulidae, Potamanthus, Ephemerella, Nixe?(or Ecdynurus), Isonychia, Notodontidae, Ephoron. 8182

8182.5 MONGOLIA: Selenge Aimag: Tsagaannuur Soum wetland ponds 10 km SW of Tsagaan Nuur town, N 50.03638°E 105.37392°E 711 msl 06-Jul-2005 C. R. Nelson# 8182.5 & SRP crew, see CRN 8170 notes. 47 972 Selenge River Project Number(SRP): 05070601. photos: demoiselle cranes, people, Stratiomyidae, Perlidae! strange, Marsh only!, Syrphidae, Asilidae: "Asilus", Leptogaster, saw Dioctria. Tephritidae, Cicindelidae, much more, very rich! 8182.5

8183 MONGOLIA: Selenge Aimag: Tsagaannuur Soum steppe above Tsagaan Nuur Lake N 50.02077°E 105.28652°E 832 msl 06-Jul-2005 C. R. Nelson# 8183 & SRP crew, see CRN 8170 notes. 47 973 Selenge River Project Number(SRP): none. photos: view of Tsagaan Nuur Lake, 8183

8184 MONGOLIA: Selenge Aimag: xx Soum davaa (pass), SW of Sogooch, N 49.83555°E 104.99729°E 971 msl 06-Jul-2005 C. R. Nelson# 8184 & SRP crew, see CRN 8170 notes.

47 974 Selenge River Project Number(SRP): none. Bibionidae, Holopogon, Empididae, "Tolmerus", Cerambycidae, Tipulidae: Odonatisca, Meloidae 8184

8185 MONGOLIA: Selenge Aimag: xx Soum Shurengiin Gol, N 49.82716°E 104.91261°E 776 msl 06-Jul-2005 C. R. Nelson# 8185 & SRP crew, see CRN 8170 notes. 47 975 Selenge River Project Number(SRP): none. Asilidae: large male 8185

8186 MONGOLIA: Selenge Aimag: Baruun? Soum Baruun Tsuuts Gol Stream, xx km W of Sangatay (check map, not on gsp map), N 49.71481°E 104.64203°E 748 msl 06-Jul-2005 C. R. Nelson# 8186 & SRP crew, see CRN 8170 notes. 47 976 Selenge River Project Number(SRP): 05070602. First rain camp. left camp 11:00 am on 7 July 2005, threatening rain again. Field labels misspell Baruun as Basuun, correct them!

Camp 3. photos: Nemouridae {Nemoura sp. female photo voucher, curated by C. R. Nelson 5 March 2013}, Syrphidae, Chrysomelidae red and black on Salix, Sialidae, Leuctridae, Curculionidae large green. Empididae, Asilidae 3 spp., Raphidiidae. 8186

8187 MONGOLIA: Bulgan Aimag: xx Soum manhtai Spring, cold spring, 5 km SW of SRP05070602 N 49.68122°E 104.56461°E 866 msl 07-Jul-2005 C. R. Nelson# 8187 & SRP crew, see CRN 8170 notes. 47 977 Selenge River Project Number(SRP): 05070701. Nemouridae, Tipulidae, Asilidae 3 spp, some live to photograph, Ascalaphidae beautiful white & black!, Tabanidae. Photos: First hordes of Muscidae flies in jeep. photos: Dioctria with hurt leg 8187

8188 MONGOLIA: Bulgan Aimag: xx Soum 1 km W of manhtai Spring, (cold spring), N 49.67606°E 104.55263°E 952 msl 07-Jul-2005 C. R. Nelson# 8188 & SRP crew, see CRN 8170 notes. 47 979 Selenge River Project Number(SRP): none. Lunch stop. photos: Laphria on logs and branches of pine with flaky orange bark. One with orange cerambycid prey. Asilini, Cerambycidae. 8188

8189 MONGOLIA: Bulgan Aimag: Hyalganat Soum Baruun Burkhiin Gol Stream, 36.6 km NNW of Hangal N 49.62414°E 104.24594°E 1015 msl 07-Jul-2005 C. R. Nelson# 8189 & SRP crew, see CRN 8170 notes. 47 980 Selenge River Project Number(SRP): 05070702. Camp near pines. Open meadow with many beautiful Ascalaphidae. small entrenched stream with nearly complete canopy, not many riffles. photos: Ascalaphidae, Perlodidae medium probably Skwala, Curculionidae, mantispidae. Leptogaster. 8189

8190 MONGOLIA: Bulgan Aimag: Hyalganat Soum Hyalganat town, N 49.50270°E 104.28841°E 772 msl 08-Jul-2005 C. R. Nelson# 8190 & SRP crew, see CRN 8170 notes. 47 981 Selenge River Project Number(SRP): none. Mygaa, one of the drivers got sick and lost consciousness at a store stop. We took him to the hospital to rest for a few hours. They said an injection would help him. When we returned from the Selenge River he was better

and we had an airag ceremony at the hospital's 30th birthday party. photos: town & people, part of Naadam celebration going on. photos: Chrysomelidae on Artemesia, Lycaenidae on Cannabis sativa. 8190

8191 MONGOLIA: Bulgan Aimag: Hyalganat Soum Selenge River, bridge at Hyalganat town, N 49.48086°E 104.30864°E 786 msl 08-Jul-2005 C. R. Nelson# 8191 & SRP crew, see CRN 8170 notes. 47 982 Selenge River Project Number(SRP): 05070801. Perlidae: Mass emergence, adults not at water's edge, but up under rocks 10 m above edge. Perlodidae few probably Skwala, swept Cannabis sativa; Therevidae, Chrysomelidae, Potamanthidae, Gyrinidae, Nabidae. 8191

8192 MONGOLIA: Bulgan Aimag: Selenge Soum Khartsain Gol stream, 25 km WNW of Hyalganat town, N 49.60501°E 103.91133°E 1191 msl 08-Jul-2005 C. R. Nelson# 8192 & SRP crew, see CRN 8170 notes. 47 983 Selenge River Project Number(SRP): none. Checked and rejected as camping spot. Poor creek access. Same canyon as camp 8193. Asilidae, Nemouridae: with Jon. bog willow creek purple lily. 8192

8193 MONGOLIA: Bulgan Aimag: Selenge Soum Khartsain Gol stream, 33.8 km WNW of Hyalganat town, N 49.65142°E 103.88064°E 1510 msl 08-Jul-2005 C. R. Nelson# 8193 & SRP crew, see CRN 8170 notes. 47 984 Selenge River Project Number(SRP): 05070802. Camp. Danced and celebrated in the camp for Jon's birthday. Left camp at 1:15 pm on 9 July 2005. Tipulidae, Nemouridae, sweepings, Mycetophilidae 8193

8194 MONGOLIA: Bulgan Aimag: xx Soum Tariakhtain Davaa (pass) stop at ovoo (rock pile shrine) to rest trucks, N 49.65142°E 103.88064°E 1510 msl 09-Jul-2005 C. R. Nelson# 8194 & SRP crew, see CRN 8170 notes. 47 985-987 Selenge River Project Number(SRP): none. photos: ovoo offerings. First Siberian Pines. 8194

8195 MONGOLIA: Bulgan Aimag: Teshig Soum West Branch of Tariakhtain Gol Stream, N 49.70184°E 103.80040°E 1436 msl 09-Jul-2005 C. R. Nelson# 8195 & SRP crew, see CRN 8170 notes. 47 988MON Selenge River Project Number(SRP): 05070901. Lunch stop. Great collecting but biting flies horrible! An alternative spelling is Taryagatain Gol from Nasa. I wish I would have got photos of the Phryganeid but it died in transit. Nemouridae, Tabanidae, Asilidae, Perlodidae, shortened wings probably Skwala; Trichoptera: including Beautiful Phryganeidae!, Athericidae. 8195

8196 MONGOLIA: Bulgan Aimag: Teshig Soum main branch of Tariakhtain Gol Stream, junction two major forks, N 49.77776°E 103.60860°E 1186 msl 09-Jul-2005 C. R. Nelson# 8196 & SRP crew, see CRN 8170 notes. 47 989MON Selenge River Project Number(SRP): 05070902. Camp. the last few sites have the same confusing names. We

camped 8-9 July 2005 (#8193) on one that flows on the Hyalganat side. We then crossed a pass (8194) and proceeded down another, with the same name, but much larger than our spot of 8193. We camped a bit lower down at 8196. Left camp at 11:30 am on 10 July 2005. In forest of Larix, Populus, Salix, near edge of open country. photos: Allopelma 2 species, Sweltsa 1 specimen?, Perlodidae, Nemouridae, Blephariceridae adults, Chrysomelidae photos: Hal... pit viper (in camp), photos: Asilidae Andrenosoma? Laphria? 8196

8197 MONGOLIA: Bulgan Aimag: Teshig Soum Tariakhtain Gol River drainage, 34.85 km NE of Hantay, N 49.77254°E 103.57023°E 1167 msl 10-Jul-2005 C. R. Nelson# 8197 & SRP crew, see CRN 8170 notes. 47 990MON Selenge River Project Number(SRP): none. log pile in open. photos: logs, Asilidae, Laphria mating pair, Cerambycidae, Buprestidae 8197

8198 MONGOLIA: Bulgan Aimag: Teshig Soum Tarvagatain (Marmot) Gol River at Egiin Gol River, N 49.70678°E 103.10288°E 909 msl 10-Jul-2005 C. R. Nelson# 8198 & SRP crew, see CRN 8170 notes. 47 992MON Selenge River Project Number(SRP): 05071001A. Eg and Egiin Gol seem to be interchangeable names. Standardized Tejik & Techig to Teshig Chloroperlidae: Allopelma, Genus 2; Trichoptera, Empididae, Isoperla, Nemouridae (Sanaa), Perlodidae nymphs; Hydropsychidae. 8198

8199 MONGOLIA: Bulgan Aimag: Teshig Soum Egiin Gol River at Tarvagatain (Marmot) Gol River, N 49.70678°E 103.10288°E 909 msl 10-Jul-2005 C. R. Nelson# 8199 & SRP crew, see CRN 8170 notes. 47 992MON Selenge River Project Number(SRP): 05071001B. Eg and Egiin Gol seem to be interchangeable names. Standardized Tejik & Techig to Teshig.

BIG RIVER! Hydroptilidae, Gomphidae, Perlidae, Pteronarcyidae skin, Chloroperlidae, Cicindelidae, Cerambycidae. 8199

8200 MONGOLIA: Bulgan Aimag: Teshig Soum wetland ponds, 4.12 km N of Egiin Gol River junction with Tarvagatain (Marmot) Gol River, N 49.74376°E 101.10348°E 941 msl 10-Jul-2005 C. R. Nelson# 8200 & SRP crew, see CRN 8170 notes. 47 993MON Selenge River Project Number(SRP): 05071002. Eg and Egiin Gol seem to be interchangeable names. Standardized Tejik & Techig to Teshig.

photos: brown shellducks, grebe with baby, scenery, people. Sciomyzidae, Leptoceridae, Stratiomyidae, Tipulidae, Otitidae, Chloropidae, Chalcididae, Pentatomidae? long grass eaters. 8200

8201 MONGOLIA: Bulgan Aimag: xx Soum Davaa (pass) on stepped with one larch tree on the horizon N 49.76941°E 102.94741°E 1111 msl 10-Jul-2005 C. R. Nelson# 8201 & SRP crew, see CRN 8170 notes. 47 994MON Selenge River Project Number(SRP): none. photos:one larch tree on the steppe with oncoming blue storm 8201

8202 MONGOLIA: Bulgan Aimag: xx Soum 14.9 km SW of Khargaal Nuur Lake, N 49.48.371°E 102.50.613°E NOTE decimal minute format! 1172 msl 10-Jul-2005 C. R. Nelson# 8202 & SRP crew, see CRN 8170 notes. 47 Charles has waypoint Selenge River Project Number(SRP): none. Asilidae male. 8202

8203 MONGOLIA: Bulgan Aimag: Teshig Soum lakes 4.3 km SSW of Teshig, N 49.90720°E 102.65717°E 982 msl 10-Jul-2005 C. R. Nelson# 8203 & SRP crew, see CRN 8170 notes. 47 995MON Selenge River Project Number(SRP): 05071003. Arrived late, 9:30 pm for camp. Left around noon on 11 July 2005. photos: sunset, morning panorama. Asilidae: Leptogaster, Negasilus?; Cicindelidae; photos: Otitidae and Delphacidae, one parasitized! 8203

8204 MONGOLIA: Bulgan Aimag: Teshig Soum Teshig town, N 49.94611°E 102.66295°E 1035 msl 11-Jul-2005 C. R. Nelson# 8204 & SRP crew, see CRN 8170 notes. 48 996TEJIK Selenge River Project Number(SRP): none. photos: town center scenes, expedition people. Naadam festival: crowds, wrestling, horses, horse race. Asilidae 8204

8205 MONGOLIA: Bulgan Aimag: Teshig Soum Egiin Gol River, 12.7 km SW of Teshig, N 49.88884°E 102.50909°E 997 msl 11-Jul-2005 C. R. Nelson# 8205 & SRP crew, see CRN 8170 notes. 48 997MON Selenge River Project Number(SRP): 05071101. Long camp, 11-13 July 2005. Pteronarcyidae nymphs; Perlidae nymphs; photos: rainbows, scenery, clouds at sunset. Asilidae, large asilinae; Long camp, dancing for Naadam; photos: slaughter a sheep; Perlidae: Perlodidae: Isoperla; photos!: Acanthametropodidae!, Ephemerellidae, Perlidae; Pteronarcyidae; Acroceridae. 8205

8206 MONGOLIA: Bulgan Aimag: Teshig Soum Airkhan Lake, W of Hongor, 26.8 km N of Khutag Ondor, N 49.63453°E 102.64845°E 953 msl 13-Jul-2005 C. R. Nelson# 8206 & SRP crew, see CRN 8170 notes. 48 998MON Selenge River Project Number(SRP): 05071301. Playa lake, many shorebirds on the island. photos: Chaoboridae; Tipulidae, photos large "Tipula" and photos small of Dicranomyia (out of book order); Stratiomyidae; Tabanidae; Pteronarcyidae, 1 female by Suvdaa. How did it get to this end of this saline lake? photos: scenery, people, and shorebirds. 8206

8207 MONGOLIA: Khovsgol Aimag: Erdenebulgan Soum Tarialyn town, also spelled Tarialan, N 49.60207°E 101.99827°E 1248 msl 13-Jul-2005 C. R. Nelson# 8207 & SRP crew, see CRN 8170 notes. 48 999MON Selenge River Project Number(SRP): none. photos: gas station action 8207

8208 MONGOLIA: Khovsgol Aimag: xx Soum davaa (pass), 29.8 km NW of Tarialyn town, N 49.84257°E 101.81625°E 1669 msl 13-Jul-2005 C. R. Nelson# 8208 & SRP crew, see CRN 8170 notes. 48 999MON Selenge River Project Number(SRP): none. photos:? 8208

8209 MONGOLIA: Khovsgol Aimag: Erdenebulgan Soum tributary of Emt Gol Stream, 33.2 km NW of Tarialyn town, N 49.87761°E 101.82039°E 1499 msl 13-Jul-2005 C. R. Nelson# 8209 & SRP crew, see CRN 8170 notes. 48 036MON Selenge River Project Number(SRP): 05071302. Camped where two small tributaries met. nemouridae most common below junction. Rocky hillside on road side, forest on other side of stream. Mycetophilidae; Empididae;; Asilidae: Machimus 2 spp one with tipulid prey, 2 small females on rocky hillside. Photo: yellow bird and nest; Syrphidae; photos: Nemouridae: 2 spp?; Philopotamidae adults?; photos: Rhagionidae? large, escaped. 8209

8210 MONGOLIA: Khovsgol Aimag: Erdenebulgan Soum cold spring on rocky hillside, tributary of Egiin Gol River, 12.6 km S of Erdenebulgan, N 49.99851°E 101.60799°E 1361 msl 14-Jul-2005 C. R. Nelson# 8210 & SRP crew, see CRN 8170 notes. 48 037SPRMON Selenge River Project Number(SRP): 05071401A. Searched under large rocks for Grylloblattaria, found none. photos: Machilidae, Dermaptera, Stenopogon, Apatania larva (to Suvdaa), Buprestidae, Tabanidae. On Apiaceae: Cerambycidae, Tenthredinidae, Scarabaeidae. No Grylloblattaria found 8210

8210 MONGOLIA: Khovsgol Aimag: Erdenebulgan Soum spring on rocky hillside, tributary of Egiin Gol River, 13 km S of Erdenbulgan, N 49.99851°E 101.60799°E 1361 msl 14-Jul-2005 C. R. Nelson# 8210 & SRP crew, see CRN 8170 notes. 48 037SPRMON Selenge River Project Number(SRP): 05071401A. Searched under large rocks for Grylloblattaria, found none. photos: Machilidae, Dermaptera, Stenopogon, Apatania larva (to Suvdaa), Buprestidae, Tabanidae. On Apiaceae: Cerambycidae, Tenthredinidae, Scarabaeidae. No Grylloblattaria found 8210

8211 MONGOLIA: Khovsgol Aimag: Erdenebulgan Soum tributary of Egiin Gol River, 13 km S of Erdenbulgan, N 49.99851°E 101.60799°E 1361 msl 14-Jul-2005 C. R. Nelson# 8211 & SRP crew, see CRN 8170 notes. 48 037SPRMON Selenge River Project Number(SRP): 05071401B. Perlodidae, probably Skwala, many by Sigita Podenas. 8211

8212 MONGOLIA: Khovsgol Aimag: Erdenebulgan Soum Uur Gol River, 32.3 km NE of Erdenebulgan N 50.11397°E 101.58366°E 1182 msl 14-Jul-2005 C. R. Nelson# 8212 & SRP crew, see CRN 8170 notes. 48 036MONERDN Candy in town; Taimen fish research center. Road North across wetlands is a dicey one at best! Great chance of getting stuck in shallow sloughs of the Egiin Gol River. Also: 036STUCK, north east of town, first stuck, Bat Gerar's jeep pulled out by Baga: N 50.18595 E 101.65224, elev. 1119 msl. 036 is Baga's

bridge that we made out of an old outhouse. Then the truck got stuck and we got it out using an old corral. Selenge River Project Number(SRP): none. 8212

8213 MONGOLIA: Khovsgol Aimag: Erdenebulgan Soum Uur Gol River, 32.3 km NE of Erdenebulgan, N 50.30188°E 101.92869°E 1063 msl 14-Jul-2005 C. R. Nelson# 8213 & SRP crew, see CRN 8170 notes. 48 036 MONUUR Selenge River Project Number(SRP): 05071403. Left around noon. photo: Pteronarcys reticulata female, Mayflies, grasshopper, Acrididae, Siphonuridae subimago, Tachinidae, Leptoceridae with fuzzy antenna. Isoperla; Chloroperlidae. 8213

8214 MONGOLIA: Khovsgol Aimag: Erdenebulgan Soum Uur Gol River, 31.1 km NE of Erdenebulgan, N 50.31954°E 101.87926°E 1085 msl 15-Jul-2005 C. R. Nelson# 8214 & SRP crew, see CRN 8170 notes. 48 37 Selenge River Project Number(SRP): none. Taimen Research Camp, David Gilroy stays here from the University of Wisconsin. 038 was the major crossing of the Uur Gol River (N 50.32340 E 101.88239 elev. 1078 msl. photos of taimen skull and fuzzy lure to catch them. 8214

8215 MONGOLIA: Khovsgol Aimag: Erdenebulgan Soum Zerleg Gol Stream, 35.3 km NE of Erdenebulgan, N 50.32718°E 101.95046°E 1110 msl 15-Jul-2005 C. R. Nelson# 8215 & SRP crew, see CRN 8170 notes. 48 39 Selenge River Project Number(SRP): 05071501. Zerleg means wild. none. Cicindelidae; photos: Cerambycidae in main vial; Perlodidae mating, 3 vouchers in main vial; aphididae voucher in main vial; strawberries; Bombus voucher in main bottle. 8215

8216 MONGOLIA: Khovsgol Aimag: xx Soum former buddhist monastery near Deerh Gol, Dayan Deerhiin Monastery, 42.9 km NE of Erdenebulgan, N 50.44683°E 101.88820°E 1110 msl 15-Jul-2005 C. R. Nelson# 8216 & SRP crew, see CRN 8170 notes. 48 40 Selenge River Project Number(SRP): none. photos: monument to monks killed by Russian Communists in the purge: 1932-1937. 100,000 monks (lamas) killed in the whole country. Last pole of monastery decorated in blue, offerings of money and matches. 700 temples destroyed in the purge. 8216

8217 MONGOLIA: Khovsgol Aimag: Tsagaan Uur Soum Uilgan Gol, 26 km ENE of Tsagaan Uur town, N 50.62324°E 101.87412°E 1156 msl 15-Jul-2005 C. R. Nelson# 8217 & SRP crew, see CRN 8170 notes. 48 41 Selenge River Project Number(SRP): 05071502. photos: Handaa with Tahitian hat band made from steppe iris leaves. photos: scenery & Perlodidae from Zerleg Gol out of sequence, one female with two males and one female having dropped eggs alone. Arrived to camp at 7:30 pm. Broke camp at noon on 16 July 2005. Blephariceridae, 1 male;

photos: Perlodidae, 2 Isoperla?; Chloroperlidae with Sanaa; Nemouridae with Sanaa; Asilidae; Heptageniidae: Epeorus latifolium adult and nymph. 8217

8218 MONGOLIA: Khovsgol Aimag: Tsagaan Uur? Soum Ongonii Davaa (Pass), 12 km East of Tsagaan Uur town, N 50.54470°E 101.69980°E 1252 msl 16-Jul-2005 C. R. Nelson# 8218 & SRP crew, see CRN 8170 notes. 48 42 Selenge River Project Number(SRP): xx. photos: Tipulidae larva with thumb of Virginia Podenas. Cyrtopogon; Cerambycidae. 8218

8219 MONGOLIA: Khovsgol Aimag: Tsagaan Uur? Soum about 0.5 km W of Uur Gol River, 1.2 km NE of Tsagaan Uur town, N 50.54915°E 101.53806°E 1112 msl 16-Jul-2005 C. R. Nelson# 8219 & SRP crew, see CRN 8170 notes. 48 43 Selenge River Project Number(SRP): xx. Big wooden bridge broken by woody debris, but passable. Bagas jeep had fuel line problems repeatedly today. Weaved an iris strand pinwheels. Perlodidae female; Asilidae mating pair 8219

8220 MONGOLIA: Khovsgol Aimag: Tsagaan Uur Soum Tsagaan Uur town, N 50.53693°E 101.52020°E 1128 msl 16-Jul-2005 C. R. Nelson# 8220 & SRP crew, see CRN 8170 notes. 48 44 Selenge River Project Number(SRP): xx. bought blue fabric, juice drinks. photos: log construction. 8220

8221 MONGOLIA: Khovsgol Aimag: Tsagaan Uur Soum Uur Gol River, 7 km N of Tsagaan Uur town, N 50.60031°E 101.52392°E 1155 msl 16-Jul-2005 C. R. Nelson# 8221 & SRP crew, see CRN 8170 notes. 48 45 Selenge River Project Number(SRP): 05071601. Wide open river with little riparian vegetation. Collected rocks. It rained during the night, wet camp. Rained all morning, broke camp in the rain at 12:30pm on 17 July 2005. Pteronarcys nymphs, Isoperla. photos: Haploperla?, many Mayfly adult taxa in evening swarms and at light; photos: Chrysomelidae, Curculionidae, green & other; Photos: Tipulidae, Cicindelidae, Cerambycidae- Monachamus suter. 8221

8222 MONGOLIA: Khovsgol Aimag: Chandmani Ondor Soum tributary of Aireg Gol, 18.5 km W of Tsagaan Uur town, (Jon has as Darkhunt Gol, 23.5 km E of Chandmani Ondor) N 50.50861°E 101.26615°E 1208 msl 17-Jul-2005 C. R. Nelson# 8222 & SRP crew, see CRN 8170 notes. 48 46 Selenge River Project Number(SRP): 05071701. Closed canopy stream, grazing not obvious. Chloroperlidae: one; Mayflies; Lauxaniidae; Ephydriidae; Pentatomidae; Chrysomelidae; Tenebrionidae?; Tipulidae; Glossosomatidae; Empididae. 8222

8223 MONGOLIA: Khovsgol Aimag: Tsagaan Uur? Soum Khalkhan Gol Stream, tributary of Aireg Gol, 22 km W of Tsagaan Uur town, (19.8 km E of Chandmani Ondor), N 50.51517°E 101.21073°E 1195 msl 17-Jul-2005 C. R. Nelson# 8223 & SRP crew, see CRN 8170 notes. 48 47 Selenge River Project Number(SRP): 05071702. open canopy stream, grazing impacts

obvious. Camp 6:00 pm. Syrphidae; Chaoboridae; Rhagionidae; Chloroperlidae, Alloperla; photos: Chironomidae, one Chironomus; caddis; photos: Rhyacophila adult; Mycetophilidae; Asilidae: Cyrtopogon and Machimus?; Hemerobiidae; Culicidae. 8223

8224 MONGOLIA: Khovsgol Aimag: Chandmani Ondor Soum Khokhoo Gol stream, 1.5 km S of Chandmani Ondor town, N 50.46412°E 100.94979° 1266 msl 18-Jul-2005 C. R. Nelson# 8224 & SRP crew, see CRN 8170 notes. 48 48 Selenge River Project Number(SRP): 05071801. photos: yak (mongolian: sarlak) and hybrids; scenery; Asilidae; Tipulidae: Nephrotoma 2 spp. black is erebus. Cerambycidae black of steppe; Formicidae at nest; Carabidae; Apidae: Bombus. 8224

8225 MONGOLIA: Khovsgol Aimag: xx Soum tributary of Khokhoo Gol, 25 km NW of Chandmani Ondor town, N 50.66002°E 100.73930° 1552 msl 18-Jul-2005 C. R. Nelson# 8225 & SRP crew, see CRN 8170 notes. 48 49 Selenge River Project Number(SRP): 05071802. Hohoo or Khokhoo Gol means Cuckoo Creek; Mossy stream looked good, but wasn't Larix on forested hillside was good for Mycetophilidae. Empididae; Asilidae; Mycetophilidae; Tipulidae; Cicadellidae; Tenthredinidae and other sawfly; Tabanidae; Bombyliidae. 8225

8226 MONGOLIA: Khovsgol Aimag: Chandmani Ondor Soum west branch of Khalkhan Gol Stream, above Bul Nai Hot Springs, 37.1 km NW of Chandmani Ondor town, N 50.78320°E 100.79585° 1677 msl 18-Jul-2005 C. R. Nelson# 8226 & SRP crew, see CRN 8170 notes. 48 50 Selenge River Project Number(SRP): 05071803. arrived 8:30 pm, broke camp at noon. photos: Triznaka?, Baetidae? adult; Chironomidae 3 spp. females. Empididae, Perlodidae, Nemouridae. 8226

8227 MONGOLIA: Khovsgol Aimag: Chandmani Ondor Soum Bul Nai Khalkhan Hot Springs, 35 km NW of Chandmani Ondor town, N 50.77547°E 100.79989° 1673 msl 19-Jul-2005 C. R. Nelson# 8227 & SRP crew, see CRN 8170 notes. 48 51 Selenge River Project Number(SRP): 05071901. photos: scenery & people, doctor in charge of the springs, old woman with hearing aid; hot springs up to 46 degrees C. I had a bath! Ephydriidae 8227

8228 MONGOLIA: Khovsgol Aimag: Chandmani Ondor Soum Khalkhan Gol Stream at confluence with Bul Nai Khalkhan Hot Springs, 35 km NW of Chandmani Ondor town, N 50.77500°E 100.80006° 1669 msl 19-Jul-2005 C. R. Nelson# 8228 & SRP crew, see CRN 8170 notes. 48 52 Selenge River Project Number(SRP): 05071901B?. photos: Amphinemura adults & nymphs, Dicranomyia 8228

8229 MONGOLIA: Khovsgol Aimag: xx Soum crossing of east tributary upper Khokhoo Gol stream on road to Khatgal, 44.5 km NE of Khatgal, N 50.69170°E 100.66703° 1603 msl

19-Jul-2005 C. R. Nelson# 8229 & SRP crew, see CRN 8170 notes. 48 53 Selenge River Project Number(SRP): xx. Lunch. photos: scenery. Lunch. Overgrazed pasture land with degraded banks. Nemouridae: Amphinemura adults?, Empididae, Leptoceridae, Brachycentridae: Micrasema, dark wings, Muscidae, Hydrophilidae, Dolichopodidae, Bombyliidae, Chloropidae, Metrotopodidae, Tipulidae 4 spp. 8229

8230 MONGOLIA: Khovsgol Aimag: xx Soum Lake Khovsgol at Alegtsar, 18 km NE of Khatgal, N 50.52242°E 100.39417°E 1672 msl 19-Jul-2005 C. R. Nelson# 8230 & SRP crew, see CRN 8170 notes. 48 54 Selenge River Project Number(SRP): xx. photos: lake, panoramas, group shot, individuals, rocks. photos elsewhere on lake between here and Khatgal. photos: Saldidae, Opiliona 8230

8231 MONGOLIA: Khovsgol Aimag: xx Soum Khatgal town, N 50.44294°E 100.16094°E 1695 msl 20-Jul-2005 C. R. Nelson# 8231 & SRP crew, see CRN 8170 notes. 48 55 Selenge River Project Number(SRP): xx. photos: people, hotel. Bought craft items from Santia in town. She made a felt yak hanging, yak hair gloves, yak hair hat, camel hair hat. We are joined by Jon Gelhaus' young research associate for crane flies, Oyuna. she is stationed on Lake Khovsgol these days. 8231

8232 MONGOLIA: Khovsgol Aimag: xx Soum Erkhel Nuur Salt Lake on Moron - Khatgal Road, 54 km S of Khatgal, N 49.97297°E 99.96803°E 1616 msl 20-Jul-2005 C. R. Nelson# 8232 & SRP crew, see CRN 8170 notes. 48 56 Selenge River Project Number(SRP): xx. photos: lake and dry steppe in dreary weather, 8232

8233 MONGOLIA: Khovsgol Aimag: xx Soum davaa, 18.6 km NW of Moron City, 73 km S of Khatgal, N 49.78509°E 100.07519°E 1619 msl 20-Jul-2005 C. R. Nelson# 8233 & SRP crew, see CRN 8170 notes. 48 57 Selenge River Project Number(SRP): none. photos: wooden home and family of Dr. Namkhaidorj's brother. 8233

8234 MONGOLIA: Khovsgol Aimag: xx Soum Moron City, N 49.68008°E 100.11504°E 1351 msl 20-Jul-2005 C. R. Nelson# 8234 & SRP crew, see CRN 8170 notes. 48 58 Selenge River Project Number(SRP): none. photos: black market and town action. also photos slightly north of Moron of city colors from a distance. Bought satin ger curtains for Kaye in the black market. We bid goodbye to Ariuna, a young research water quality expert. She needed to return to work in Ulaan Baatar. 8234

8235 MONGOLIA: Khovsgol Aimag: Buren Soum Delgar Moron Gol River, 12 km SW of Moron City, N 49.62785°E 99.99523°E 1280 msl 20-Jul-2005 C. R. Nelson# 8235 & SRP crew, see CRN 8170 notes. 48 59 Selenge River Project Number(SRP): 05072001. Camp. Left camp around 11:00 am on 21 July 2005. photos: Perlodidae on old felt boot (called esgii gutal by Sanaa) in stream plus another mating pair. Caddis on willow protected from

the wind. Raining. Tipulidae; Isoperla; Micropezidae; Eucharitidae; Stratiomyidae; Ametrotopodidae; Ephemerellidae; Caenidae; Heptageniidae; photos: Asilidae: Dioctria; Acrididae boxer; Pteronarcyidae; dead green Acrididae photos out of sequence at Altargana Gol SRP2005072001 8235

8236 MONGOLIA: Khovsgol Aimag: Burentogtok Soum spring head, Gantigtiin Spring, tributary of Khyadagiin Gol, 26.5 km NW of Moron City, N 49.76392°E 99.86134°E 1491 msl 21-Jul-2005 C. R. Nelson# 8236 & SRP crew, see CRN 8170 notes. 48 60 Selenge River Project Number(SRP): 05072101. Photos: scenery and people Ephydriidae, Muscidae 8236

8237 MONGOLIA: Khovsgol Aimag: Burentogtok Soum spring run of , Gantigtiin Spring, tributary of Khyadagiin Gol, 26.5 km NW of Moron City, N 49.76392°E 99.86134°E 1491 msl 21-Jul-2005 C. R. Nelson# 8237 & SRP crew, see CRN 8170 notes. 48 60 Selenge River Project Number(SRP): 05072101. Within 25 m of spring head. Chironomidae, Ephydriidae, Syrphidae, Muscidae, Dixidae? 8237

8238 MONGOLIA: Khovsgol Aimag: Burentogtok Soum Khyadagiin Gol stream, upstream from Gangtigtiin Spring, 26.5 km NW of Moron City, N 49.76392°E 99.86134°E 1491 msl 21-Jul-2005 C. R. Nelson# 8238 & SRP crew, see CRN 8170 notes. 48 60 Selenge River Project Number(SRP): 05072101. Within 200 m of spring head. Took GPS reading 060 at spring head, trucks were parked at 061. Tipulidae, Ephydriidae, Muscidae, Saldidae, Chloropidae, Perlidae, beautiful yellow caught by someone and given to Sanaa 8238

8239 MONGOLIA: Khovsgol Aimag: Burentogtok Soum uplands above Khyadagiin Gol stream, upstream and across gol from Gangtigtiin Spring, 26.5 km NW of Moron City, in upland iris and coarse grass N 49.76672°E 99.86362°E 1512 msl 21-Jul-2005 C. R. Nelson# 8239 & SRP crew, see CRN 8170 notes. 48 61 Selenge River Project Number(SRP): 05072101. Within 400 m of spring head. Took GPS reading 060 at spring head, trucks were parked at 061, walked between them. Asilidae; Otitidae; Tephritidae; Muscidae; Chloropidae. 8239

8240 MONGOLIA: Khovsgol Aimag: Arbulag Soum small salty lake N of Arbulag town, within 3 km N 49.90588°E 99.39375°E 1876 msl 21-Jul-2005 C. R. Nelson# 8240 & SRP crew, see CRN 8170 notes. 48 62 Selenge River Project Number(SRP): 05072102. photos: Lygaeidae on Potentilla; Reduviidae; Chrysomelidae; Chironomidae; Phryganeidae skaters. 8240

8241 MONGOLIA: Khovsgol Aimag: Bayanzurkh Soum Altargana Gol stream, 4.2 km N of Bayanzurkh town, N 50.21340°E 98.96266°E 1679 msl 21-Jul-2005 C. R. Nelson# 8241 & SRP crew, see CRN 8170 notes. 48 63 Selenge River Project Number(SRP): 05072103.

Site in narrow canyon, heavily grazed. photos: herdsmen, young boy Gantulga, young man Orosoo, and older man Batchulun. They gave me a horse ride and offered me a rawhide belt. Broke camp 11:00 am on 22 July 2005, still rainy. Also took a GPS reading at same spot, 064: N 50.21319 E 98.96305 elev. 1669 msl, to get an idea of error and variation. Ephemeroptera; Acrididae, live and dead photos for Oyuna; Chrysomelidae; Curculionidae, Chloroperlidae, small; Dermaptera. 8241

8242 MONGOLIA: Khovsgol Aimag: Bayanzurkh Soum Bayanzurkh town, N 50.16953°E 98.97094°E 1613 msl 22-Jul-2005 C. R. Nelson# 8242 & SRP crew, see CRN 8170 notes. 48 65 Selenge River Project Number(SRP): none. photos: town action, scenery, confluence. Belte Gol River running high in milky flood; two color confluence. 065 was taken at the confluence of Beltes Gol and Altargana Gol. 8242

8243 MONGOLIA: Khovsgol Aimag: Bayanzurkh Soum Beltes Gol River, 4.1 km W of Bayanzurkh town, N 50.16581°E 98.90158°E 1598 msl 22-Jul-2005 C. R. Nelson# 8243 & SRP crew, see CRN 8170 notes. 48 66 Selenge River Project Number(SRP): none. photos: only scenery stop. Gorge, head away from river up toward Agar. 8243

8244 MONGOLIA: Khovsgol Aimag: Bayanzurkh Soum Delgar Moron Gol River, 8.3 km W of Bayanzurkh town, N 50.16278°E 98.84212°E 1576 msl 22-Jul-2005 C. R. Nelson# 8244 & SRP crew, see CRN 8170 notes. 48 67 Selenge River Project Number(SRP): 05072201. photos: gorge; Big wide rider in rather narrow gorge. With a threatening storm approaching we decided not to make the dangerous crossing. This was the functional end, or at least far point of this expedition. Both Jon and I were a bit melancholy and only talked about it later, after a couple days. The expedition is nearing an end. We will use the remaining time working our way back to Ulaan Baatar. Empididae; photos: Perlidae, voucher to Sanaa; Dermaptera vouchers. Chloroperlidae; Pteronarcyidae skin; photo: Opilionida with mite, no voucher. 8244

8245 MONGOLIA: Khovsgol Aimag: xx Soum headwaters Beltes Gol stream, near Sumber, 68 km NW of Moron City, N 50.09767°E 99.42652°E 1894 msl 22-Jul-2005 C. R. Nelson# 8245 & SRP crew, see CRN 8170 notes. 48 70 Selenge River Project Number(SRP): 05072202. Camp. We disagreed with Namkhaidorj about where to camp tonight. It was a rather poor spot. We arrived at 9:00pm and were exhausted. It was a lovely evening then a large rainstorm sent us scurrying to our tents. It is a small, highly impacted stream in a broad valley. Perhaps 1000-2000 sheep in view in flocks of 300. We were surprised at the GPS high elevation reading. It was dry and seemed lower. sweeps Ephydriidae; Muscidae; Tipulidae. 8245

8246 MONGOLIA: Khovsgol Aimag: xx Soum granite hilltop above headwaters Beltes Gol stream, 10.1 km SW of Sumber, 68 km NW of Moron City, N 50.10490°E 99.43312°E 2058 msl 23-Jul-2005 C. R. Nelson# 8246 & SRP crew, see CRN 8170 notes. 48 69 Selenge River Project Number(SRP): call also 05072202. Above Camp. Larch forest granite hilltop. photos: ground squirrels, scenery, burial mounds on open steppe slopes. Square enclosures, of the pre Chinggis Khaan era, 800 plus years ago. Took another reading near top of granite pile, 068 N 50.10501 E 99.43320 elev. 2055 msl. photos of Sigitas and Virginia Podenas. Mycetophilidae; Tipulidae; Chironomidae. 8246

8247 MONGOLIA: Khovsgol Aimag: xx Soum burial mound East of Arbulag and West of Erkhel Lake, 22.8 km NW of Moron City, N 49.77994°E 99.83945°E 1555 msl 23-Jul-2005 C. R. Nelson# 8247 & SRP crew, see CRN 8170 notes. 48 71 Selenge River Project Number(SRP): none. photos: burial mound, round enclosure from the Huns, older. elsewhere the enclosures are square (pre Chinggis Khaan). Namkhaidorj says: the Huns type are pre 2000 years ago and include the burial of the man, his wife, horse, dog, Around the edged it is surrounded by mounds of dead soldiers. photos: Curculionidae, Stephanacoleonus. 8247

8248 MONGOLIA: Khovsgol Aimag: Tumurbulag Soum Bugsei Gol River, 45.5 km SW of Moron City, N 49.26170°E 99.88242°E 1597 msl 23-Jul-2005 C. R. Nelson# 8248 & SRP crew, see CRN 8170 notes. 48 72 Selenge River Project Number(SRP): 05072301. Collected Mayflies on riffle at dusk with Tomas Soldan. magnificent collecting! Left camp 1:00 pm 24 July 2005. Good spot! photos: Limnephilus short wings; Isoperla; Siphonurus; Metretopodus adults; Cinygmula with patterned wings; more Mayflies; caddis larvae. 8248

8249 MONGOLIA: Khovsgol Aimag: Tumurbulag Soum dray drainage tributary of Bugsei Gol River, 46.2 km SW of Moron City, N 49.30509°E 99.84061°E 1650 msl 24-Jul-2005 C. R. Nelson# 8249 & SRP crew, see CRN 8170 notes. 48 73 Selenge River Project Number(SRP): none. photos: deer stone and eagles. 8249

8250 MONGOLIA: Khovsgol Aimag: xx Soum below Tsagaan Burgas Davaa (pass), 25.2 km S of Moron City, N 49.46055°E 100.02853°E 1740 msl 24-Jul-2005 C. R. Nelson# 8250 & SRP crew, see CRN 8170 notes. 48 74 Selenge River Project Number(SRP): none. photos: Acrididae emerging. 8250

8251 MONGOLIA: Khovsgol Aimag: xx Soum davaa, 7.8 km SW of Tosontsengel town, road to Teel, N 49.45724°E 100.78939°E 1651 msl 24-Jul-2005 C. R. Nelson# 8251 & SRP crew, see CRN 8170 notes. 48 75 Selenge River Project Number(SRP): none. photos: Decticinae Tettigoniidae. Big fat mamas on Riley's face and Namkhaidorj's arm. also smaller green winged one. 8251

8252 MONGOLIA: Khovsgol Aimag: xx Soum Selenge Moron Gol River at Teel, 23.4 km S of Tosontsengel town, birth of Selenge below confluence of the five rivers, N 49.26765°E 100.82998°E 1157 msl 24-Jul-2005 C. R. Nelson# 8252 & SRP crew, see CRN 8170 notes. 48 76 Selenge River Project Number(SRP): 05072401. Group photo: end of expedition. Highest point on Selenge during the project. I shaved my month old beard at 11:30 am on 25 July 2005 and threw the hair into the Selenge River to go to Lake Baikal then to the Arctic Ocean. Perlidae, Phasgonophora or Paragnetina; Opilionidae; photo: Cerambycidae: blue, red, & green metallic. photos: Perlidae; Bufo toads; Dytiscidae to Nasa; Paragnetina on Cannabis; Epeorus adult? yellow with red stripe, shot out of sequence at 8257 end photos of this area with Bat Gerar on dragon log. Potamanthus, Heptageniidae; Carabidae. 8252

8253 MONGOLIA: Khovsgol Aimag: xx Soum Selenge Moron Gol River, 5 km East of Teel, 19.6 km S of Tosontsengel town, N 49.29876°E 100.91046°E 1162 msl 25-Jul-2005 C. R. Nelson# 8253 & SRP crew, see CRN 8170 notes. 48 77 Selenge River Project Number(SRP): none. photos: Selenge River Valley. 8253

8254 MONGOLIA: Khovsgol Aimag: Tosontsengel Soum leaving Selenge River near (perhaps 20 km) from Ikh Uul town, approaching "highway", 23.2 km e of Tosontsengel town, N 49.43131°E 101.20535°E 1093 msl 25-Jul-2005 C. R. Nelson# 8254 & SRP crew, see CRN 8170 notes. 48 78 Selenge River Project Number(SRP): none. photos: basketball backboard. Lunch stop. Abundant Calamagrostis neglecta grass. Perlidae! more than 1 km from river. Myrmeleontidae. 8254

8255 MONGOLIA: Khovsgol Aimag: xx Soum Ikh Uul (Big Mountain) town, N 49.44119°E 101.46866°E 1061 msl 25-Jul-2005 C. R. Nelson# 8255 & SRP crew, see CRN 8170 notes. 48 079 IKHUUL Selenge River Project Number(SRP): none. photos: case bearing larva. 8255

8256 MONGOLIA: Bulgan Aimag: xx Soum road from Ikh Uul, 24 km SW of Airhan Nuur Lake, N 49.52486°E 102.37798°E 1184 msl 25-Jul-2005 C. R. Nelson# 8256 & SRP crew, see CRN 8170 notes. 48 081 BERRY Selenge River Project Number(SRP): none. Katie Hopp bought blueberries for 1000 togrog, (\$1.00). The Mongolians chastized her a bit for the extravagance, but I'm sure the kids that picked them appreciated it.

not sure of the aimag, 16 aprl 2009, crn 8256

8257 MONGOLIA: Bulgan Aimag: Khutag Ondor Soum Unit Gol stream, 11 km SE of Selenge Gol River bridge, 20.8 km SE of Khutag Ondor town, N 49.33339°E 102.97786°E 924 msl 25-Jul-2005 C. R. Nelson# 8257 & SRP crew, see CRN 8170 notes. 48 81 Selenge River Project Number(SRP): 05072501. Unit Gol on topo maps (pronounced "Unt", use for

permanent labels. Locals call it Tolboriin gol. 081 SELENG is the river bridge on the highway. Camped at 9:00 pm

Changed error of Khovsgol Aimag to Bulgan Aimag, 16 April 2009. Photos have not yet been corrected.

Perlidae; Lauxaniidae; Empididae; Curculionidae; Mayfly adults; Tephritidae; Conopidae; Photo: Heptageniidae adult Epeorus? of 8252 shot out of sequence. 8257

8258 MONGOLIA: Bulgan Aimag: Bugat Soum Altat Gol Stream, 35.2 km SE of Khutag Ondor, N 49.21675°E 103.10750° 1037 msl 26-Jul-2005 C. R. Nelson# 8258 & SRP crew, see CRN 8170 notes. 48 82 Selenge River Project Number(SRP): 05072601. Nice lunch spot at mud sipping spot for butterflies.

Changed error of Khovsgol Aimag to Bulgan Aimag, 16 April 2009. Photos have not yet been corrected.

Asilidae: Promachus & prey bee; Parnassius; Tachinidae; Ascalaphidae; Tipulidae; Chloroperlidae, with other people; Scarabaeidae; Chironomidae; Conopidae; Simuliidae. 8258

8259 MONGOLIA: Bulgan Aimag: xx Soum 60 km SE of Khutag Ondor, camel and herd stop, N 49.09896°E 103.40157° 1294 msl 26-Jul-2005 C. R. Nelson# 8259 & SRP crew, see CRN 8170 notes. 48 084 camel Selenge River Project Number(SRP): none.

Changed error of Khovsgol Aimag to Bulgan Aimag, 16 April 2009. Photos have not yet been corrected.

photos: camels, goats, sheep 8259

8260 MONGOLIA: Selenge Aimag: Khotol Soum Orkhon Gol River, 15 km NW of Orkhon, (Jon calls Khotol Gol) N 49.16354°E 105.18880° 739 msl 26-Jul-2005 C. R. Nelson# 8260 & SRP crew, see CRN 8170 notes. 48 085 orkhan Selenge River Project Number(SRP): 05072602. photos: Perlidae emerging; lapwing bird; Ephyridae; Saldidae; Asilidae; photos: Oligoneuriidae, Oligoneuriella nymph; Polymitarcyidae; Isonychiidae; Perlodidae 1f Isoperla; photos: Bombyliidae, black and white series?? silver. 8260

8261 USA: IDAHO: Twin Falls Co., Shoshone Falls, Snake River, Twin Falls, N 42.59404°W 114.40083° 978 msl 04-Aug-2005 C. R. Nelson# 8261 & J. K. Nelson 48 IDSHOS photos: falls and canyon 8261

8262 USA: IDAHO: Twin Falls Co., Twin Falls of the Snake River East of Twin Falls City, N 42.58925°W 114.35761°W 1098 msl 04-Aug-2005 C. R. Nelson# 8262 & J. K. Nelson 48 IDTWIN photos: Twin Falls, one eliminated for hydropower. 8262

8263 USA: OREGON: Harney Co., Page Spring Campground, Donner and Blitzen River, N 42.80114°W 118.86680°W 1292 msl 06-Aug-2005 C. R. Nelson# 8263 & J. K. Nelson 48 085ORPAGE photos: scenery.

With crowd from the North American Dipterists' Society. Stenopogon; Efferia; Dioctria; photos: Rhipiphoridae; Bombyliidae to Michelle Trautwein; photos: Bombus, 3 species on Dipsacum flowers. Photos: Pieris; 8263

8264 USA: OREGON: Harney Co., Steens Mountain, Fish Lake, N 42.73825°W 118.64424°W 2252 msl 06-Aug-2005 C. R. Nelson# 8264 & J. K. Nelson 48 085ORFISH photos: scenery.

With crowd from the North American Dipterists' Society. Chaoboridae; Bombyliidae to Michelle Trautwein; Cerambycidae. 8264

8265 USA: OREGON: Harney Co., Steens Mountain, head of canyon of Little Blitzen River, Blitzen Gorge, N 42.68234°W 118.56535°W 2845 msl 06-Aug-2005 C. R. Nelson# 8265 & J. K. Nelson 48 085ORBLITZ photos: scenery.

With crowd from the North American Dipterists' Society. 8265

8266 USA: OREGON: Harney Co., Steens Mountain, view S & E to Alvord Desert from East Rim, N 42.66590°W 118.56462°W 2968 msl, 06-Aug-2005 C. R. Nelson# 8266 & J. K. Nelson 48 085OREAST photos: scenery, Alvord Desert, panorama.

With crowd from the North American Dipterists' Society. 8266

8267 USA: OREGON: Harney Co., Steens Mountain, headwaters of Big Indian Creek, N 42.66637°W 118.58901°W 2724 msl, 06-Aug-2005 C. R. Nelson# 8267 & J. K. Nelson 48 085ORIND With crowd from the North American Dipterists' Society. photos: Syrphidae 2; Stratiomyidae; Anthomyiidae. 8267

8268 USA: OREGON: Harney Co., near Borax Lake, 10 km NE of Fields town, N 42.33051°W 118.60425°W 1245 msl, 07-Aug-2005 C. R. Nelson# 8268 & J. K. Nelson 48 085BORAX Photos: hot springs. With crowd from the North American Dipterists' Society. Promachus; Proctacanthus occidentalis; Efferia; Dicropaltum; Laphystia, some in 100% ethanol; Ospricerus; Diogmites (by Torsten Dikow) photos of specimen collected on 8 August 2005; Mutillidae; Sphecidae. 8268

8269 USA: OREGON: Harney Co., Fields town, N 42.26387°W 118.67536°W 1295 msl, 07-Aug-2005 C. R. Nelson# 8269 & J. K. Nelson 48 085FIELDS With crowd from the North American Dipterists' Society. Therevidae, Pherocera; Sphecidae, Nyssoninae. 8269

8270 USA: OREGON: Harney Co., Pike Creek, tributary of Alvord Desert Playa, N 42.57542°W 118.52988° 1317 msl, 07-Aug-2005 C. R. Nelson# 8270 & J. K. Nelson 48 085PIKE With crowd from the North American Dipterists' Society. photos: Sphecidae; Vespidae Polistes with Xenos Stylopidae Strepsiptera; Lestidae. 8270

8271 USA: OREGON: Harney Co., Malheur Field Station headquarters, 41 km SE of Burns, N 43.24399°W 118.89441° 1244 msl, 8-9 August 2005 C. R. Nelson# 8271 & J. K. Nelson 48 088MFS With crowd from the North American Dipterists' Society. photos: Meloidae; NADS group shot; nighthawk; UV light insect Masses (Belostomatidae: Lethocerus; Hydrophilidae: Hydrophila triangularis; Dytiscidae: Dytiscus; Corixidae plus others)

9 August 2005: photos: people, spadfoot toad, insect Masses again from light trap. 8271

8272 USA: OREGON: Harney Co., Malheur National Forest, Idlewild Campground, 24 km N of Burns, N 43.79968°W 118.99117° 1593 msl, 08-Aug-2005 C. R. Nelson# 8272 & J. K. Nelson 48 086IDLE With Wayne and Diane mathis & Greg Courtney, Asilus; Neoitamus; Chrysomelidae; photos: Cerambycidae, large, short winged, spectacular!; Sesiidae; photos: Braconidae 8272

8273 USA: OREGON: Harney Co., Malheur National Forest, Hwy 395, King Mountain Lookout turnoff, N 43.84325°W 118.95339° 1537 msl, 08-Aug-2005 C. R. Nelson# 8273 & J. K. Nelson 48 087KING With Wayne and Diane mathis & Greg Courtney, Stenopogon inquinatus; Tephritidae; Ephydriidae: mathis 8273

8274 USA: OREGON: Harney Co., Riley, N 43.54156°W 119.50378° 1350 msl, 08-Aug-2005 C. R. Nelson# 8274 & J. K. Nelson 48 089ORRILEY With Wayne and Diane mathis & Greg Courtney,

Photos of C. Riley Nelson by Riley town signs. 8274

8275 USA: OREGON: Harney Co., Steens Mountain, Steens Summit, N 42.63605°W 118.57661° 2915 msl, 09-Aug-2005 C. R. Nelson# 8275 & J. K. Nelson 48 088STEENS photos: Cyrtopogon, 2 spp. one small, one large black and orange. Also discovered in lab in photos a third darker black. Photos: Reduviidae, orange. 8275

8276 USA: OREGON: Harney Co., Steens Mountain, headwaters of Big Indian Creek, N 42.66637°W 118.58901° 2724 msl, 09-Aug-2005 C. R. Nelson# 8276 & J. K. Nelson 48 085ORIND photos: Cyrtopogon, small.

Cyrtopogon medium black.

photos: Blephariceridae pupae and larvae, Agathon. Rhyacophilidae; Tipulidae; Limnephilidae. 8276

8277 USA: OREGON: Harney Co., Steens Mountain, Kiger Gorge Overlook, N 42.70886°W 118.57405° 2731 msl, 09-Aug-2005 C. R. Nelson# 8277 & J. K. Nelson 48 088KIGER photos: scenery, glaciated valley. 8277

8278 USA: OREGON: Harney Co., Fields town, N 42.26387°W 118.67536° 1295 msl, 09-Aug-2005 C. R. Nelson# 8278 & J. K. Nelson 48 085FIELDS photos: Great horned owl. 8278

8279 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775° 1860 msl, 13-Aug-2005 C. R. Nelson# 8279 & J. K. Nelson & F. S. Wheeler. 49 emptied and reset malaise trap. History in my absence in Mongolia: 15 June - 9 July 2005
9 July - 25 July 2005
changed and reset by Paul Ashton.
25 July - 13 August 2005 by me, Riley Nelson.

Sorted those three samples while changing water on the lawn during the day. 8279

8280 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.43329° W 111.73836° 1547 ml, 17-Aug-2005 C. R. Nelson# 8280 & others, see field notes 49 Trip with Salt Lake Tribune people and lab students:
Brett Smith
Sarah Kendall
Jonnie Osborne
Todd Hollingshead, reporter
Steve Holt, photographer. Plecoptera: Chloroperlidae: Suwallia?? 8280

8281 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, N 40.44749° W 111.68305°, 1818 m, 17-Aug-2005 C. R. Nelson# 8281 & others, see field notes 49 Trip with Salt Lake Tribune people and lab students:
Brett Smith
Sarah Kendall
Jonnie Osborne
Todd Hollingshead, reporter
Steve Holt, photographer. Mycetophilidae, Empididae, Tipulidae, 8281

8282 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180° W 111.65754°, 1862 msl, 17-Aug-2005 C. R. Nelson# 8282 & others, see field notes 49 Trip with Salt Lake Tribune people and lab students:

Brett Smith

Sarah Kendall

Jonnie Osborne

Todd Hollingshead, reporter

Steve Holt, photographer. photos: Chloroperlidae, yellow in the field, *Sweltsa borealis*? 8282

8283 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River, near Timpooneke Guard Station, site 4, N 40.43226° W 111.63741°, 2213 msl, 17-Aug-2005 C. R. Nelson# 8283 & others, see field notes 49 Trip with Salt Lake Tribune people and lab students:

Brett Smith

Sarah Kendall

Jonathan Osborne

Steve Holt, photographer. photos: Chloroperlidae in lab, 8283

8284 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River near Timpooneke Trail, below Giant Staircase lower meadow, site 5, N 40.42458° W 111.63899°, 2291 msl, 17-Aug-2005 C. R. Nelson# 8284 & others, see field notes 49 Trip with Salt Lake Tribune people and lab students:

Brett Smith

Sarah Kendall

Jonathan Osborne

Steve Holt, photographer.

Tightened malaise trap lines. Empididae, in 100% to Jonathan for DNA lab, photos: caterpillars, *Hemileuca*? on snowberry: *Symphoricarpus*. 8284

8285 USA: UTAH: Utah Co., Mount Timpanogos, Salamander Lake, off Alpine Loop above Sundance and below Cascade Springs turnoff, N 40.4217° W 111.6023°, 2300 msl, 17-Aug-2005 C. R. Nelson# 8285 & others, see field notes 49 from Topozone.com Trip with Salt Lake Tribune people and lab students:

Brett Smith

Sarah Kendall

Jonathan Osborne

Gained permission to enter private land from:

Taylor Toomalatai, cell phone: 376-2038. Call when need to enter again with students. tiger salamanders, 8285

8286 USA: UTAH: Utah Co., Mount Timpanogos, stream East of Salamander Lake, of Alpine Loop above Sundance and below Cascade Springs turnoff, N 40.4234° W 111.6012°, 2300 msl, 17-Aug-2005 C. R. Nelson# 8286 & others, see field notes 49 from

Topozone.com Trip with Salt Lake Tribune people and lab students:

Brett Smith

Sarah Kendall

Jonathan Osborne

Gained permission to enter private land from:

Taylor Toomalatai, cell phone: 376-2038. Call when need to enter again with students.

photos: Nemouridae: Amphinemura banksi,

Cicindelidae, black. 8286

8287 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883° W 111.26775° 1860 msl, 20-Aug-2005 C. R. Nelson# 8287 & J. K. Nelson & friends. 49 Therevidae; Cerambycidae: Monochamus. 8287

8288 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Lab, N 40.24625° W 111.64984 1420 msl, 25-Aug-2005 C. R. Nelson# 8288 49 collected: USA: UTAH: Utah Co., Provo, 100 East 580 North, 9 August 2005, Sarah I. Kendall. photos: larva & pupa of indian meal moth: Pyralidae: Plodia interpunctella (Hubner). 8288

8289 USA: UTAH: Utah Co., Squaw Peak Trail, Camel Back Pass N 40.18268° W 111.56831° 2415 msl, 03-Sep-2005 C. R. Nelson# 8289 49 CAMELKNOB photos: Springville from Camelback also photos: Kaye & Riley, on the camel; CAMELKNOB is the high point. CAMELHUMPS N 40.18134° W 111.56821° elev. 2377 msl. saw two short horned lizards. 8289

8290 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883° W 111.26775° 1860 msl, 05-Sep-2005 C. R. Nelson# 8290 & J. K. Nelson 49 emptied and reset malaise trap, last done 13 Aug 2005, CRN #8279. With Ben & Kristie Parker, Dan & Tamara Parker, Brandon & Kara Titus.

We shot guns. 8290

8291 USA: UTAH: Utah Co., Utah Lake, north point of West Mountain, near Lincoln Beach N 40.13637° W 111.82923° 1339 msl, 06-Sep-2005 C. R. Nelson# 8291 & class 49 155

Limb Hapairai, Dianna Archibald, Lisa Bardo, David Betts, Jared Curtis, Haylee Ferguson, Jessica Hall, Tricia Henrie, Karl James, Kristen Ogden, Sarah Rogers, Bryce Purcella, Diana Thiriot Boyle, Jonathon Wyatt, John Henrichsen, and Meriel Frandsen. photos:

Chironomidae, Araneidae, Meloidae, Thysanoptera, Tenebrionidae, Corixidae, Noctuidae, Hydrophilidae. 8291

8292 USA: UTAH: Utah Co., Utah Lake, Lincoln Beach, near north point of West Mountain, N 40.14308°W 111.80353°E 1366 msl, 06-Sep-2005 C. R. Nelson# 8292 & class 49 156

Limb Hapairai, Dianna Archibald, Lisa Bardo, David Betts, Jared Curtis, Haylee Ferguson, Jessica Hall, Tricia Henrie, Karl James, Kristen Ogden, Sarah Rogers, Bryce Purcella, Diana Thiriot Boyle, Jonathon Wyatt, John Henrichsen, and Meriel Frandsen. Solpugida, Buprestidae, Elateridae, Staphylinidae, Chironomidae, Heteroceridae 8292

8292.5 USA: UTAH: Box Elder Co. Brigham City 10-Sep-2005 C. R. Nelson# 8292.5 & J. K. Nelson 49 Delone Glover, friend of my mother, age 81. 8292.5

8293 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E 1495 msl, 13-Sep-2005 C. R. Nelson# 8293 49 Heiva stayed close to me on the bed all last night. At 6:00 am I got up and read. She followed me around wanting to be pet constantly. At about 6:30 am her first water broke and we checked out her downstairs nest box. I saw her have many contractions then she coaxed me upstairs to Kaye's closet where more contractions came. I woke up Kaye and we watched the kittens be born: 7:20 am first, very dark tiger with third toe of right front paw white, white chin. 8:10 am gray with white right sock, white toes. 8:40 am #3 gray, 1/2 white face, yellow stripe down head. 8:55 am #3 placenta delivered. 9:39 am #4 dark gray, white on face, white chin, all feet gray, symmetrical and striped. 9:53 am 4th placenta. With Kaye, Kristi Parker, and Launa Naylor. photos: Heiva's second batch of kittens.

photos: Chrysomelidae: Blepharida sp. on Rhus typhina var. laciniata. 8293

8294 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775°E elev. 1860 msl 17-Sep-2005 C. R. Nelson# 8294 & class 49 Emptied and reset malaise trap, last done 5 September 2005, CRN #8290.

Kaye Nelson, Tricia Henrie, John Henrichsen, Richard Walton, Kailey Kimball, Heather Sorenson, Jon Wyatt, Angela Benson, Chris Balzotti, matt Crook, Sarah Rogers, Haylee Ferguson, Dianna Boyle, Aleisha Coleman, Jessica Hall, Jared Curtis, Sarah Walker, Lisa Bardo, Limb Hapairai, Bryce & Yulia Purcella, Ryan & Russell Bullen & wife; Meriel Frandsen? Bombyliidae; Syrphidae; Tipulidae 8294

8295 USA: UTAH: Utah Co., Soldier Creek, Hwy 6, Wheeler Sawmill, 12 mi East of Thistle N 39.95324°W 111.26463°E elev. 1801 msl 17-Sep-2005 C. R. Nelson# 8295 & class 49 Kaye Nelson, Tricia Henrie, John Henrichsen, Richard Walton, Kailey Kimball, Heather Sorenson, Jon Wyatt, Angela Benson, Chris Balzotti, matt Crook, Sarah Rogers, Haylee Ferguson, Dianna Boyle, Aleisha Coleman, Jessica Hall, Jared Curtis, Sarah Walker, Lisa Bardo, Limb Hapairai, Bryce & Yulia Purcella, Ryan & Russell Bullen & wife; Meriel Frandsen? photos: Cicindelidae; Chrysomelidae, Alticinae, Lygaeidae, all swept from Cyperaceae: Eleocharis sp. 8295

8296 USA: UTAH: Washington Co. Quail Creek, Red Cliffs Recreation Area, 2 mi SW of Leeds, N 37.22498°W 113.40472°E elev. 1024 msl 23-24 Sep 2005 C. R. Nelson# 8296 & class 49 Light trap sample.

Tricia Henrie, John Henrichsen, Richard Walton, Jon Wyatt, Angela Benson, matt Crook, Haylee Ferguson, Dianna Boyle, Jessica Hall, Jared Curtis, Lisa Bardo, Bryce Purcella, Meriel Frandsen?, Kristen Ogden, Jason James?, Dianna Archibold, David Betts Efferia benedicti, Efferia zonata, Holopogon, Pepsis, Margarodidae? on Larrea, creosote bush. Chrysomelidae, Blepharida sp. on Rhus aromatica var. simplicifolia. 8296

8297 USA: UTAH: Kane Co., Coral Pink Sand Dunes, Ponderosa Grove Campground, N 37.08761°W 112.66975°E elev. 1850 msl 25-Sep-2005 C. R. Nelson# 8297 & class 49 UTCORPINCH GPS: UTCORPINCH (UTah CORal PINK, CHurch

Tricia Henrie, John Henrichsen, Richard Walton, Jon Wyatt, Angela Benson, matt Crook, Haylee Ferguson, Dianna Boyle, Jessica Hall, Jared Curtis, Lisa Bardo, Bryce Purcella, Meriel Frandsen?, Kristen Ogden, Jason James?, Dianna Archibold, David Betts Cerambycidae; Curculionidae; Machimus, Halictidae, large Agapostemon; photos: spadefoot toad. Photo: Group shot on Sunday morning. 8297

8298 USA: UTAH: Kane Co., Mount Carmel Junction N 37.22357°W 112.68127°E elev. 1600 msl 25-Sep-2005 C. R. Nelson# 8298 & class 49 Tricia Henrie, John Henrichsen, Richard Walton, Jon Wyatt, Angela Benson, matt Crook, Haylee Ferguson, Dianna Boyle, Jessica Hall, Jared Curtis, Lisa Bardo, Bryce Purcella, Meriel Frandsen?, Kristen Ogden, Jason James?, Dianna Archibold, David Betts no Dynastes seen. 8298

8299 USA: UTAH: Kane Co., Orderville, N 37.27560°W 112.63631°E elev. 1684 msl 25-Sep-2005 C. R. Nelson# 8299 & class 49 Tricia Henrie, John Henrichsen, Richard Walton, Jon Wyatt, matt Crook, Haylee Ferguson, Dianna Boyle, Jessica Hall, Jared Curtis, Lisa Bardo, Bryce Purcella, Jason James?, Dianna Archibold, David Betts Scarabaeidae: Dynastes granti, found several dead individuals at Valley High School and the elementary school. 8299

8300 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Hogback Ridge, Hwy 12 above Calf Creek, N 37.83588°W 111.41853°E elev. 1900 msl 25-Sep-2005 C. R. Nelson# 8300 & class 49 Views

Tricia Henrie, John Henrichsen, Richard Walton, Jon Wyatt, matt Crook, Haylee Ferguson, Dianna Boyle, Jessica Hall, Jared Curtis, Lisa Bardo, Bryce Purcella, Jason James?, Dianna Archibold, David Betts 8300

8301 USA: UTAH: Utah Co., Provo, Brigham Young University, Marriott Center 27-Sep-2005 C. R. Nelson# 8301 49 BYU Forum: 27 September 2005, David McCullough:

Pulitzer notification on 8 April, many calls from the press, then, during dinner in the evening received a call from the Christian Science Monitor, a telemarketer. Chance and character make history. "Nobody ever lived in the past." 25,000 individuals killed in the revolution, 1% of the population! Longest war in our history, besides Viet Nam. Brooklyn Heights retreat hinged on the wind direction. Northeast storm. 19,000 moved in a night. Character and circumstance. The small battle of Trenton was the pivot of the revolution 31 December 1776, all enlistments up. Washington, splendor and theatrics, clan uniform, urged to reenlist, no one stepped forward, drums rolled. You have done all and more, but country, wives and, and family at stake. probably never do again, GET QUOTE! One small moment. Drums rolled. They stepped forward. 8301

8302 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E elev. 1495 msl, 06-Oct-2005 C. R. Nelson# 8302 49 Chrysomelidae: Blepharida on domesticated Rhus aromatica var. trilobata?, in 100% ethanol. 8302

8303 USA: UTAH: Salt Lake Co. Salt Lake City, Hogle Zoo, N 40.75035°W 111.81397°E elev. 1442 msl, 11-Oct-2005 C. R. Nelson# 8303 & J. K. Nelson & Borabora friends 49 UTHOGLE photos: zoo animals and people

Golden Lion TaMarin: *Leontopithecus rosalia rosalia*; Ruffed lemur: *Varecia variegata variegata*; Black Howler monkey (blond): *Alouatta caraya*; South African black footed penguin: *Spheniscus demersus*; Black bear: *Ursus americanus*; Giraffe: *Giraffa camelopardalis*; poison arrow frog: *Dendrobates tinctorius*; Reticulated python: *Python reticulatus*; New Guinea snake necked turtle: *Chelodina novaguineae*; Giant fruit bat: *Pteropus giganteus*; Cotton top taMarin: *Saguinus oedipus*; Sloth; Superb starling: *Spreo superbus*; Gorilla: *Gorilla gorilla*; Bornean Orangutan: *Pongo pygmaeus pygmaeus*; 8303

8304 USA: UTAH: Salt Lake Co. Salt Lake City, This is the Place Monument, N 40.7520°W 111.8162°E elev. 1499 msl, 11-Oct-2005 C. R. Nelson# 8304 & J. K. Nelson & Borabora friends 49 photos: people and scenery 8304

8305 USA: UTAH: Salt Lake Co. Salt Lake City, LDS Church Headquarters N 40.77110°W 111.88960°E elev. 1399 msl, 11-Oct-2005 C. R. Nelson# 8305 & J. K. Nelson & Borabora friends 49 UTCHOFFICE photos: people and scenery 8305

8306 USA: UTAH: Utah Co., Provo, Edgemont North Stake Center N 40.2903°W 111.6522°E elev. 1473 msl, 12-Oct-2005 C. R. Nelson# 8306 & J. K. Nelson & Borabora friends 49 UTCHOFFICE photos: people at Tahitian dance 8306

8307 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.43329°W 111.73836°E 1547 m, 22-Oct-2005 C. R. Nelson# 8307 & B. B. Smith & Vanessa R. Rodriguez. 49 Emptied and took down 4 lindgren funnels and 1 malaise trap. Uploaded temperature data from Hobo logger. Reset for 10 minute interval. Should be good for 302 days. 8307

8308 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, N 40.44749°W 111.68305°E, elev. 1818 m, 22-Oct-2005 C. R. Nelson# 8308 & B. B. Smith & Vanessa R. Rodriguez. 49 Emptied and took down 4 lindgren funnels and 1 malaise trap. Uploaded temperature data from Hobo logger. Reset for 10 minute interval. Should be good for 302 days. photos: yellow leaves. 8308

8309 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180°W 111.65754°E, elev. 1862 msl, 22-Oct-2005 C. R. Nelson# 8309 & B. B. Smith & Vanessa R. Rodriguez. 49 Emptied and took down 4 lindgren funnels and 1 malaise trap. One lindgren lost sample bottle since last change. Uploaded temperature data from Hobo logger. Trouble with upload but finally successful. Reset for 10 minute interval. Should be good for 302 days. photos: yellow leaves, path 8309

8310 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River near Timpooneke Guard Station, site 4, N 40.43226°W 111.63741°E, elev. 2213 msl, 22-Oct-2005 C. R. Nelson# 8310 & B. B. Smith & Vanessa R. Rodriguez. 49 Emptied and took down 4 lindgren funnels and 1 malaise trap. Uploaded temperature data from Hobo logger. Reset for 10 minute interval. Should be good for 302 days. photos: dead deer fawn; photos: Limnephilidae female (on aspen leaves) 8310

8311 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River near Timpooneke Trail, below Giant Staircase lower meadow, site 5, N 40.42458°W 111.63899°E, elev. 2291 msl, 22-Oct-2005 C. R. Nelson# 8311 & B. B. Smith & Vanessa R. Rodriguez. 49 Emptied and took down 1 malaise trap. Uploaded temperature data from Hobo logger. Took down the logger. 8311

8312 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River near Timpooneke Trail W of Scout Falls, below Giant Staircase, site 6, N 40.41829 W 111.64149Â° elev. 2453 msl, 22-Oct-2005 C. R. Nelson# 8312 & B. B. Smith & Vanessa R. Rodriguez. 49 Emptied and took down 1 malaise trap. Took the loggers home. Uploaded temperature data from Hobo logger. Took down the logger. photos (dead): Limnephilidae, wingless male on aspen leaves; Leptophlebiidae? adult. 8312

8313 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343Â°W 111.64922Â° elev. 1495 msl, 22-Oct-2005 C. R. Nelson# 8313 49 photos: Geometridae adults at porch light 8313

8314 USA: UTAH: Utah Co., Provo, Brigham Young University, Widtsoe Laboratory N 40.24625Â° W 111.64984Â° elev. 1420msl, 04-Nov-2005 C. R. Nelson# 8314 49 photos: Tetragnatha? spider with wasp larva parasite; mite on palm leaf; Collembola; Agelenidae spider; CRN specimen: Agelenidae: Tegenaria domestica. 8314

8315 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343Â°W 111.64922Â° elev. 1495 msl, 01-Dec-2005 C. R. Nelson# 8315 49 Agelenidae male; galls of Agromyzidae on Populus tremuloides. 8315

8316 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Borabora, Motu Vana, S 16.44657Â° W 151.76543Â° elev. 0-4 msl, 19-22 December 2005 C. R. Nelson# 8316 & family & ATIU clan 49 MOTUVANA photos: family and friends; some visits to the main island. Family on this trip means J. K. Nelson and A. L. Nelson. Also included ship trip to Maupiti, called on some photos 8316b 8316

8317 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, Harana'i Valley, stream above petroglyphs, S 16.43974Â° W 152.25381Â° elev. 32 msl, 23-Dec-2005 C. R. Nelson# 8317 & family 49 1MHONU1 set up two malaise traps, #1 on hillside, #2 across flowing stream. Stream might be running because it rained hard last night. (wasn't running a few days later)

GPS reading taken on #8339 Drosophilidae on rotten mangoes.
Nitidulidae on rotten mangoes. 8317

8318 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, Terei'a beach & house S 16.44943Â° W 152.27328Â° elev. 3 msl, 24-Dec-2005 C. R. Nelson# 8318 & family 49 MAUHOU05 photos: Tephritidae, Bactrocera on miri, mint plant 8318

8319 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, Terei'a beach & house S 16.44943Â° W 152.27328Â° elev. 3 msl, 25-Dec-2005 C. R. Nelson# 8319 & family 49 MAUHOU05 Asilidae: Stichopogon; Kaye caught this robber fly on me while I was

making pepper nut cookies in Mick & Emilta MOHI's house. "It's a Christmas miracle!" I think this is the first robber fly I've ever collected in a house. 8319

8320 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, Terei'a beach & house S 16.44943° W 152.27328° elev. 3 msl, 26-Dec-2005 C. R. Nelson# 8320 & family 49 MAUHOU05 Tephritidae: Bactrocera on miri, in 100% ethanol. 8320

8321 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, mountain trails S 16.44697° W 152.25539° elev. 357 msl, 26-Dec-2005 C. R. Nelson# 8321 49 MAU2UP05 Started walking at 10:08 am in Mau Aro (Petei, Farauru) reached the top of Urufatiu at 11:21 am. Walked the ridge top across the peaks to the highest one. Put malaise traps on top of Peaks 2 and 3. Peak 3 is the tallest. Found a newly cleared path down across the head of Harana'i Valley past Hotua'e and reached the road at the top of the transverse road after less than 1 hour. I was very hot!

MAURUFAT05 (top Urufatiu)

S 16.44710° W 152.25508° elev. 351 msl.

MAU2UP05 (Peak 2)

S 16.44697° W 152.25539° elev. 357 msl.

MAUT1UP05 (trap 1 on Peak 2)

S 16.44673° W 152.25572° elev. 366 msl.

MAUUP3TOP (Peak 3 & trap 2)

S 16.44633° W 152.25769° elev. 380 msl.

for general collection, use Peak 2 8321

8322 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, Terei'a beach & house S 16.44943° W 152.27328° elev. 3 msl, 27-Dec-2005 C. R. Nelson# 8322 & family 49 MAUHOU05 Tephritidae: Bactrocera on miri. beetles in yard sweepings; big spider by Amy. 8322

8323 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, Faanoa Valley, beach at Enota FIRUU's house; S 16.44147° W 152.26691° elev. 0 msl, 27-Dec-2005 C. R. Nelson# 8323 & students, L. M. Hapairai, J. S. Ashton 49 1Max UENOTA swept beach grass; Chloropidae 8323

8324 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, base of Hotua'e cliff, beach sweeping, S 16.43589° W 152.25945° elev. 0-4 msl, 27-Dec-2005 C. R. Nelson# 8324 & students, L. M. Hapairai, J. S. Ashton 49 1MHOTUAE Use GPS, 1MHOTUAE #8340 swept beach grass and mud flats, photos: Isopoda. 8324

8325 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, Harana'i Valley, stream above petroglyphs, S 16.43974° W 152.25381° elev. 32 msl, 27-Dec-2005 C. R.

Nelson# 8325 & students, L. M. Hapairai, J. S. Ashton 49 1MHONU1 Emptied and reset two malaise traps, #1 on hillside, #2 across streambed. Trap started 23 Dec 2005, #8317. Stream wasn't running. Canopy and cloud cover too dense for a reading today. GPS readings taken on #8339 8325

8326 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, valley next to Hotua'e cliff, near house of Ara'i and Tetua FIRUU S 16.43973° W 152.25383° elev. 0 msl, 27-Dec-2005 C. R. Nelson# 8326 & students, L. M. Hapairai, J. S. Ashton 49 1MHOTUAE Use GPS, 1M05VAIFIR

Set up 1 malaise trap over pond full of mosquitoes;

Ara'i showed me some waxy Masses found on the beach years ago in Maupihaa, thought to be ambergris. I'll investigate back home.

Also I used this CRN# to label photos at the mairie (city offices) in Petei: S 16.44569 W 152.24797, took this reading from 2004 as: MAU EA (beginning of trail on road) S 16.44569 W 152.24797 elev. 0 msl 8326

8327 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, coral island, Motu Aira, melon farm of Leon MOHI, S 16.43738° W 152.28973° elev. 3 msl, 28-Dec-2005 C. R. Nelson# 8327 & students, L. M. Hapairai, J. S. Ashton 49 1MLEONMEL Use GPS, 1MLEONMEL

Set up 3 malaise traps in patch of half grown watermelons. Hand collected sweepings from small white composite in a patch of Morinda citrifolia.

Asilidae: Stichopogon, common on open sandy patches. 8327

8328 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, coral island, Motu Aira, nono (Morinda citrifolia farm of Puhi TEUPOOHUITUA, S 16.43466° W 152.28578° elev. 3 msl, 28-Dec-2005 C. R. Nelson# 8328 & students, L. M. Hapairai, J. S. Ashton 49 1MPUHINONO Use GPS, 1MPUHINONO

Set up 3 malaise traps in a nono orchard, Morinda citrifolia. 8328

8329 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, coral island, Motu Aira, native vegetation tua side near Morinda citrifolia farm of Puhi TEUPOOHUITUA, S 16.43318° W 152.28795° elev. 5 msl, 28-Dec-2005 C. R. Nelson# 8329 & students, L. M. Hapairai, J. S. Ashton 49 1MPUHINONO Use GPS, 1MPUHITUA5

Set up 3 malaise traps in a native vegetation near nono orchard, Morinda citrifolia. Old field "native" vegetation slightly more towards the ocean (tua) side in naupata, pandanus, and tonina. 8329

8330 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, Terei'a beach & house S 16.44943° W 152.27328° elev. 3 msl, 28-Dec-2005 C. R. Nelson# 8330 &

family & L. M. Hapairai & J. S. Ashton. 49 MAUHOU05 Ran three light traps at the brackish pond and one near the beach. Second night of song and dance at the city center in Petei. MAU EA (beginning of trail on road) S 16.44569 W 152.24797 elev. 0 msl 8330

8331 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, Terei'a beach & house S 16.44943 W 152.27328 elev. 3 msl, 29-Dec-2005 C. R. Nelson# 8331 & family & L. M. Hapairai & J. S. Ashton. 49 MAUHOU05 Ran two light traps at the brackish pond and one near the beach. Walked to motu, found four auger shells. 8331

8332 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, mountain trail from Petei up to Urufatiu, S 16.44642 W 152.25252 elev. 208 msl, 31-Dec-2005 C. R. Nelson# 8332 & family & L. M. Hapairai & J. S. Ashton. 49 1M8 Walked to Urufatiu setting ant experiment and recording GPS, 3 traps every 150 steps (meters) numbered from bottom up, after 10 decreased interval to 50 steps (meters). Start 9:00 am, see back. many ants! Canned Mackerel used as bait in 5 ml tubes.

Ant transect, bottom up

site, vegetation, GPS, interval, Cumulative distance (meters)

1M1 open basalt S16.44568 W 152.24796 4msl 150 0

1M2 pistache S16.44529 W152.24872 22msl 150 150

1M3 open guava S16.44564 W152.24927 50msl 150 300

1M4 pistache/purau (hibiscus) S16.44581 W152.24976 78msl 150 450

1M5 mango/purau S16.44591 W152.25053 123msl 150 600

1M6 mango/purau S16.44606 W152.25122 147msl 150 750

1M7 dense mango S16.44612 W152.25215 170msl 150 900

1M8 dense mango S16.44642 W152.25252 208msl 150 1050

1M9 purau/guava S16.44659 W152.25328 241msl 150 1200

1M10 mango S16.44677 W152.25388 337msl 150 1350

1M11 new hard round leaves, Amy specimen S16.44690 W152.25388 325msl 50 1400

1M12 purau & new big leaves, Amy specimen S16.44715 W152.25348 361 msl 50 1450

1M13 purau fern miro rosewood S16.44642 W152.25438 342 msl 50 1500

1M14 dense purau pandanus S16.44692 W152.25468 329 msl 50 1550

1M15 dense purau pandanus S16.44701 W152.25499 331 msl 50 1600

1M16 bare basalt guava others S16.44706 W152.25502 349msl 50 1650

1M17 Top Urufatiu bare basalt S16.44710 W152.25511 367msl 50 1700

almost all traps were found by Limb starting climb after 1 hour. for general collection, use 1M8, midpoint. 8332

8333 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, mountain ridgetop, start Peak 1 to Peak 3 S 16.44697° W 152.25539° elev. 375 msl, 31-Dec-2005 C. R. Nelson# 8333 & family & L. M. Hapairai & J. S. Ashton. 49 1MT1 Emptied and reset 2 malaise traps on Peak 2 and Peak 3, good catch, Last visit was 26 Dec 2005, #8322. Set 2 more malaise traps: one near south west base of peak 3, one near cave.

Ant transect, on ridgetop. Mackerel used as bait in 5 ml tubes, 1 every 5 m, total of 80. all found, open for 1.5 hours. numbered 1 M(ountain) T(op)1...1MT80. started at 12:00 pm. All in dense purau vegetation

site, GPS, Cumulative distance (meters)

1MT1 S16.44697 W152.25539 0

1MT2 - 5 1MT3 - 10 1MT4 - 15 1MT5 - 20

1MT6 - 25 1MT7 - 30 1MT8 - 35 1MT9 - 40

1MT10 - 45 1MT11 -50 1MT12 -55 1MT13 - 60

1MT14 - 65 1MT15 -70 1MT16 -75 1MT17 - 80

1MT18 - 85 1MT19PK2 (Peak 2 trap 19, S16.44672 W152.25580 377m, 90.

1MT20 - 95 1MT21 -100 1MT22 -105 1MT23 -110

1MT24 -115 1MT25 -120 1MT26 -125 1MT27 -130

1MT28 -135 1MT29 -140 1MT30 -145 1MT31 -150

1MT32 -155 1MT33 -160 1MT34 -165 1MT35 -170

1MT36 -175 1MT37 -180 1MT38 -185 1MT39 -190

40 195, 41 200, 42 205, 43 210, 44 215, 45 220

46 225, 47 230, 48 235, 49 240, 50 245, 51 250

52 255, 53 260, 54 265, 55 270, 56 275, 57 280

58 285, 59 290, 60 295, 61 300, 62 305, 63 310

64 315, 65 320, 66 325, 67 330, 68 335, 69 340

70 345, 71 350, 72 355, 1MT73PK3(PEAK 3 trap 73) 360 S16.44623 W152.25757 384 msl; 74 365

75 370, 76 375, 77 380, 78 385, 79 390, 1MTEND80 (end, trap 80) 395 S16.44618

W152.25775 382 msl.

Start peak 1 end past peak 3, use peak 1 as the overall site GPS.

worn shells of land snails. 8333

8334 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, mountain trail down from Peak 3 S 16.44633° W 152.25769° elev. 380 msl, 31-Dec-2005 C. R. Nelson# 8334 & family & L. M. Hapairai & J. S. Ashton. 49 MAUUP3TOP Ant transect, 2 down from peak 3, numbered top down.

start with 50 pace (meter) interval, change to 150 m at 2M27. Three tubes at each stop.

site, Veg., GPS, interval, Cumulative distance (meters)

2M1 PURAU S16.44613 W152.25772 383M 50 0
2M2 OPEN BASALT S16.44587 152.25758 364M 50 50
2M3 purau S16.44580 W152.25774 348m 50 100
2M4 purau S16.44563 W152.25795 334m 50 150
2M5 purau S16.44562 W152.25804 328m 50 200
2M6 purau S16.44554 W152.25824 312m 50 250
2M7 purau S16.44550 W152.25848 302m 50 300
2M8 purau S16.44527 W152.25862 288m 50 350
2M9 purau S16.44522 W152.25885 275m 50 400
2M10 purau S16.44517 W152.25896 265m 50 450
2M11 mango S16.44524 W152.25938 248m 50 500
2M12 purau S16.44530 W152.25943 241m 50 550
2M13 mango S16.44559 W152.24949 238m 50 600
2M14 purau S16.44579 W152.25960 233m 50 650
2M15 mango/purau S16.44590 W152.25970 231m 50 700
2M16 mango S16.44584 W152.26006 223m 50 750
2M17 mango S16.44572 W152.26024 220m 50 800
2M18 mango S16.44567 W152.26041 215m 50 850
2M19 mango3D S16.44562 W152.26062 209m 50 900
2M20 purau open3D S16.44569 W152.26074 201m 50 950
2M21 mango S16.44581 W152.26106 188m 50 1000
2M22 mango3D S16.44575 W152.26118 184m 50 1050
2M23 purau/mango3D S16.44583 W152.26140 177m 50 1100
2M24 mango S16.44599 W152.26172 174m 50 1150
2M25 purau/mango3D S16.44601 W152.26198 173m 50 1200
2M26 purau3D S16.44600 W152.26233 166m 50 1250
2M27 mango marumarulegume S15.44584 W152.26315 161m new linterval 150 1400
2M28 open grass3D S16.44570 W152.26395 159m 150 1550
2M29 open guava3D S16.44597 W152.26468 135m 150 1700
2M30 purau3D S16.44634 W152.26527 113m 150 1850
2M31 purau S16.44685 W152.26562 89m 150 2000
2M32 purau S16.44766 W152.26584 75m 150 2150
2M33 open house yard S16.44831 W152.26616 60 msl 150 2300. at top of traverse road.
END 8334

8335 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, Terei'a banana
plantation S 16.44943 W 152.27328 elev. 3 msl, 31-Dec-2005 C. R. Nelson# 8335 &

family & L. M. Hapairai & J. S. Ashton. 49 UV light trap in banana plantation. Lost battery to vandalism. 8335

8336 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, Terei'a, freshwater pond S 16.44943° W 152.27328° elev. 3 msl, 02-Jan-2005 C. R. Nelson# 8336 & family & L. M. Hapairai & J. S. Ashton. 49 Culicidae; Syrphidae; Dytiscidae?; Libellulidae; Aeshnidae; Coenagrionidae 8336

8337 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, Traverse Road, S 16.44845° W 152.22630° elev. 48 msl, 02-Jan-2005 C. R. Nelson# 8337 & family & L. M. Hapairai & J. S. Ashton. 49 3M37TOP Ant transect, 10 m interval. Start at base of road on Terei'a side.

3M1 down, S1644841 W152.27068 5msl

; 3m2, 2m3, 3m4, thru 3M10 S16.44854 W152.26979 13 msl; ...3M20 S16.44892

W152.26960 31msl; ... 3m30 S16.44872 W152.26707 37msl; 3m37TOP (top of traverse road, very near end of transect of #8334 S16.44845 W152.26630 48msl; 3M40 S16.44876 W152.26630 45msl end ants in traps at about 3M48 the remaining gps readings are simply for a map of the road; 3M50 S16.44973 W152.26683 34 msl; 3M55 S16.44966 W152.26643 30msl; 3M60 S16.44948 W152.26608 27 msl; 3M65 S16.44931 W152.26572 21msl; 3M70 S16.44920 W152.26524 15msl; 3M75 S16.44934 W152.26485 13msl; 3M80DOWN S16.44951 W152.26445 13msl. base of road on other side. 8337

8338 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, Motu Tuana'i, at pass with Motu Paeao, S 16.42250° W 152.25705° elev. 0-4 msl, 02-Jan-2005 C. R. Nelson# 8338 & family & L. M. Hapairai & J. S. Ashton. 49 4M1TUANAI Ant transect in Patrick Loyat's nono orchard, 10 m interval. Three vials per spot.

4M1TUANAI S16.42250 W152.25705 2 msl; 4m2 4m3 4m4 4m5 4m6 4m7 4m8 4m9 4M10 S16.42169 W152.25644 10 msl; 4mx... 4M20 S16.42080 W152.25661 7 msl. sweeping intertidal coral rubble: Ephydriidae+other acalypterates, Asilidae, Vespidae; sweeping Tahinu flowers: Ephydriidae, Chloropidae, Vespidae. 8338

8339 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, Harana'i Valley, stream above petroglyphs, S 16.43974° W 152.25381° elev. 32 msl, 03-Jan-2005 C. R. Nelson# 8339 & students, L. M. Hapairai, J. S. Ashton 49 1MHONU1 Emptied and took down two malaise traps, #1 on hillside (1MHONU1 S16.43974 W152.25381 32msl), #2 across streambed (trap 2 higher up valley across streambed 1MHONU2 S16.44139 W152.25414 53msl). Traps last emptied 27 Dec 2005, #8325.

GPS readings taken on this day for other visits #8339

Pictures of petroglyphs, photos lizards and plants. Uratua died yesterday afternoon, her burial will be this afternoon at 3:00pm. 8339

8340 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, base of Hotua'e cliff, S 16.43589° W 152.25945° elev. 0-4 msl, 03-Jan-2005 C. R. Nelson# 8340 49 1MHOTUAE GPS reading today, 1MHOTUAE #8340

photos of cliff

photos of Maui Teva... the local historian. 8340

8341 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, Motu Tuana'i, at pass with Motu Paeao, S 16.42250° W 152.25705° elev. 0-4 msl, 04-Jan-2005 C. R. Nelson# 8341 & family & L. M. Hapairai & J. S. Ashton. 49 4M1TUANAI photos: people, underwater reefs & fish 8341

8342 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, coral island, Motu Aira, melon farm of Leon MOHI, S 16.43738° W 152.28973° elev. 3 msl, 04-Jan-2005 C. R. Nelson# 8342 & Patrick Loyat. 49 1MLEONMEL Emptied and took down 3 malaise traps from farm of Leon MOHI; last emptied 28 Dec 2005. CRN#8327. melon buds preserved in ethanol to look for thrips later. 8342

8342 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, coral island, Motu Aira, nono (*Morinda citrifolia* farm of Puhi TEUPOOHUITUA, S 16.43466° W 152.28578° elev. 3 msl, 4 January 2006 2005 C. R. Nelson# 8342 & Patrick Loyat, L. M. Hapairai, J. S. Ashton 49 1MPUHINONO Emptied and took down 3 malaise traps in a nono orchard, *Morinda citrifolia*. Last emptied 28 Dec 2006, C. R. Nelson #8328.

Emptied and took down three malaise traps from native vegetation near nono see 8329, one trap fell and had no insects. Last emptied 28 Dec 2005, C. R. Nelson #8329. 8342

8343 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, mountain ridgetop, S 16.44697° W 152.25539° elev. 375 msl, 05-Jan-2006 C. R. Nelson# 8343 & family & L. M. Hapairai & J. S. Ashton. 49 1MT1 Emptied and took down 4 malaise traps on Peak 2 and Peak 3, good catches, Last visit was 31 Dec 2005, #8333.

Emptied 2 more malaise traps: one in saddle between peaks 2 and 3, one near cave at base of cliff of peak 3.

Collected lichen on cliff near base of Urufatiu. worn shells of land snails. 8343

8344 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, mountain trail down from Peak 3 to Traverse Road, S 16.44573° W 152.26407° elev. 172 msl, 05-Jan-2006 C. R. Nelson# 8344 & family & L. M. Hapairai & J. S. Ashton. 49 1MFAANOUP head of Faanoa Valley;

1MFISHROCK S16.44597 W152.26158 178msl. photos: engraved "fish" in rock

Photos: scenery, view to Motu Paeao.

Chloropidae dancing on purau leaf near bird dropping.

Swept Tephritidae, and others from small flowered, broad leafed Asteraceae weed.

Buprestidae from purau leaves, Photos: Vespidae nest. 8344

8345 FRENCH POLYNESIA: Leeward Islands: Isles Sous Le Vent Maupiti, Terei'a, house S 16.44943° W 152.27328° elev. 3 msl, 06-Jan-2006 C. R. Nelson# 8345 & family & L. M. Hapairai & J. S. Ashton. 49 Xylocopa bee 8345

8346 FRENCH POLYNESIA: Tahiti, Punaauia, Mus√©e des Iles 07-Jan-2006 C. R. Nelson# 8346 & family & L. M. Hapairai & J. S. Ashton. 49 No GPS Cicadellidae: mouch pisseuse, Homalodiscacoagulata (Say)

Elsewhere: saw a large metallic Buprestidae far up the Punaruu Valley 8346

8347 FRENCH POLYNESIA: Tahiti, Paea, Maraa Grotto, 07-Jan-2006 C. R. Nelson# 8347 & family & L. M. Hapairai & J. S. Ashton. 49 No GPS Tephritidae: Bactrocera on fallen mape fruit, Inocarpus fagifer (Parkinson) Fosberg, 8347

8348 FRENCH POLYNESIA: Tahiti, Hitiaa, 07-Jan-2006 C. R. Nelson# 8348 & family & L. M. Hapairai & J. S. Ashton. 49 No GPS photos: Elateridae, large 8348

8349 FRENCH POLYNESIA: Tahiti, Point Venus, matavai Bay, S 17.49455° W 149.49573° 0 msl 07-Jan-2006 C. R. Nelson# 8349 & family & L. M. Hapairai & J. S. Ashton. 49 POINTVENUS GPS from tip of sand of Point Venus. Black sand; Photos: bay & Moorea sunset.

GPS read 12 msl at sea level. 8349

8351 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343° W 111.64922° elev. 1495 msl, 19-Jan-2006 C. R. Nelson# 8351 49 photos: our house in the snow and Lake Baikal poster in the lab.

8351

8352 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343° W 111.64922° elev. 1495 msl, 12-Feb-2006 C. R. Nelson# 8352 49 photos: larva of fly, green, probably a syrphid on the green top of a commercial strawberry I just ate. 8352

8353 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E elev. 1495 msl, 13-Feb-2006 C. R. Nelson# 8353 49 photos: morning moon and mountains 8353

8354 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.6 mi S of Vivian Park & Hwy 189 N 40.34771°W 111.54800°E, 1667 m 04-Mar-2006 C. R. Nelson# 8354 & family 46 with Parker/Nelson "picnic" in the snow Saw:

Zapada cinctipes

Capnia gracilaria

Capnia nana

none collected 8354

8355 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E elev. 1495 msl, 05-Mar-2006 C. R. Nelson# 8355 49 spiders: Theridiidae? small

Agelenidae.

Passed on to Kailey Kimball to photograph for her spiders of Utah County project. 8355

8356 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E elev. 1495 msl, 08-Mar-2006 C. R. Nelson# 8356 49 spiders: large Agelenidae female.

Passed on to Kailey Kimball to photograph for her spiders of Utah County project. 8356

8357 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.43329°W 111.73836°E 1547 m, 11-Mar-2006 C. R. Nelson# 8357 & class 49 Emptied and reset Hobo temperature probe, last done 22 Oct 2005. 11:00 am.

Took about 5 First 100 samples for use in Biology class, (first 100 organisms seen in a tray after overturning rocks and kicking into a net?).

Biology 100 Honors field trip: Attendees: Riley Nelson, Tasia Robertson, Sarah Walker, Jonathan Wyatt (lab student, Jon Skarda, Samuel Clements, and three others) *Doddsia* adults, *Zapada* adults, *Prostoia* adults, *Capnia* adults. photos: *Hesperoperla pacifica* nymphs. 8357

8358 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, N 40.44749°W 111.68305°E elev. 1818 m, 11-Mar-2006 C. R. Nelson# 8358 & class 49 Emptied and reset Hobo temperature probe, last done 22 Oct 2005.

Took about 4 First 100 samples for use in Biology class, (first 100 organisms seen in a tray after overturning rocks and kicking into a net?).

Biology 100 Honors field trip: Attendees: Riley Nelson, Tasia Robertson, Sarah Walker, Jonathan Wyatt (lab student, Jon Skarda, Samuel Clements, and three others Photos: Dodsia adult and molting nymph. 8358

8359 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180° W 111.65754° elev. 1862 msl, 11-Mar-2006 C. R. Nelson# 8359 & class 49 Emptied and reset Hobo temperature probe, last done 22 Oct 2005. Temperature probe was difficult to find, it was in a small grove of box elder? trees with stems about 6 inch in diameter dbh behind (perpendicular to stream) a prominent fir tree about 10 inches dbh. The probe was at chest height about 25 feet from the stream.

Took about 4 First 100 samples for use in Biology class, (first 100 organisms seen in a tray after overturning rocks and kicking into a net?.

Biology 100 Honors field trip: Attendees: Riley Nelson, Tasia Robertson, Sarah Walker, Jonathan Wyatt (lab student, Jon Skarda, Samuel Clements, and three others 8359

8360 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343° W 111.64922° elev. 1495 msl, 12-Mar-2006 C. R. Nelson# 8360 50 photos: Cestoda, tapeworm proglottid from domestic cat, named Pika. 8360

8361 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343° W 111.64922° elev. 1495 msl, 20-Mar-2006 C. R. Nelson# 8361 50 spiders in bathroom, Cheiracanthium? 8361

8362 USA: UTAH: Utah Co., Provo, BYU, Bean Museum, N 40.253330 W 111.646940 1432 msl 22-Mar-2006 C. R. Nelson# 8362 50 photos: collections, vials, pins, envelopes, frozen tissues, Stephen Wood with Xylechinus new species from on Nothophagus in Chile, Richard Baumann with a beating sheet, Madison "mattie" Barksdale. 8362

8363 USA: UTAH: Utah Co., Big Springs Park, 3.4 mi S of Vivian Park and Hwy 189, N 40.32782 W 111.52948 1881 msl 25-Mar-2006 C. R. Nelson# 8363 50 UTBIG also GPS: UTBIGCAR, parking lot for Big Springs.

N 40.33253 W 111.52467, elev. 1794 msl.

Odometer: Big Springs Park, 3.4 mi, South Fork Park 5.1, Vivian Park 6.8, Nelson home 15.2 photos: Capnia nana, many. saw many Zapada cinctipes, none kept. 8363

8364 USA: UTAH: Utah Co., Provo, BYU, Marriott Center 28-Mar-2006 C. R. Nelson# 8364 50 UTBIG Forum talk by Dr. Gordon Gee, chancellor of Vanderebilt University, former president at West Virginia University, University of Colorado, Ohio State University, and Brown University. Gave me an idea for a talk, When is a museum not a museum. in other words how can a museum not be a static, dead thing, but more vibrant.

other ideas: Admit yourself, not so serious about self, Be civil with others, work in a university utopia, Avoid persecution mentality or enclave mentality, but contribute to the world around you. Don't be rigourously complacent. Read later: (work) is not enough.

Universities are unobstructed gossip pits.

He is originally from Vernal, Utah. First wife dead breast cancer, second wife Constance, firecracker, adopted child Rebecca head resident at Harvard, wants to be surgeon general.
8364

8365 USA: UTAH: Utah Co., Provo, BYU, near library and Smoot Building 29-Mar-2006 C. R. Nelson# 8365 50 UTBIG photos: Annelida, Oligochaeta, earthworms on pavement with walking people cars strollers, Massasoit, and Mount Timpanogos in background 8365

8366 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E elev. 1495 msl, 29-Mar-2006 C. R. Nelson# 8366 50 Spider, Clubionidae, Cheiracanthium? 8366

8366 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343°W 111.64922°E elev. 1495 msl, 29-Mar-2006 C. R. Nelson# 8366 50 spiders in bathroom, Clubionidae, Cheiracanthium? 8366

8367 USA: UTAH: Utah Co., Spanish Fork River at Spanish Fork river Park, hwy 6, above jct Diamond Fork River, N 40.02213°W 111.50304°E elev. 1450 msl, 03-Apr-2006 C. R. Nelson# 8367 50 UTSPFKPK Capnia confusa, 1 male; Capnia gracilaria, photo of 1 female also 4 males. photos: Taenionema uinta 1 male. 8367

8367 USA: UTAH: Utah Co., Spanish Fork River at Spanish Fork River Park, Hwy 6, above jct Diamond Fork River, N 40.02213°W 111.50304°E elev. 1450 msl, 03-Apr-2006 C. R. Nelson# 8367 50 UTSPFKPK Capnia confusa, 1 male; Capnia gracilaria photos, 1 female, caught 4 males. photos Taenionema uinta male. 8367

8368 USA: UTAH: Utah Co., Soldier Creek, Hwy 6, Wheeler Sawmill, 12 mi East of Thistle N 39.95324°W 111.26463°E elev. 1801 msl 04-Apr-2006 C. R. Nelson# 8368 50 photos: Taenionema uinta female, also caught males. photos: Zapada cinctipes female, the photo voucher escaped. Caught one other female 8368

8368 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6/50, 12 mi E of Thistle, spring N 39.95373 W 111.26736, 1812 msl, 04-Apr-2006 C. R. Nelson# 8368 50 Photos: Taenionema uinta female, also caught males. Photos: Zapada cinctipes female, found 1 female, not photographed, lost the voucher but had another female. 8368

8369 USA: UTAH: Utah Co., Diamond Fork River, 1 mi N of Hwy 6/50 N 40.03370 W 111.49669 04-Apr-2006 C. R. Nelson# 8369 50 I stopped at about 5 spots from above the

pond at the mouth up to the hot springs above Three Forks. No stonefly adults seen. Saw many *Pteronarcella badia* nymphs. *Pteronarcella* nymphs 8369

8369 USA: UTAH: Utah Co., Diamond Fork Canyon, various spots N 40.072902 W 111.430712 1604 msl, 04-Apr-2006 C. R. Nelson# 8369 50 GPS is Diamond Fork Campground. I stopped at about 5 spots from above the pond at the mouth up to the hot springs above Three Forks. No stonefly adults seen. Saw *Pteronarcella badia* nymphs in several locations. 8369

8370 USA: UTAH: Utah Co., view from west side of Utah Lake toward Sierra Bonita (maple Mountain) and Loafer, 04-Apr-2006 C. R. Nelson# 8370 50 On Southwest Airline flight to Phoenix, Arizona for Brandy and Jason's wedding! 8370

8371 USA: ARIZONA: Gila Co. Payson, Ox Bow, N 34.183406 W 111.336849 1422 msl, 05-Apr-2006 C. R. Nelson# 8371 50 photos: Brandy and Jason Nelson's wedding and reception. 8371

8372 USA: ARIZONA / UTAH commercial airline flight Phoenix - Salt Lake City, 06-Apr-2006 C. R. Nelson# 8372 50 photos from air:

N 33.46° W 112.12° 328 msl, Phoenix, Arizona.

N 34.869° W 111.759° 1302 msl, Sedona, Arizona.

N 35.34° W 111.67° 3347 msl, San Francisco Peaks, Arizona.

N 36.15° W 111.70° 967 msl, Little Colorado River, Arizona.

N 36.68° W 111.72° 1395 msl, Grand Canyon, Arizona.

N 37.34° W 112.13° 2086 msl, No man's Mesa, Utah.

N 37.27° W 112.05° 2210 msl, Mollies Nipple, Utah.

N 37.33° W 112.15° 1849 msl, Lick Wash, Utah.

N 37.61° W 112.12° 2088 msl, Bryce Canyon and Tropic, Utah. 8372

8373 USA: UTAH: Utah Co., Provo, Edgemont North Stake Center, canyon road adn 4525 North, N 40.293574 W 111.652719 1470 msl, 08-Apr-2006 C. R. Nelson# 8373 50 photos: Brandy and Jason Nelson's wedding reception. 8373

8374 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343W 111.64922 elev. 1495 msl, 10-Apr-2006 C. R. Nelson# 8374 50 spiders on wall in bathroom, 8374

8375 USA: UTAH: Utah Co., Lehi, Thanksgiving Point, N 40.421965W 111.887619 elev. 1389 msl, 29-Apr-2006 C. R. Nelson# 8375 50 photos: Scout Expo (Scout-O-Rama), Boyd Blake, Benson Blake, Samuel Thrupp, Chris Bennion, Joshua & Justin Carter, Douglas Baird, Don & Benjamin Dorton. 8375

8376 USA: UTAH: Salt Lake Davis Utah, and Summit Co. Great Salt Lake, Wasatch Mountains, Bountiful, and Mount Timpanogos N 40W 111 , 06-May-2006 C. R. Nelson# 8376 , Jack Sites, Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Limb Hapairai, Rachel "Shelly" Hart. 50 photos: scenery from air, Delta Airline flight to Miami 8376

8377 USA: FLORIDA: Miami to French Guiana (FG), Cayenne. N W , 07-May-2006 C. R. Nelson# 8377 , Jack Sites, Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Limb Hapairai, Rachel "Shelly" Hart. 50 photos: scenery from air, Air France flight: islands from air, Haiti, Guadeloupe, Martinique, west river (Marony?) of French Guiana, forest, huge reservoir behind dam. 8377

8378 FRENCH GUIANA Cayenne, N 4.93728W 52.33272 26 m, 07-May-2006 C. R. Nelson# 8378 , Jack Sites, Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Limb Hapairai, Rachel "Shelly" Hart. 50 1FGHOTEL night in Cayenne. Central Hotel. 8378

8379 FRENCH GUIANA Kaw Mountain, Camp Patawa N 4.54465W 52.15258 177 m, 08-May-2006 C. R. Nelson# 8379 , Limb Hapairai, Jack Sites, Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 1FGPATAWA set up three malaise traps near rocky bottom stream.

Camp Patawa is run by Jeannot Cerda and his wife Odette Morvan. He studies clear winged tiger moths and she studies long horned beetles. She has accounted for over 1200 species of them on Kaw Mountain alone. Their contact information is: Camp Patawa, Sarl PATAWA, B. P. 98., 97357 matOURY, FRENCH GUIANA. tel. 0594 28 03 95; Patawa2@wannadoo.fr photos: *Bufo margaritifer*, *Dendrobates tinctorius*, Vespidae. 8379

8380 FRENCH GUIANA Kaw Mountain, Camp Patawa N 4.54465W 52.15258 177 m, 09-May-2006 C. R. Nelson# 8380 , Limb Hapairai, Jack Sites, Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 1FGPATAWA set up two more malaise traps at waterfalls. Retrieved catch from two light traps, one at stream below shower building one at big close falls. set up one malaise trap near cabin (carbet, for hammocks), traps: Hydropsychidae, Leptonema; Plecoptera, yellow females and one green male.

Morpho butterflies at falls.

Photos: *Tropidacris*, spiny spider, glass frogs, millipede, Ponerinae long jaw. 8380

8381 FRENCH GUIANA Kaw Mountain, Camp Patawa N 4.54465W 52.15258 177 m, 10-May-2006 C. R. Nelson# 8381 , Limb Hapairai, Jack Sites, Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50

1FGPATAWA set up one more malaise trap on small stream; emptied and reset two light traps set at dam and nearby small stream. one Plecoptera in malaise trap on small stream, 8381

8382 FRENCH GUIANA Cayenne, Pointe des Amandiers and market, N 4.94290W 52.33515 0 m, 10-May-2006 C. R. Nelson# 8382 , Limb Hapairai, Jack Sites, Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 1FGCAYBEAC photos: town and market. Bought supplies including 50% ethanol rum for insect preservation. swept muddy mangrove beach, Ephydriidae, Syrphidae, Stratiomyidae, Cerambycidae. 8382

8383 FRENCH GUIANA Kaw Mountain, "chablis" tree fall area, 3 km N of Camp Patawa, N 4.56324W 52.15574 209 m, 11-May-2006 C. R. Nelson# 8383 , Limb Hapairai, Jack Sites, Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 set up two malaise traps over downed trees, set up three butterfly traps,

A "chablis" is an opening in the forest. Ours were located on roads 1 km east then 2 km north on dirt. photos: Pyrgomorphidae (NO! Proscopiidae) grasshopper, chrysomelidae, Blepharepium asilidae, Mallophora asilidae.

Photos: Ascalaphidae, Phasmida winged black and yellow; Blattaria, very flat under buttress bark. Membracidae, Morpho, wide black and narrow blue. Reduviidae. 8383

8384 FRENCH GUIANA Kaw Mountain, Camp Patawa N 4.54465W 52.15258 177 m, 11-May-2006 C. R. Nelson# 8384 , Limb Hapairai,

Jack Sites, Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 1FGPATAWA emptied catch of two UV light trap pans one near dam and one on next small creek. Set up three butterfly traps at the big near falls (one of our favorite spots). 8384

8385 FRENCH GUIANA Kaw Mountain, Camp Patawa N 4.54465W 52.15258 177 m, 12-May-2006 C. R. Nelson# 8385 , Limb Hapairai,

Jack Sites, Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 1FGPATAWA retrieved two light traps from falls area. Photos: rainforest near camp Photos: Mantidae 8385

8386 FRENCH GUIANA Kaw Mountain, "chablis" tree fall area, 3 km N of Camp Patawa, N 4.56324W 52.15574 m, 12-May-2006 C. R. Nelson# 8386 , Limb Hapairai, Jack Sites, Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins,

Rachel "Shelly" Hart. 50 Summary of traps deployed on Kaw Mountain:

Patawa: 6 on stream, one at cabin; Chablis: 2 active tree fall, 2 older tree falls, 1 deep forest stream. Butterfly traps: Patawa 3 at falls and Chablis 3 at active tree falls, Morpho, photos: Mallophora; Chrysomelidae; Phasmidae, Chrysomelidae; Photos social spiders; photos hairy cup fungus. 8386

8387 FRENCH GUIANA Kaw Mountain, Kaw River crossing, boat ramp, N W m, 12-May-2006 C. R. Nelson# 8387 , Limb Hapairai,

Jack Sites, Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 ran UV light at river, very few insects. Scarabaeidae at UV light 8387

8388 FRENCH GUIANA Kaw Mountain, "chablis" tree fall area, 3 km N of Camp Patawa, N 4.56324W 52.15574 209 m, 13-May-2006 C. R. Nelson# 8388 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 Collected while walking from camp all the way to the stream on the east side of "chablis" dirt road in the deep dark forest. photos: Perlidae from dark forest stream, Asilidae: Blepharepium from open area, Membracidae, Phasmidae (from camp), Gryllidae (from camp), Mantidae open area, Syrphidae at chablis stump, Pseudostigmatidae, mating pair in deep forest;

Chrysomelidae, Euglossinae bees, photos: Reduviidae nymph, Ephemeroptera from stream, Carabidae from stream, Cicindelidae from chablis. Photos: very large caterpillar (probably sphingid) and eyed snake mimic caterpillar. 8388

8389 FRENCH GUIANA Montjoly Beach N 4.90119W 52.26195 0 m, 13-May-2006 C. R. Nelson not present# 8389 , Limb Hapairai, Brice Noonan 50 Beach, Riley Nelson not present. But I was on this beach earlier in the week during the night. crabs, Diptera swept from rocks 8389

8390 FRENCH GUIANA Kaw Mountain, Camp Patawa, waterfalls 30 minute walk to the south camp: N 4.54465 W 52.15258 177 m, 15-May-2006 C. R. Nelson# 8390 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 1fgpatawa deep forest GPS not available. photos: falls, people. Morpho 8390

8391 FRENCH GUIANA Kaw Mountain, Camp Patawa, nearby falls, N 4.54465W 52.15258 177 m, 15-May-2006 C. R. Nelson# 8391 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins,

Rachel "Shelly" Hart. 50 1FGPATAWA Calopterygidae, Hetaerina? metallic green small; trapping area: Perlidae nymphs, Euthyplociidae Mayflies; Megaloptera larvae; Trichoptera larvae; Diptera larvae; shrimp; crab; all in low density; Photos: Coreidae; mosquito culicidae photo voucher. Photos: Perlidae nymphs. Photos: Tettigoniidae, big brown. Photos: snakes and frogs from recent road cruising. 8391

8392 FRENCH GUIANA Kaw Mountain, Camp Patawa, N 4.54465W 52.15258 177 m, 15-May-2006 C. R. Nelson# 8392 , Limb Hapairai, Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 1FGPATAWA photos: snakes and frogs collected from nearby roads during the past few nights. Photos: rainforest and moon in the early morning sun and mists. 8392

8393 FRENCH GUIANA Kaw Mountain, "chablis" tree fall area, 3 km N of Camp Patawa, N 4.56324W 52.15574 m, 15-May-2006 C. R. Nelson# 8393 Monty Hawkins,

, Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 emptied and took down 5 malaise traps; 2 at Jeanneau's (Jeanot's) logging chablis on left side driving in. 2 at natural tree falls on right; 1 further in forest over stream at point it flows under the buttress of a very large tree. Took down 3 butterfly traps at Jeanot's chablis, only one butterfly and one moth. All traps set on 12 May 2006, C. R. Nelson #8386. 8393

8394 FRENCH GUIANA Kaw Mountain, clearing near sawmill then 1 km (approx) north, 2-5 km W of Camp Patawa, N W m, 16-May-2006 C. R. Nelson# 8394 Limb Hapairai, Brice Noonan, 50 Walked to large grotto looking for lek site of cock of the rock bird, not seen. Saw taMarins with brown hands and gray faces. 8394

8395 FRENCH GUIANA Kaw Mountain, Camp Patawa, nearby falls, N 4.54465W 52.15258 177 m, 16-May-2006 C. R. Nelson# 8395 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 1FGPATAWA emptied and took down 7 malaise traps and three butterfly traps. 3 malaise across small stream; 3 malaise across big stream falls; 1 malaise from clearing near cabins; 3 butterfly traps near big stream falls (no butterflies). (1 malaise by camp limb notes).

Big stream: malaise trap 1 on top of Big water falls, malaise trap 2 40 m from #1, malaise trap 3 set by fallen tree. small stream: malaise 1 closest to trail, malaise 2 and 3 100 m from #1. Chablis: cut tree by Jannau (Jeannot) Fallen tree. natural chablis: malaise 1 fallen

tree, malaise 2 tree with huge buttress, other by stream.

Set 3 on 8 May CRN 8379; set 1 near dam on 9 May 2006, CRN 8381; set 3 big stream falls CRN 8380; clearing trap set 9 May 2006 CRN 8380; butterfly traps set 9 May 2006, 8384.

photos: formicidae, Eciton army ants passing through the dining hall;

Photos: very large Blattaria. 8395

8396 FRENCH GUIANA Saul, Crique Grand Foss√©, Chez Fred Carbet's de Passage, N 3.62777W 53.21188 213 m, 17-May-2006 C. R. Nelson# 8396 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 1FGSAULCAM Marcel is the proprietor. We set up camp, dried out. Set up two UV lights on nearby stream. photos: Chrysomelidae, wondrous forms!, Reduviidae, Pompilid mimic, Cicadellidae, Apidae stingless bees, Cercopidae, Pieridae, Nymphalidae, Thysanoptera. 8396

8397 FRENCH GUIANA Saul, Boucle Roche Bateau (Ship Rock Trail), N 3.62343W 53.20835 200 m, 18-May-2006 C. R. Nelson# 8397 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 1FGTRAIL (in town) set up 9 malaise traps at tree falls between airport to town road and Camp Kanawa (3.5 km from road), continued walking on trail and rounded back to airport,

This trail is southeast of Saul and encircles Belvedere Mountain. 1FGBouc near airport N3.62531 W 53.20028, elev. 220 msl; could get GPS reading anywhere on the boucle Roche Bateau Trail. Traps set:

3 at one chablis, 2 at another, 1 at another, 1 at another, and 2 at another. Trail is 15 km in length. Photos: Limb and Riley with BYU Bookstore bag, buttresses, flowers, trails, creek, and town. Caught "Promachina" robber flies along airport road. Morphos. Purple "borage" capsule (actually a Euphorb by determination of Scott Mori later in Patawa. 8397

8398 FRENCH GUIANA Saul, Crique Grand Foss√©, Chez Fred Carbet's de Passage, N 3.62777W 53.21188 213 m, 19-May-2006 C. R. Nelson# 8398 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 1FGSAULCAM set up 4 malaise traps along stream and orchard area of camp. Stream named Crique Grand Foss√©.

also walked to ridge, west of village, little to collect in deep forest above town and farms. More variety in second growth. set up UV light on creek above carbets, emptied 20 May

2006. Carbet means pavillion for hammocks.

Chrysomelidae, Homoptera, Reduviidae, Euthyplocia nymph, Perlidae nymphs.
Photos on 8400: Ichneumonidae, Culicidae Toxorhynchites male and female, Salticidae ant
mimic, Hispinae, Chrysomelidae, snakes, Leptotyphlops and colored vine. Atelopus from
Boeuf Mort. Ambylpygi. 8398

8399 FRENCH GUIANA Saul, Monts La Fum $\sqrt{\text{e}}$ Trail, N 3.64223W 53.20041 296 m, 20-
May-2006 C. R. Nelson# 8399 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins,
Rachel "Shelly" Hart. 50 1FGFUMEE2 Two GPS readings at the lower of the two "peaks"
because there was a clearing, same spot.

1FGFUMEE: N 3.64229 W 53.20052, elev. 334 msl.

1FGFUMEE2: N 3.64223 W 53.20041, elev. 296 msl. Longer capture time on fume2, use
this one! Trail is 10 km. many photographs on this clear day! Cicadellidae, Fulgoridae,
Coreidae, Lauxaniidae, Bryophytes, Fungi, Plants, Trees: Amarante, Pseudostigmatidae,
Chrysomelidae, Carabidae, Culcidae ON ME! 8399

8400 FRENCH GUIANA Saul, Crique Grand Foss $\sqrt{\text{e}}$, Chez Fred Carbet's de Passage, N
3.62777W 53.21188 213 m, 21-May-2006 C. R. Nelson# 8400 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins,
Rachel "Shelly" Hart. 50 1FGSAULCAM Sunday. Stayed close to camp, Sabbath. took
photos of insects from CRN 8398. kicked from stream then photographed: Perlidae
Euthyplociidae, skinny catfish (helped by Jenny Pramuk). Got all batteries charged. Had a
"church" meeting. Shared ideas of use and stewardship. good gospel discussion. Set up UV
lights on stream. Perlidae Euthyplociidae, skinny catfish 8400

8401 FRENCH GUIANA Saul, Crique Grand Foss $\sqrt{\text{e}}$, Chez Fred Carbet's de Passage, N
3.62777W 53.21188 213 m, 21-May-2006 C. R. Nelson# 8401 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins,
Rachel "Shelly" Hart. 50 1FGSAULCAM emptied UV lights from Grand Foss $\sqrt{\text{e}}$. Parasite
rash on my back already apparent. Shotgun pattern of small red dots (3 mm each) centered
above right hip. Fewer dots on back and shoulds approximating spots where straps for
backpack were. 8401

8402 FRENCH GUIANA Saul, Grand Boeuf Mort Trail (Big Dead Cow), N W xx m, 22-May-
2006 C. R. Nelson# 8402 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 xx photos: Theraphosa, giant bird tarantula. Dendrobates tinctorius. 8402

8403 FRENCH GUIANA Saul, airport N 3.62072W 53.20109 228 m, 22-May-2006 C. R. Nelson# 8403 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 1FGSAULAIR photos: Three mercury vapor lamps attracted huge numbers of moths and a few beetles. Run by Jean-Pierre Bikaeff. Cost 50 euros (60 dollars) to run the light.

Megasoma, 2 males and one female, huge scarabs. Lost when escaped from under a 3kg pot of beans while we slept. Fulgoridae, Ascalaphidae. also hand collecting earlier in day. photos: Ant attacked by Cordyceps fungus. 8403

8404 FRENCH GUIANA Saul, Boucle Roche Bateau (Ship Rock Trail), N 3.62343W 53.20835 200 m, 23-May-2006 C. R. Nelson# 8404 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 1FGTRAIL (in town) Recovered only 2 of 9 malaise traps set up on 18 May 2006 CRN8397. remainder stolen, presumably by Brazilian gold seekers to use as mosquito nets.

Two traps nearest Camp Kanawa recovered.

7 June 2006: I remember that the parasites in my back were especially troublesome today. I needed to stop and rest several times during the course of the long walk. Hot and energy draining. Morphos and "Promachina, Promachella" on airport road. 8404

8405 FRENCH GUIANA Saul, Crique Grand Foss√©, Chez Fred Carbet's de Passage, N 3.62777W 53.21188 213 m, 23-May-2006 C. R. Nelson# 8405 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 1FGSAULCAM Emptied and took down 4 malaise traps. set 19 May 2006 CRN#8398. Trap 1 near camp stream in banana orchard, Trap 2 away from stream, hillside gardens and orchard; Trap 3 across stream at edge of forest. Trap 4 across stream, 20 m in forest. 8405

8406 FRENCH GUIANA Saul, town center N 3.62777W 53.21188 200 m, 24-May-2006 C. R. Nelson# 8406 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins,

Rachel "Shelly" Hart. 50 1FGSAULCAM Used Chez Fred for the GPS and estimated elevation.

photos people ready to leave. Also shot some at the airpor, call it: FRENCH GUIANA Saul, airport N 3.62072°W 53.20109° 228 m, 24 May 2006 C. R. Nelson# 8406b; and between Saul and Cayenne from the air 8406c photos: Atomosia robber fly Asilidae. 8406

8407 FRENCH GUIANA Kaw Mountain, Camp Patawa, N 4.54465W 52.15258 177 m, 24-May-2006 C. R. Nelson# 8407 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 1FGPATAWA Camp proprietor Jeannot Cerda ran his mercury vapor 3 lamp setup. Spoke at length with Stefane Attal? of Paris, a serious butterfly amateur. We have collected 5 species of Morpho on this trip. Ran 3 bulb mercury vapor lamp set up from dusk until 10:00 pm. Plecoptera: Perlidae 1; Trichoptera, Homoptera, many Fulgoroidea, mantispidae. 8407

8408 FRENCH GUIANA Kourou, Les Roches, Dreyfuss Tower, N 5.15959W 52.62659 2 m, 25-May-2006 C. R. Nelson# 8408 , Limb Hapairai,

Brice Noonan, 50 1FGPATAWA Kept small piece of Gneiss/granite from point, imagined it was part of a formation shared with Africa in Cote D'Ivoire or Cameroon. Photos Iles du Salut (famous prison islands of Papillon). Cnemidophorus lizards. 8408

8409 FRENCH GUIANA Kourou, Les Roches, sandy beach, N 5.16394W 52.63438 0 m, 25-May-2006 C. R. Nelson# 8409 , Limb Hapairai,

Brice Noonan, 50 1FGxx Photos: Iles du Salut, four eyed fish. four eyed fish. photos: Cicindelidae. beach swept flies. 8409

8410 FRENCH GUIANA Kaw Mountain, Camp Patawa, N 4.54465W 52.15258 177 m, 25-May-2006 C. R. Nelson# 8410 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 1FGPATAWA Camp proprietor Jeannot Cerda ran his mercury vapor 3 lamp setup. Spoke at length with Stefane Attal? of Paris, a serious butterfly amateur. We have collected 5 species of Morpho on this trip. Ran 3 bulb mercury vapor lamp set up from dusk until 10:00 pm. Kept small lateritic stones from area, part of the Guianan shield. Megasoma scarabs, 2 males, 1 large and one small. Sphingidae, Homoptera photos later: Opilionida, Phasmida, Fulgoridae (green, long snout) 8410

8411 CARIBBEAN Martinique, Guadeloupe, Haiti N W aerial m, 27-May-2006 C. R. Nelson# 8411 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 photos scenery
ToussaintOuverture airport,
photos: Mere Poulard crackers from plane. Name altered after tasting them to Merde Poulard naonao ro 8411

8412 USA FLORIDA Dade Co., Miami and Everglades N W aerial m, 28-May-2006 C. R. Nelson# 8412 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 photos: scenery 8412

8413 USA COLORADO: Rocky Mountains near Gunnison? Dillon Reservoir? N W aerial m, 28-May-2006 C. R. Nelson# 8413 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 photos: mountains with snow, Georgetown area; Silverthorne, Dillon Reservoir.
On Delta Airlines flight: Miami, Florida - Salk Lake City, Utah. 8413

8414 USA UTAH: Book Cliffs, Green River, Spanish Fork Canyon mouth, Lincoln Beach, Utah Lake, West side Utah Lake, Kennecott Copper Mine, Bingham, Kearns, Utah N W aerial m, 28-May-2006 C. R. Nelson# 8414 , Limb Hapairai,

Jenny Pramuk, Brice Noonan, Martha Yoke, Tasia Robertson, Travis Moss, Monty Hawkins, Rachel "Shelly" Hart. 50 photos: scenery.
On Delta Airlines flight: Miami, Florida - Salk Lake City, Utah. 8414

8415 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343W 111.64922 elev. 1495 msl, 30-May-2006 C. R. Nelson# 8415 50 photos: skin damage on Riley due to scabies mites from Saul, French Guiana. J. Kaye Nelson held the camera. 8415

8416 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343W 111.64922 elev. 1495 msl, 03-Jun-2006 C. R. Nelson# 8416 50 Amy Leah Nelson held the camera photos: skin damage on Riley from Saul, French Guiana. Now thought to be hookworms, cutaneous larva migrans, Nematoda, several possible genera!

Necator americanus, *Ancylostoma* spp. (*caninum*, *brasiliense*), or *Nippostrongylus brasiliense*. Now on Vermox, hope it kills them. 8416

8417 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343W 111.64922 elev. 1495 msl, 05-Jun-2006 C. R. Nelson# 8417 50 photos of all: Dolichopodidae (vouchers kept) on aspen (*Populus tremuloides*) and dogwood (*Cornus sericea*) leaves; Calliphoridae: *Pollenia* on aspen leaf; Chrysomelidae larvae, probably *Blepharida* on squawbush, *Rhus aromatica*. 8417

8418 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343W 111.64922 elev. 1495 msl, 06-Jun-2006 C. R. Nelson# 8418 50 Photos: My son Jason took pictures of my back, before Ivermectin treatment. Color pattern of skin caused by parasites fully apparent. photos: Chrysomelidae larvae and adults, *Blepharida* on squawbush, *Rhus aromatica*. Vouchers killed in boiled water for preservation and kept in 70% ethanol. 8418

8419 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343W 111.64922 elev. 1495 msl, 09-Jun-2006 C. R. Nelson# 8419 & J. K. Nelson 50 My worm tracks itched much last night, from 11:30 am to 3:00 am, but then I slept comfortably. No itching in the morning. Dermatology appointment 10:00 am with Dr. Bradshaw. Parasite seems to be dying back. Continue with keflex antibiotic for secondary infection, but none apparent. J. Kaye Nelson was the photographer. 7:00 am: photos: Riley's skin parasite 19 hours after last dose of Ivermectin. 8419

8420 USA: UTAH: Kane Co., near borders of Grand Staircase - Escalante National Monument, Deer Springs Ranch, headquarters, N 37.33075W 112.22186 elev. 1898 msl, 12-Jun-2006 C. R. Nelson# 8420 & class, UBEST 50 BDEERCAMP Group for Utah's Biodiversity Experiences for Students and Teachers (UBEST). Adrian Bancroft light trap experiment. 3 UV fluorescent and 3 regular fluorescent. Present: Riley Nelson, Nikki Hanegan, Robert Johnson, Kelley Friden, David Betts, Laura, Julie Tillman, Amber mansius, Carl Shakespeare, Carol Overson, Carleen McNeese, Alan DeMille, Travis Terry, Donna Theobald, Greg Domgaard, Scott Meeker, Adrian Bancroft, Christian Davies, Sarah Morrison Chrysomelidae on *Chrysothamnus nauseosus*. 8420

8421 USA: UTAH: Kane Co., near borders of Grand Staircase - Escalante National Monument, Deer Springs Ranch, knob 1965 m, SE of headquarters, N 37.31527W 112.21378 elev. 1965 msl, 12-Jun-2006 C. R. Nelson# 8421 & class, UBEST 50 BKNOB photos: Pink Cliffs and knob; set up malaise trap on top of knob. Helped teachers with observations near and on knob. I named the knob 1965 m. map sketched in notes. many from UBEST of #8420 Cerambycidae, Chrysomelidae on *Eriogonum alatum*, Asilidae *Holopogon*, Bombyliidae. 8421

8422 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Skutumpah Terrace, knob S of Glendale Bench Road, 1.8 mi W of Johnson Canyon, N 37.26228W 112.39251 elev. 1881 msl, 13-Jun-2006 C. R. Nelson# 8422 & class, UBEST 50 BSKUTTRAP set up malaise trap on knob. Carl's project, method see #8423. BSKUTTRAP is highest knob; BSKUT2 is the second peak: N 37.26329 W 112.39222 elev. 1897 msl. (the lower elevation read higher on the GPS) Riley Nelson, Rober Johnson, Carl Shakespear, Julie, Laura, Amber mansius. photos: scenery, nighthawks & eggs.
Asilidae: *Ospriocerus*, *Efferia*, photos: Genus? *Negasilus*? 8422

8423 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Skutumpah Road, high knob just north of Bull Valley Gorge, N 37.46931W 112.10529 elev. 1911 msl, 13-Jun-2006 C. R. Nelson# 8423 & class, UBEST 50 BBULLTOP Carl's project, compass point transect/quadrats 10m x 10 m, skip top 10m then quadrat then skip 10m, 3 quadrats on each cardinal compass point. Riley Nelson, Robert Johnson, Carl Shakespear, Laura, Julie, Amber. photos: scenery, Powell Point, Plants: *Hymenoxys*, *Physalia*, *Hymenopappus*, *Pedicularis*.
Efferia benedicti, Buprestidae small. 8423

8424 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Upper Calf Creek Falls Trail, near Hogback N 37.85939W 111.43824 elev. 1960 m, 14-Jun-2006 C. R. Nelson# 8424 & class, UBEST 50 UPCALFTRHD photos: scenery, people swimming in pool above Upper Calf Creek Falls. Also photos of ravens and people at the top of the Hogback above Calf Creek on Highway 12. Asilidae: *Efferia benedicti*, *Efferia* near *zonata*, *Laphystia*, *Holopogon*; photos: Histeridae, on dead whipsnake *Masticophis taeniatus*; Scarabaeidae - *elongata* 8424

8425 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, potholes at head of Calf Creek, N 37.86683 W 111.46209 elev. 1882 m, 14-Jun-2006 C. R. Nelson# 8425 & class, UBEST 50 BCALFT2 Set up 3 malaise traps with 2 heads to segregate catch flying up drainage from those flying down drainage. It was a rather difficult engineering operation to anchor the traps on the slickrock sufficiently firm to withstand the strong winds. photos: scenery, people. GPS of each trap, starting up drainage working down: BCALFT1: N 37.86704 W 111.46226 elev. 1882 m; BCALFT2: N 37.86683 W 111.46209 elev. 1876 m; BCALFT3: N 37.86655 W 111.46168 elev. 1872 m.

Riley Nelson, Nikki Hanegan, Laura Price, Julie Gillman, Greg Domgaard, Scott Meeker, Carl Shakespear; Alan DeMille. 8425

8426 USA: UTAH: Kane Co., near borders of Grand Staircase - Escalante National Monument, Deer Springs Ranch, headquarters, N 37.33075W 112.22186 elev. 1898 msl,

15-Jun-2006 C. R. Nelson# 8426 & class, UBEST 50 BDEERCAMP UBEST: helped road/plant group, snakefly group, UV light group, juniper spacing group, grasshopper flight group.
8426

8427 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Sheep Creek, jct Willis Creek, N 37.47270 W 112.06504 elev. 1752 m, 15-Jun-2006 C. R. Nelson# 8427 & C. Shakespear. 50 BWILLIS photo: petroglyphs and pictographs, scenery. especially impressive was the blue snake drawing!

BBLUESNAKE (blue snake art panel) N 37.47270 W 112.06504 elev. 1752 m.
BWILLIS was Sheep Creek at jct Willis Creek. 8427

8428 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Bull Valley Gorge, N 37.47183 W 112.11002 elev. 1850 m, 15-Jun-2006 C. R. Nelson# 8428 & class, UBEST 50 BBULLmap photos: slot canyon, people, wrecked truck (1948-1951) and motorcycle, BBULLmap was taken from GPS map, not a reading, Silphidae with mites; collected mealybugs that I photographed earlier in the week on Artemesia tridentata, 8428

8429 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Skutumpah Road, high knob just North of Bull Valley Gorge, N 37.46931 W 112.10529 elev. 1911 m, 15-Jun-2006 C. R. Nelson# 8429 & C. Shakespear & D. Betts. 50 BBULLmap measured slopes of the sites used CRN #8423 with clinometer, 8429

8430 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Skutumpah Road, high knob just north of Bull Valley Gorge, N 37.46931W 112.10529 elev. 1911 msl, 16-Jun-2006 C. R. Nelson# 8430 & C. Shakespear & S. Meeker. 50 BBULLTOP Emptied and reset malaise trap, last done 13 June 2006, CRN#8422. Field labels say 12 June, correct this! Used clinometer to measure slopes of sites of CRN#8422. eggs of caprimulgids: mottled eggs, 4 m from nearest tree, bearing 8 degrees, parents gray; pink eggs, 4 m from nearest tree, bearing 30 degrees, parent brown. 8430

8431 USA: UTAH: Washington Co. Zion National Park, Temple of Sinawava Riverside Trail (formerly Gateway to the Narrows Trail), N 37.29137W 112.94701 elev. 1400 msl, 16-Jun-2006 C. R. Nelson# 8431 & students 50 none, from GPS map photos: scenery

Nikki Hanegan, Julie Gillman, Amber mansius, David Betts, Laura Price.
Also photographed bighorn sheep earlier in the day between the east entrance and the tunnel, 8431

8432 USA: UTAH: Washington Co. Zion National Park, Big Bend, Great White Throne viewpoint, N 37.27387 W 112.94567 elev. 1450 msl, 16-Jun-2006 C. R. Nelson# 8432 &

students 50 none, from GPS map photos: scenery, Great White Throne, base obscured by Organ; Cable Mountain.

Nikki Hanegan, Julie Gillman, Amber mansius, David Betts, Laura Price. 8432

8433 USA: UTAH: Kane Co., near borders of Grand Staircase - Escalante National Monument, Deer Springs Ranch, upper cabins, cabin 2, N 37.40380W 112.27145 elev. 2166 msl, 17-18 June 2006 C. R. Nelson# 8433 & class, UBEST 50 BCABIN2 view of open pasture and Pink Cliffs. photos: Riley's skin parasite healing well; Nikki Hanegan held the camera. 8433

8434 USA: UTAH: Garfield Co. Bryce Canyon National Park, Sunrise to Sunset Loop, Queens Garden Trail, N 37.63192W 112.16529 elev. 2420 msl, 17-Jun-2006 C. R. Nelson# 8434 & class, UBEST 50 BBRYCSUNRI photos: scenery
Nikki Hanegan, Julie Gillman, Amber mansius, David Betts, Laura Price. photos: columbine, purple Aquilegia sp.
saw birds: nuthatch, stellers jay, raven, turkey vulture, violet green swallow, white throated swift, lazuli bunting?, yellow rumped warbler?, western tanager, black capped thing with needle beak... 8434

8435 USA: UTAH: Garfield Co. Bryce Canyon National Park, Inspiration Point, N 37.61356 W 112.16891 elev. 2527 msl, 17-Jun-2006 C. R. Nelson# 8435 & class, UBEST 50 BBINSP photos: panorama
Nikki Hanegan, Julie Gillman, Amber mansius, David Betts, Laura Price. 8435

8436 USA: UTAH: Garfield Co. Bryce Canyon National Park, Yovimpa Point, N 37.47241 W 112.24015 elev. 2778 m, 17-Jun-2006 C. R. Nelson# 8436 & class, UBEST 50 BYOVIMPA photos: panorama, Mollies Nipple.
Nikki Hanegan, Julie Gillman, Amber mansius, David Betts, Laura Price. 8436

8437 USA: UTAH: Garfield Co. Bryce Canyon National Park, Natural Bridge, N 37.53162 W 112.25993 elev. 2700 m, 17-Jun-2006 C. R. Nelson# 8437 & class, UBEST 50 from gps map photos: Natural Bridge, Nelson self-portrait.
Nikki Hanegan, Julie Gillman, Amber mansius, David Betts, Laura Price. 8437

8438 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Lick Wash, Skutumpah Road, N 37.36452 W 112.18845 elev. 1913 m, 19-Jun-2006 C. R. Nelson# 8438 & class, UBEST 50 BLICKPARK Unlike pairs of 3 coarse and 3 fine malaise traps in pairs set centered on one 9 foot T fence post in each of sagebrush community on flats and in pinyon/juniper on mountainside. Trap pairs sets each 50 m apart; 5 yellow pans surrounding each trap pair.

map showing trap arrangement in drawing.

Lowest numbered traps nearest parking lot.

BLICF1 (B for uBest, LIC for Lick, F for Flats, Trap 1)

N 37.36641 W 112.18986 elev. 1903 m; BLICF2 N 37.36687 W 112.18961 elev. 1904 m;

BLICF3 N 37.36715 W 112.19012 elev. 1905 m; BLICM1 (M for Mountain) N 37.36200 W

112.18877 elev. 1930 m; BLICM2 N 37.36164 W 112.18900 elev. 1935 m; BLICM3 N

37.36111 W 112.18921 elev. 1945 m.

Flats traps set on a 50 m triangle with 1 and 3 about 75 m apart with coarse or fine traps set randomized on NS axis.

Mountain traps set on NS transect randomized with coarse or fine trap set on NS axis.

Participants: Riley Nelson, Nikki Hanegan, Laura Price, David Betts, Julie Gillman, Amber mansius, Realaine Brinkerhoff, Tim Lineback, Bob Louder, Ed Attryde, Adam Mitchell, Josh , Reva Beth Russell, Yevgeny Pevzner, Karen Cloud, Barry Bolduc, Lynn Merrill, Tom Felkins, Anne Lewis, Donna Hrynshyn, Kristen Ogden, Julie Christie. 8438

8439 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, potholes at head of Calf Creek, N 37.86683 W 111.46209 elev. 1882 m, 20-Jun-2006 C. R. Nelson#

8439 & class, UBEST 50 BCALFT2 emptied and took down 3 bidirectional malaise traps.

Traps 2 and 3 had fallen down, but still had a good trap catch. Most tupperware trays floating in the pools had dried out. Only one dytiscid beetle was caught. See field label.

Photos: people and scenery. mostly near brink of Upper Calf Creek Falls (8439.5) and at the petroglyphs in a small cave near the last upstream water (8439.6). The potholes had dried much (perhaps 15 vertical cm) during the week.

Those walking were: Riley Nelson, Kristen Ogden, Julie Christie, Josh Stowers, David Betts, and Realaine Brinkerhoff.

While we worked here Nikki and the class worked First 100 samples nine samples (right, left, middle) at four sites spaced by 100m on Calf Creek, starting just below the swimming hole in the campground, total 36 samples.

Petroglyphs in cave: BCALFCAVE N 37.86436 W 111.45977, elev. 1861 m. 8439

8440 USA: UTAH: Kane Co., near borders of Grand Staircase - Escalante National

Monument, Deer Springs Ranch, knob 1965 m, SE of headquarters, N 37.31527W

112.21378 elev. 1965 msl, 21-Jun-2006 C. R. Nelson# 8440 50 BKNOB emptied and took down malaise trap. It had fallen so the catch was sparse. 8440

8441 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Lick Wash,

Skutumpah Road, N 37.36452 W 112.18845 elev. 1913 m, 21-Jun-2006 C. R. Nelson#

8441 & class, UBEST 50 BLICKPARK nested quadrats on flats and hillside. I didn't help with those on the hillside because I headed home to Provo to ready to leave for Mongolia. I had van problems but made it home by dark. BLICKPARK is the parking lot at the top of the Lick Wash Narrows. 8441

8442 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Skutumpah Terrace, knob S of Glendale Bench Road, 1.8 mi W of Johnson Canyon, N 37.26228W 112.39251 elev. 1881 msl, 22-Jun-2006 C. R. Nelson# 8442 & class, UBEST 50 BSKUTTRAP Emptied and took down malaise trap on knob. done by Robert Johnson, need to get the date. Riley was not present! See CRN #8422. 8442

8443 MONGOLIA: Tov Aimag: xx Soum, Ulaan Baatar, apartment downtown, N 47.91695 E 106.90747 elev. 1305 m, 25-Jun-2006 C. R. Nelson# 8443 & SRP. 51 1UBAPT2006 photos: Selenge River Project (SRP) group and packing. 8443

8444 MONGOLIA: Tov Aimag: ZaaMar Soum, 30.6 km SW of Zaamar, N 48.09219 E 104.39465 elev. 1066 m, 26-Jun-2006 C. R. Nelson# 8444 & SRP. 51 1CAMP1 first camp, dry, water from well. photos.

No SRP number Laphria? black; many dry land mosquitoes, Scarabaeidae large. 8444

8445 MONGOLIA: Bulgan Aimag: xx Soum, 67.4 km SE of Orhan, across river, W of Zaamar, N 48.29260 E 104.23833 elev. 1018 m, 26-Jun-2006 C. R. Nelson# 8445 & SRP. 51 165 flat tire.

No SRP number

corrected SW to SE after consultation with Tristan McKnight while labeling specimens in Sep 2010 Asilidae 3 spp., Meloidae 2 spp., red clay, Micropezidae, Tenebrionidae. 8445

8446 MONGOLIA: xx Aimag: xx Soum, 12.5 km S of Orhon N 48.53962 E 103.60946 elev. 1133 m, 26-Jun-2006 C. R. Nelson# 8446 & SRP. 51 168 lunch site.

No SRP number

also 169 is Orhan, river, no stop. Bibionidae, Tipulidae, sidehill with elm trees 8446

8447 MONGOLIA: xx Aimag: xx Soum, 2 km SW of Unit N 49.10458 E 102.79508 elev. 1242 m, 26-Jun-2006 C. R. Nelson# 8447 & SRP. 51 172 Chance roadside meeting of Taimen Research Team,

photos: David Gilroy, Handaa the guide, Keith the pilot. group.

No SRP number

photos: Stenopogon 8447

8448 MONGOLIA: xx Aimag: xx Soum, Teel Gol, 19 km NW of Hutag Ondor, N 49.49619 E 102.49310 elev. 1068 m, 26-Jun-2006 C. R. Nelson# 8448 & SRP. 51 173 Camp 2.

SRP number: 2006062601

photos: caddis fly and viper 8448

8449 MONGOLIA: xx Aimag: xx Soum, steppe, 43 km E of Ih Uul town, N 49.53542 E 102.04176 elev. 1189 m, 27-Jun-2006 C. R. Nelson# 8449 & SRP. 51 175

SRP number: none

photos: camel with twins, large moving caravan, 8449

8450 MONGOLIA: xx Aimag: xx Soum, roadside, 18.1 km E of Ih Uul town, N 49.47592 E 101.71304 elev. 1318 m, 27-Jun-2006 C. R. Nelson# 8450 & SRP. 51 176 photos: view of Ih Uul (Big Mountain, also spelled Ikh Uul), prominent sloping peak.

SRP number: none

8450

8451 MONGOLIA: xx Aimag: xx Soum, steppe, 15.2 km SE of Tosontsengel, N 49.41947 E 101.08514 elev. 1140 m, 27-Jun-2006 C. R. Nelson# 8451 & SRP. 51 177 dry hillside, purple thyme, wide open Selenge Valley E of Tosontsengel.

SRP number: none

Stenopogon 8451

8452 MONGOLIA: xx Aimag: xx Soum, high elevation steppe, 78 km W of Ih Uul town, N 49.57659 E 100.46661 elev. 1552 m, 27-Jun-2006 C. R. Nelson# 8452 & SRP. 51 178 high altitude rest stop.

SRP number: none

photos: flowers 8452

8453 MONGOLIA: Hovsgol Aimag: Moron Soum, Moron, N 49.68008 E 100.11504, elev. 1351 m, 27-Jun-2006 C. R. Nelson# 8453 & SRP. 51 058 of 2005 photos: welding and cart pulling motorcycle.

SRP number: none

8453

8454 MONGOLIA: Hovsgol Aimag: xx Soum, steppe, 25.8 km NW of Moron, N 49.77458 E 99.88567, elev. 1546 m, 27-Jun-2006 C. R. Nelson# 8454 & SRP. 51 180

SRP number: none

photos: vultures with Jon Gelhaus 8454

8455 MONGOLIA: Hovsgol Aimag: xx Soum, steppe, 46.5 km NW of Moron, N 49.93311 E 99.71667, elev. 1657 m, 27-Jun-2006 C. R. Nelson# 8455 & SRP. 51 181 photos: steppe NW of Moron

SRP number: none

8455

8456 MONGOLIA: Hovsgol Aimag: Sumber Soum?, high steppe 7 km SE of Sumber, Over Gylandin Gol, N 50.12843 E 99.60763, elev. 1980 m, 27-Jun-2006 C. R. Nelson# 8456 & SRP. 51 182 Camp 3.

set up camp in the rain. Rain pools on frost heave, no running water.

SRP number: none

Tipulidae 8456

8457 MONGOLIA: Hovsgol Aimag: Sumber Soum?, Over Gylandin Gol, 20 km NW of Sumber, N 50.25683 E 99.28613, elev. 1790 m, 28-Jun-2006 C. R. Nelson# 8457 & SRP.

51 183 photos: scenery

SRP number: 2006062801

no specimens with CRN 8457

8458 MONGOLIA: Hovsgol Aimag: Bayanzurkh or Ulaan Uul Soum?, Beltes Gol, 22 km NW of Sumber, N 50.31066 E 99.32199, elev. 1797 m, 28-Jun-2006 C. R. Nelson# 8458 & SRP. 51 184 field labels say 37 km NW, correct to 22 km!

SRP number: 2006062802

Lasiopogon, Machimus, Chrysomelidae, Carabidae 8458

8459 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, Beltes Gol, ice, 25.6 km NW of Sumber, N 50.35313 E 99.32392, elev. 1839 m, 28-Jun-2006 C. R. Nelson# 8459 & SRP.

51 185 photos: ice and people

SRP number: none Therevidae, No capniidae, rain. 8459

8460 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum?, stream, 33.8 km NE of Bayanzurkh, N 50.42996 E 99.21727, elev. 2086 m, 28-Jun-2006 C. R. Nelson# 8460 & SRP. 51 186 Camp 4.

photos: scenery and people

SRP number: 2006062803 Nemouridae, Tipulidae, Syrphidae, Empididae

photos: flowers, scenery, people.

{photo voucher: Nemoura sp. female, C. R. Nelson, curated 5 March 2013} 8460

8461 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum?, hillside bog above stream, 33.8 km NE of Bayanzurkh, N 50.42996 E 99.21727, elev. 2086 m, 29-Jun-2006 C. R. Nelson# 8461 & SRP. 51 186 Camp 4.

photos: scenery and people

SRP number: 2006062901 Mycetophilidae 8461

8462 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum?, Toomin Davaa Pass, N xx E xx, elev. xx m, 29-Jun-2006 C. R. Nelson# 8462 & SRP. 51 186 First look at the Darhad

SRP number: none 8462

8463 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, Uliin Davaa Pass, (also spelled Oliyn Davaa), N 50.57745 E 99.14295, elev. 2111 m, 29-Jun-2006 C. R. Nelson# 8463 & SRP. 51 187 photos: ovoo (shrine), people, and scenery.

SRP number: none 8463

8464 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, headwater stream with ice, 9.7 km SW of Ulaan Uul N 50.60152 E 99.16776, elev. 1828 m, 29-Jun-2006 C. R. Nelson# 8464 & SRP. 51 188 Photos: scenery and people on ice field.

SRP number: 2006062902

also gps of 189, place? N 50.61852 W 99.12076 elev. 1761 m. (this seems to be Gunain Gol, like for 8465) Perlodidae nymphs, Isoperla nymphs 8464

8465 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, Gunain Gol, 12 km SW of Ulaan Uul N 50.61826 E 99.12094, elev. 1761 m, 29-Jun-2006 C. R. Nelson# 8465 & SRP. 51 190 SRP number: 2006062903

Chloroperlidae adults, 3 spp?, photos: Capniidae female with eggs; Isoperla skin, Photos: Perlodidae, Skwala? 1 f, & others, mites!, shot out of sequence at camp 6 (NO, shot at camp 5 bagtagin gol). Photos: small perlodid with bad wing. Bibionidae, Tipulidae, Rhagionidae. Male of Diura nanseni, inferred from work on 7 March 2017. Is this the Skwala? 8465

8466 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, Ulaan Uul town, N 50.68000 E 99.22654, elev. 1688 m, 29-Jun-2006 C. R. Nelson# 8466 & SRP. 51 191 Ulaan Photos: town and scenery.

SRP number: none.

8466

8467 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, right fork road, N of Ulaan Uul, stream dry, N 50.76559 E 99.29676, elev. 1624 m, 29-Jun-2006 C. R. Nelson# 8467 & SRP. 51 191 Photos: panorama of Horidol Saridag Mountains. Also spelled Khoridol

SRP number: none.

8467

8468 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, steppe, 10.9 km NE of Ulaan Uul, N 50.77070 E 99.28346, elev. 1639 m, 29-Jun-2006 C. R. Nelson# 8468 & SRP. 51 192 Photos: camels

SRP number: none.

8468

8469 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, Bagtagin Gol at new bridge, 13.5 km N of Ulaan Uul, N 50.79956 E 99.26016, elev. 1624 m, 29-Jun-2006 C. R. Nelson# 8469 &

SRP. 51 193 new bridge, bad starter on green trouble van.

SRP number: none.

large Mayflies; *Nephrotoma erebus*. 8469

8470 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, Bagtagin Gol, 15 km NNE of Ulaan Uul, N 50.80856 E 99.31512, elev. 1619 m, 29-Jun-2006 C. R. Nelson# 8470 & SRP. 51 194 CAMP Camp 5.

photos: panorama, night and morning. scenery, people.

main site for river crew, I didn't go there.

SRP number: 2006062904.

photos: Tipulidae, *Tipula* (*Vestiplex*) mating pair. 8470

8471 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, big spring & bogs, 800 m from Bagtagin Gol, 17 km NNE of Ulaan Uul, N 50.81265 E 99.33803, elev. 1605 m, 30-Jun-2006 C. R. Nelson# 8471 & SRP. 51 194 SPR SRP number: 2006063001.

magnificent springs! photos: Nemouridae, Isoperla, Tipulidae, Ptychopteridae, orchid;

photos: Stenopogon, out of sequence taken 1 July 2006 at camp 6, Soyo Brigade. 8471

8472 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, family ger, S of Tsagaan Nuur town, S of Camp 6, 25 km N of Ulaan Uul town, N 50.9 E 99.3, elev. 1610 m, 30-Jun-2006 C. R. Nelson# 8472 & SRP. 51 none, approximated Visit ger for yogurt. Photos: people, 9 time champion horse, gave plastic bug gifts. Much yogurt.

SRP number: none.

Salt Lakes had small ducks, with black cap or eye stripe.

South of Lunch stop. photos: people in ger. 8472

8473 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, Soyo Brigade, springs of Shishged Gol, 36 km NNE of Ulaan Uul town, N 50.99171 E 99.35400, elev. 1584 m, 30-Jun-2006 C. R. Nelson# 8473 & SRP. 51 194 Started as a lunch stop, evolved into a camping spot!

Camp 6.

SRP number: 2006063002.

Whoops! I May have put photo vouchers of chloroperlid and nemourid from Hugin Gol, CRN#8475 in with photo vouchers from here (CRN #8473). Check and rectify if possible! I

do have other specimens from 8475 to compare, if they are different. stonefly heaven:

photos: Nemouridae, 2 spp, {Julie Fazio microscope photo voucher of *Amphinemura borealis*, curated by CRN 5 March 2013}, Perlodidae 2spp, Taeniopterygidae mostly

females, Chloroperlidae 1 tiny specimen at first, sort carefully then more later; Isoperla, shot out of sequence,

Photos: Ptychopteridae, many more photos of things on bark when a cold front hit. photos:

Chloroperlidae, Tipulidae, Phalacroceras and Dicranota. 8473

8473.5 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, Shishged Gol at bridge, 48.8 km N of Ulaan Uul town, N 51.08630 E 99.48693, elev. 1562 m, 30-Jun-2006 C. R. Nelson# 8473.5 & SRP. 51 195

SRP number: 2006063003. Hydropsychidae, Tipulidae, Scarabaeidae on willows, Empididae

photos: trichoptera adult 8473.5

8474 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, Hugin Gol, tourist camp, 43.6 km N of Ulaan Uul town, N 51.07047 E 99.28660, elev. 1566 m, 01-Jul-2006 C. R. Nelson# 8474 & SRP. 51 196 photos: big river.

SRP number: none. saw "red headed" merganser. 8474

8475 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, Hugin Gol, toll bridge, 46.8km N of Ulaan Uul town, N 51.09845 E 99.32051, elev. 1557 m, 01-Jul-2006 C. R. Nelson# 8475 & SRP. 51 197 CLIFF photos: scenery and people. I mainly collected in a patch of Potentilla protected from goats near the cliff. I used this as my gps site. I also took a gps reading from the bridge: 197BRIDGE: N 51.09615 E 99.31881 elev. 1550 m.

SRP number: 2006070101. photos: Chloroperlidae, Nemouridae. scenery and people, Dolichopodidae, Mycetophilidae, Empididae, Hydropsychidae, Limnephilidae large sort and find head!, Curculionidae 2 spp, Chrysomelidae, Tipulidae, Syrphidae. gray and black wagtail bird, identify it. photos: cranes in flight. Phryganeidae large colorful to Morse, Perlodidae. 8475

8476 MONGOLIA: Hovsgol Aimag: Renchinlumbe Soum, Haraa Us Springs, above Jargalant Gol, near Renchinlumbe town, N 51.07896 E 99.70857, elev. 1580 m, 02-Jul-2006 C. R. Nelson# 8476 & SRP. 51 197 SPR CAMP 7. GPS for camp is 197: N 51.07925 E 99.70960 elev. 1601 m.

Photos: scenery

SRP number: 2006070102?. photos: Chloroperlidae, Nemouridae. Leuctridae? photos: Perlodidae, Isoperla. Taeniopterygidae. Mycetophilidae, Chrysomelidae. 8476

8477 MONGOLIA: Hovsgol Aimag: Renchinlumbe Soum, spring run river of Haraa Us Springs, above Jargalant Gol, near Renchinlumbe town, N 51.08026 E 99.70559, elev. 1586 m, 02-Jul-2006 C. R. Nelson# 8477 & SRP. 51 197 RIV Photos: scenery

SRP number: none.

Us could be spelled Uvs, check with a Mongolian, I think Uvs means water or spring.

Nemouridae 2 spp, Perlodidae Isoperla short winged male, Chloroperlidae 2 spp. 8477

8478 MONGOLIA: Hovsgol Aimag: Renchinlumbe Soum, Arsayn Gol, 16.2 km N of Renchinlumbe town, N 51.25356 E 99.66687, elev. 1565 m, 02-Jul-2006 C. R. Nelson# 8478 & SRP. 51 198 open flood plain, clear medium river cobble boulder bottom. Lunch spot.

SRP number: 2006070201.

Nemouridae, photos: dead Capniidae, Isocapnia 1 male, also 1 female not photographed. photo: dead Chloroperlidae and Chironomidae. Taeniopterygidae. Asilidae Lasiopogon and other. photos: Curculionidae. Symphyta, photos: Cerambycidae Saperda. 8478

8479 MONGOLIA: Hovsgol Aimag: Renchinlumbe Soum, potholes and sand blowout, 18.4 km N of Renchinlumbe town, N 51.27212 E 99.71132, elev. 1577 m, 02-Jul-2006 C. R. Nelson# 8479 & SRP. 51 199 SRP number: 2006070202.

Tipulidae, Cicindelidae, Corduliidae, Therevidae. Photos: Limnephilidae. 8479

8480 MONGOLIA: Hovsgol Aimag: Renchinlumbe Soum, Hodon Gol, 25.2 km N of Renchinlumbe, river crossing N 51.33081 E 99.73785, elev. 1571 m, 02-Jul-2006 C. R. Nelson# 8480 & SRP. 51 200 photos: scenery, people, working at getting trucks out of sandy river crossing. Nice cooperation with five horsemen.

SRP number: none.

8480

8481 MONGOLIA: Hovsgol Aimag: Renchinlumbe Soum, Jarin Gol, 32.8 km N of Renchinlumbe, N 51.39852 E 99.75011, elev. 1575 m, 03-Jul-2006 C. R. Nelson# 8481 & SRP. 51 201 Camp 8

SRP number: 2006070203.

photos: Capniidae, 2 or 3 spp.; photos: Perlodidae, Skwala? 2 spp.. Taeniopterygidae; photo, later, Buprestidae on larch. 8481

8482 MONGOLIA: Hovsgol Aimag: Renchinlumbe Soum, Shargin Gol, 36.2 km N of Renchinlumbe, river crossing, (also spelled Chargyn Gol), N 51.43348 E 99.63986, elev. 1560 m, 03-Jul-2006 C. R. Nelson# 8482 & SRP. 51 202 photos: scenery, truck pulling river crossing.

SRP number: none.

8482

8483 MONGOLIA: Hovsgol Aimag: Renchinlumbe Soum, Shargin Gol, 39.7 km NW of Renchinlumbe, ferry, (also spelled Chargyn Gol), N 51.38718 E 99.50551, elev. 1557 m, 03-Jul-2006 C. R. Nelson# 8483 & SRP. 51 203 FERRY photos: ferry.

SRP number: none.

8483

8484 MONGOLIA: Hovsgol Aimag: Renchinlumbe Soum, Targan Nuur, Targan Bridge, 39.7 km NW of Renchinlumbe town, N 51.42916 E 99.42128, elev. 1538 m, 03-Jul-2006 C. R. Nelson# 8484 & SRP. 51 203 SRP number: 2006070301.

photos: Sialis, abundant, some in 95% ethanol; Stenopogon mating pair. photos: Tipulidae
8484

8485 MONGOLIA: Hovsgol Aimag: Tsagaan Nuur Soum, stream, 16 km NW of Tsagaan Nuur town, N 51.46205 E 99.19994, elev. 1607 m, 03-Jul-2006 C. R. Nelson# 8485 & SRP. 51 204 Camp 9.

SRP number: 2006070302.

Individual photos taken: Suvdaa, Oyuna, Nara, Gamba, Baga, Chinguu, Tuya, Bayara, Gerla, Botor, John Morse, Riley, Phillip, Moogi, Nasa, Virginia, Jon, Sigita, Ungaa, Namhaidorj. Nemouridae, especially on larch far from stream; photos: Tipulidae, Pedicia adult and larva; Photos: Perlidae, golden. Perlodidae. 8485

8486 MONGOLIA: Hovsgol Aimag: Tsagaan Nuur Soum, plain, 11.4 km NW of Tsagaan Nuur town, view to Tsagaan Nuur and N Ulaan Taiga Mountains, on plain NW of ferry across Shishged Gol, N 51.44292 E 99.26802, elev. 1638 m, 04-Jul-2006 C. R. Nelson# 8486 & SRP. 51 205 Photos: high plains view of Tsagaan Nuur Lake and N to mountains, Ulaan Taiga?

SRP number: none.

8486

8487 MONGOLIA: Hovsgol Aimag: Tsagaan Nuur Soum, Shishged Gol, ferry outlet of Tsagaan Nuur Lake, 7.4 km NW of Tsagaan Nuur town, N 51.41007 E 99.29314, elev. 1549 m, 04-Jul-2006 C. R. Nelson# 8487 & SRP. 51 206 photos: building ferry ramp, military. SRP number: 2006070401.

photos: many insects during wait: Hydropsychidae, Limnephiliae, Goeridae (bad photos), Tipulidae, Asilidae, Sialidae, Leptoceridae Ceraclea 8487

8488 MONGOLIA: Hovsgol Aimag: Tsagaan Nuur Soum, plain, 3.7 km NW of Tsagaan Nuur town, overlooking Tsagaan Nuur Lake, N 51.38608 E 99.33212, elev. 1578 m, 04-Jul-2006 C. R. Nelson# 8488 & SRP. 51 207 photos: scenery and people.

SRP number: none.

8488

8489 MONGOLIA: Hovsgol Aimag: Tsagaan Nuur Soum, Tsagaan Nuur town, N 51.35553 E 99.35437, elev. 1552 m, 04-Jul-2006 C. R. Nelson# 8489 & SRP. 51 208 TSAGAA photos: store, bought blue ribbon fabric.

SRP number: none.

8489

8490 MONGOLIA: Hovsgol Aimag: Tsagaan Nuur Soum, pass, davaa, 4.6 km S of Tsagaan Nuur town, N 51.31429 E 99.35413, elev. 1621 m, 04-Jul-2006 C. R. Nelson# 8490 & SRP.

51 209 photos: Tsagaan Nuur town and lake. Ovoo (shrine)

SRP number: none.

8490

8491 MONGOLIA: Hovsgol Aimag: Tsagaan Nuur Soum, lake, 14 km S of Tsagaan Nuur town, N 51.23096 E 99.38802, elev. 1555 m, 04-Jul-2006 C. R. Nelson# 8491 & SRP. 51

210 photos: scenery at lunch stop.

SRP number: 2006070402.

8491

8492 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, Hugin Gol, toll bridge, 46 km N of Ulaan Uul town, N 51.09292 E 99.31601, elev. 1551 m, 04-Jul-2006 C. R. Nelson# 8492 &

SRP. 51 211 gps from 100 m SE of bridge. All vehicles crossed safely. \$5.00 per vehicle toll.

On our way out the master wouldn't let the 66 truck cross, it was too big. No problems on way back.

SRP number: none.

8492

8493 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, 38 km N of Ulaan Uul town, steppe and view to east, N 51.02784 E 99.25977, elev. 1588 m, 04-Jul-2006 C. R. Nelson# 8493 &

SRP. 51 212 photos: view across steppe to the Horidol Saridag Mountains and Moogi on the jeep roof.

SRP number: none.

8493

8494 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, 33 km N of Ulaan Uul town, steppe and view to east, N 50.97438 E 99.23045, elev. 1606 m, 04-Jul-2006 C. R. Nelson# 8494 &

SRP. 51 213 photos: camels in view across steppe to the Horidol Saridag Mountains.

SRP number: none.

8494

8495 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, 16.5 km N of Ulaan Uul town, steppe and view to east, N 50.82180 E 99.29495, elev. 1670 m, 04-Jul-2006 C. R. Nelson# 8495 &

SRP. 51 214 photos: view across steppe to the Horidol Saridag Mountains from davaa (pass).

SRP number: none.

8495

8496 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, Gunain Gol, 11 km N of Ulaan Uul town, N 50.77566 E 99.18967, elev. 1624 m, 04-Jul-2006 C. R. Nelson# 8496 & SRP. 51 215 Camp 10.

photos: yaks from tent. scenery.

SRP number: 2006070403.

8496

8497 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, Ulaan Uul town at gas station, N 50.64074 E 99.21361, elev. 1729 m, 05-Jul-2006 C. R. Nelson# 8497 & SRP. 51 216 ULAAN photos: buildings and people. United Nations Development Project leader, Tumuur Sogt.

SRP number: none.

8497

8498 MONGOLIA: Hovsgol Aimag: Ulaan Uul Soum, 4.5 km S of Ulaan Uul town, N 50.64074 E 99.21360, elev. 1732 m, 05-Jul-2006 C. R. Nelson# 8498 & SRP. 51 217 Lunch stop.

SRP number: none.

Scarabaeidae; Bombyliidae 8498

8499 MONGOLIA: Hovsgol Aimag: xx Soum, 24.5 km S of Ulaan Uul town, N 50.46571 E 99.14803, elev. 1992 m, 05-Jul-2006 C. R. Nelson# 8499 & SRP. 51 218 asked directions to Bayanzurkh

SRP number: none.

8499

8500 MONGOLIA: Hovsgol Aimag: xx Soum, pass, 32 km NE of Bayanzurkh, N 50.43892 E 99.15723, elev. 2177 m, 05-Jul-2006 C. R. Nelson# 8500 & SRP. 51 219 Met woman grass genetics university teacher of some of the lady researchers, Tumur Baatar, on a pass.

Photos: calves, student researchers and teacher.

SRP number: none.

8500

8501 MONGOLIA: Hovsgol Aimag: Bayanzurkh Soum, Beltes Gol River "road", start 10 km NE of Bayanzurkh, N 50.21920 E 99.09978, elev. 1698 m, 05-Jul-2006 C. R. Nelson# 8501 & SRP. 51 231 Used gps 231 as midpoint for whole stretch. Rainstorm and horrendous river crossings. Each documented with a GPS reading. This trip started as a short cut from Ulaan Uul to Bayanzurkh. We survived.

SRP number: none.

220: stuck, N 50.41179 E 99.08429 elev. 1985 m.
 221: red granite "stream", N 50.33092 E 99.08966 elev. 1909 m.
 222: buildings "town", N 50.32198 E 99.15027 elev. 1876 m.
 223: flat tire N 50.28344 E 99.19389 elev. 1790 m.
 224: Beltes Gol, followed downstream N 50.26565 E 99.21636 elev. 1766 m.
 225: more Beltes N 50.24107 E 99.17611 elev. 1749 m.
 226: Beltes hillside road cut N 50.24075 E 99.16535 elev. 1740m.
 227: boulder field N 50.23706 E 99.14931 elev. 1750 m.
 1 (first river crossing) 228: river crossing now on south N 50.23385 E 99.14102 elev. 1726 m.
 2 229: crossing, now on north N 50.22715 E 99.13741 elev. 1719 m.
 3 230: on south, N 50.22030 E 99.12796 elev. 1710 m.
 4 231: north, found chloroperlid, 10 km from Bayanzurkh, N 50.21920 E 99.09978 elev. 1698 m.
 5 232: south, N 50.21442 E 99.09286 elev. 1687 m.
 6 233: north, N 50.20876 E 99.08979 elev. 1680 m.
 7 234: south, Jon caught chloroperlids, N 50.20351 E 99.08748 elev. 1677 m.
 8 235: north, N 50.20103 E 99.08609 elev. 1668 m.
 9 236: south, N 50.20302 E 99.07735 elev. 1657 m.
 10 237: north, N 50.20293 E 99.07647 elev. 1658 m.
 11 238: south, N 50.19416 E 99.06773 elev. 1650 m.
 12 239: north, N 50.19210 E 99.05324 elev. 1641 m.
 13 240: south, N 50.19682 E 99.04206 elev. 1638 m.
 14 241: north, N 50.19364 E 99.03540 elev. 1635 m.
 15 242: south, N 50.19759 E 99.03433 elev. 1592 m.
 16 243: north, N 50.19069 E 99.02266 elev. 1590 m.
 17 244: south, N 50.18726 E 99.00425 elev. 1567 m.
 18 245: north, N 50.18742 E 99.00027 elev. 1565 m.
 End 246: Bayanzurkh Community Center, N 50.17705 E 98.97430 elev. 1681 m.
 18 river crossings! Tense times in a rainstorm.
 Chloroperlidae 8501

8502 MONGOLIA: Hovsgol Aimag: Bayanzurkh Soum, Bayanzurkh town N 50.17705 E 98.97430, elev. 1681 m, 06-Jul-2006 C. R. Nelson# 8502 & SRP. 51 246 photos: scenery and people, safe after river crossing adventure. GPS at community center building.
 SRP number: none.
 8502

8503 MONGOLIA: Hovsgol Aimag: Bayanzurkh Soum, Beltes Gol, 4.7 km NE of Bayanzurkh town, N 50.19916 E 99.03117, elev. 1642 m, 06-Jul-2006 C. R. Nelson# 8503 & SRP. 51

247 SRP number: 2006070601.

Photos: Isoperla, Chloroperlidae. 8503

8504 MONGOLIA: Hovsgol Aimag: Bayanzurkh Soum, Beltes Gol, 1.8 km NE of Bayanzurkh town, N 50.18613 E 98.99574, elev. 1618 m, 06-Jul-2006 C. R. Nelson# 8504 & SRP. 51

248 photos: gorge above Bayanzurkh.

SRP number: none.

8504

8505 MONGOLIA: Hovsgol Aimag: Bayanzurkh Soum, 3 km E of Bayanzurkh town, N John Morse E John Morse, elev. Morse m, 06-Jul-2006 C. R. Nelson# 8505 & SRP. 51 xx Morse aquatic sampling while I was in town arranging for a van with Tuya.

SRP number: 2006070602.

8505

8506 MONGOLIA: Hovsgol Aimag: Arbulag Soum, saline lake Tunamal Nuur, 3 km NW of Arbulag, N 49.89971 E 99.39437, elev. 1878 m, 06-Jul-2006 C. R. Nelson# 8506 & SRP. 51

249 photos: scenery and white horse

SRP number: 2006070603.

See CRN #8240 for last year. This year we collected on the other side of the lake. photos: Phryganeidae skaters adult, larva, pupa; Leptoceridae adult larva pupa. Sphecidae with Strepsiptera, Stylopidae; Chironomidae strange males. 8506

8507 MONGOLIA: Hovsgol Aimag: Moron? Soum, 43 km NW of Moron, N 49.91549 E 99.75706, elev. 1663 m, 07-Jul-2006 C. R. Nelson# 8507 & SRP. 51 250 photos: large double axle truck rolled on side.

SRP number: none.

8507

8508 MONGOLIA: Hovsgol Aimag: Moron? Soum, Uushgiin Uver Archaeological Site, 17 km WNW of Moron, N 49.65511 E 99.92755, 1326 m, 07-Jul-2006 C. R. Nelson# 8508 & SRP.

51 252 photos: deer stones statues.

SRP number: none.

phone numbers in Ulaan Baatar:

Clyde Goulden: cell: 99782713; home: 320052; office: 315786.

8508

8509 MONGOLIA: Hovsgol Aimag: Moron Soum, Moron, N 49.62799 E 100.16235, elev. 1351 m, 07-Jul-2006 C. R. Nelson# 8509 & SRP. 51 058 of 2005 photos: town and airport

SRP number: none.

Helped by: Tengis age 20, son of Mende the lady ichthyologist of the Hovsgol project. and

her brother in law, Baatna (older 30?) driving large Toyota with steering wheel on right.
8509

8510 MONGOLIA: xx Aimag: xx Soum, Aero Mongolia flight, Moron to Ulaan Baatar, N xx E xx, elev. xx m, 07-Jul-2006 C. R. Nelson# 8510 51 none photos: scenery from air. might be able to judge names of some rivers by considering the elapsed time between photos embedded in the digital images. 8510

8511 PACIFIC OCEAN Korean Air flight between Aleutian Islands and Hawaiian Islands, N xx E xx, elev. xx m, 10-Jul-2006 C. R. Nelson# 8511 51 none photos: sunrise above airplane wing. 8511

8512 USA: NEVADA: N xx E xx, elev. xx m, xx June or July 2006 C. R. Nelson# 8512 & Mark Goodman. 51 none photos: Chrysomelidae, Calligrapha n. sp.? on Salix exigua. CRN not present when collected by Mark Goodman. 8512

8513 USA: UTAH: Utah Co., Mosida Lodge Preserve, West side of Utah Lake, 13.7 km NE of Elberta, N 40.07135 E 111.91116, elev. 1370 m, 12-Jul-2006 C. R. Nelson# 8513 & UBEST 51 MOSIDA UV light. Chironomidae, Heteroceridae, Hydrophilidae, Corixidae. Students/teachers collected Tetropes cerambycidae long horn beetles on milkweed. 8513

8514 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180 W 111.65754 elev. 1862 m, 18-Jul-2006 C. R. Nelson# 8514 & Field Biology class 51 set and read 16 x 16 m nested quadrat for plant richness. 27 plant species. Reset Hobo thermometer. Riley Nelson, David Betts, Denton Davenport, Jason Hall, Spencer Morgan, and Adam Mosely. GPS with 20 m accuracy, number 254, not good read N 40.45180 W 111.65754 and 1807 m elevation. 8514

8515 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.43329 W 111.73836 1547 m, 20-Jul-2006 C. R. Nelson# 8515 & Field Biology class 51 set and read 16 x 16 m nested quadrat for plant richness. 16 plant species. Reset Hobo thermometer. Riley Nelson, David Betts, Denton Davenport, Jason Hall (recorder), Spencer Morgan, and Adam Mosely. GPS with 20 m accuracy, not good read 1807 m elevation. 8515

8516 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, N 40.44749 W 111.68305 elev. 1818 m, 20-Jul-2006 C. R. Nelson# 8516 & Field Biology class 51 set and read 16 x 16 m nested quadrat for plant richness. 15 plant species. Reset Hobo thermometer. Riley Nelson, David Betts, Denton Davenport, Jason Hall, Spencer Morgan (recorder), and

Adam Mosely. Thermometer failed! I'll try and send to the company to recover Tachinidae, *Adejeania vexatrix* 8516

8517 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River near Timpooneke Guard Station, site 4, N 40.43226 W 111.63741, elev. 2213 m, 21-Jul-2006 C. R. Nelson# 8517 & Field Biology class 51 set and read 16 x 16 m nested quadrat for plant richness. 40 plant species. Reset Hobo thermometer. Riley Nelson, David Betts, Denton Davenport, Jason Hall, Laura Evanson, and Adam Mosely (recorder). Overnight. Photos: Siricidae 8517

8518 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River, Timpooneke Trail, rim of Scout Falls, Giant Staircase, N 40.41579 W 111.64090, elev. 2559 m, 21-Jul-2006 C. R. Nelson# 8518 & Field Biology class 51 255 Riley Nelson, David Betts, Denton Davenport, Jason Hall, Laura Evanson, and Adam Mosely (recorder). Overnight. Slept on the rim. photos: sunrise, orb spider dragging three ant carcasses. Asilidae *Cyrtopogon* male. 8518

8519 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River near Timpooneke Trail W of Scout Falls, below Giant Staircase, site 6, N 40.41829 W 111.64149 elev. 2453 m, 22-Jul-2006 C. R. Nelson# 8519 & Field Biology class 51 16 x 16 m nested quadrat. 26 plant species. Riley Nelson, David Betts, Denton Davenport, Jason Hall, Laura Evanson, and Adam Mosely (recorder). 8519

8520 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River near Timpooneke Trail, below Giant Staircase lower meadow, site 5, N 40.42458 W 111.63899 elev. 2291 m, 22-Jul-2006 C. R. Nelson# 8520 & Field Biology class 51 16 x 16 m nested quadrat. 41 plant species. Riley Nelson, David Betts, Denton Davenport (recorder), Jason Hall, Laura Evanson, and Adam Mosely. *Perlodidae*, *Megarcys* female with eggs. 8520

8521 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 elev. 1495 m, 24-Jul-2006 C. R. Nelson# 8521 51 camera held by Kaye and Amy. photos: remains of hookworm tracks in/on Riley Nelson, from French Guiana episode. Mostly fading. 8521

8522 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 elev. 1495 m, 25-Jul-2006 C. R. Nelson# 8522 52 killed a *Vespula* yellowjacket, *Vespidae*, that was bothering me. Within one minute another yellowjacket began attending the carcass, cut off its head, and carried it away. Cannibalism? 8522

8523 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, N 40.49776 W 111.68286 elev. 1772 m, 27-Jul-2006 C. R. Nelson# 8523 & Field Biology class 52 256 stream mapping, 40 m stretch; velocity on 10

m sections, 0 is downstream; velocity for 0 starts at 10 m; velocity in talweg; anchor length up middle; stream temp 15 C. Drawn map in field notes. photos: people 8523

8524 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883°W 111.26775°E elev. 1860 msl 29-Jul-2006 C. R. Nelson# 8524 & family 52 dug pond near spring for aquatic insect habitat saw orange Lepidoptera: Papilionidae: Papilio caterpillar, rusty orange with narrow black and light band on thorax. 8524

8525 USA: UTAH: Utah Co., Mount Timpanogos, Timpanogos Cave System, Timpanogos Cave National Monument, N 40.43773°W 111.71168°E elev. 2058 msl 03-Aug-2006 C. R. Nelson# 8525 & family 52 HANSENT sampled throughout the caves, most success near entrance and exit. Collectors: Riley Nelson, Cami Pulham (cave employee), Sarah Walker (lab worker and cave volunteer), David Betts (teaching assistant), Kaye Nelson (wife, friend), Denton Davenport (student), Jason Hall (Student), Spencer Morgan (student), and Adam Mosely (student). GPS from HANSENT, entrance to Hansen Cave. Heleomyzidae, 2 genera; Trichoceridae? dead (I actually think it was parts of a Taracus harvestman when I sorted it in the lab); Ceuthophilus crickets; Alucitidae; Geometridae; Theridiidae; Opilionida Taracus sp.; Collembola. 8525

8526 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trail, ascent, parking lot to Timpanogos Basin, N 40.41829 W 111.64149 elev. 2453,m, 04-Aug-2006 C. R. Nelson# 8526 & class 52 site 6 with A. T. Mosely and Spencer Morgan. Three hours from parking lot to Bomber camp on Timpanogos Basin Rim. photos: trail, pika, scenery, Giant Staircase, deer, 8526

8527 USA: UTAH: Utah Co., Mount Timpanogos, rim of Timpanogos Basin, Bomber Meadows (my name), N 40.40505 W 111.64700 elev. 3099,m, 04-Aug-2006 C. R. Nelson# 8527 & class 52 TIMPCAMP ENGINEDOWN: lower engine: N 40.40727°W 111.65545°W elev. 3207 m;

ENGINEUP: upper engine: N 40.40673°W 111.65665°W elev. 3272 m. photos: scenery, wildflowers, mountain goat, view to Mount Timpanogos sunset, Bomber, B-25 engines and parts (crashed 1955), view to Heber City, view to Little Cottonwood Peaks at sunset, bomber engines with flash, bomber engines with Riley, self portrait. 8527

8528 USA: UTAH: Utah Co., Mount Timpanogos, rim of Timpanogos Basin, Bomber Meadows (my name), N 40.40505 W 111.64700 elev. 3099,m, 05-Aug-2006 C. R. Nelson# 8528 & class 52 TIMPCAMP ENGINEDOWN: lower engine: N 40.40727°W 111.65545°W elev. 3207 m;

ENGINEUP: upper engine: N 40.40673°W 111.65665°W elev. 3272 m.

with A. T. Mosely and Spencer Morgan. photos: sunrise scenery, Adam and Spencer at a

distance, panorama of Little Cottonwood Peaks, Bomber crash site, wildflowers: plantains (NO! Polygonum sp.), lupines, Mertensia blue bells, purple asters, elephanthead Pedicularis, Queen Anne's lace umbel, Castilleja. self portrait shadow, stream and ponds, Spencer at a distance with Bomber peaks drainage snowfield & flowers, Mount Timpanogos from Bomber crash site, bomber crash snow fields, bomber lower engine and bomber wing flap downslope, Mount Timpanogos & asters & sedum. PHOTOS: diseased leg (femur and tibia) of deer or goat. 8528

8529 USA: UTAH: Utah Co., Mount Timpanogos, summit and summit trail, N 40.39093 W 111.64597 elev. 3579,m, 05-Aug-2006 C. R. Nelson# 8529 & class 52 TIMPCAMP with A. T. Mosely and Spencer Morgan.

Photos: Oquirrh formation fossils, invertebrates from shaley limestone at top of approach switchbacks, staircase: FOSSILSTAIR (case): N 40.39332 W 111.65231 elev. 3458 m (less than 200 vertical meters from summit!).

Keith Rigby worked with me to identify the fossils in his lab near the stadium. He also recommended a book, Moore, Lalicker, and Fischer 1952.

photos: Asilidae Cyrtopogon male with bad front feet; Tipulidae, Tipula male; photos: crowds on approach and at top; view to Little Cottonwoods Peaks, view to Timpanogos Basin cirques, view to Emerald Lake; portrait, Riley, Spencer, and Adam; panorama Utah Valley, twice; vertical panorama, east, Heber side; horizontal panorama heber side; Utah Lake, wildflowers.

fossil taxa: calcareous sponge, hexactinellid sponge, fenestellid bryozoans, encrinurid (crinoid) limestone, zooecia on broad brachiopod piece, coral on brachiopod.

So: phyla: Echinoderm, Porifera to kinds, Bryozoan, Brachiopods: productid with curvature and spiriferid flattened. 8529

8530 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trail, descent, Timpanogos Basin to parking lot, N 40.41829 W 111.64149 elev. 2453,m, 05-Aug-2006 C. R. Nelson# 8530 & class 52 site 6 photos: snow tunnel over stream. 140 pm left "toilet" junction on basin rim; 230 pm head of Middle Meadow; 240 pm, foot of Middle Meadow, rim of Scout Falls; 330 pm parking lot, Timpooneke; 415 pm BYU. 1:50 h to descend.

with A. T. Mosely and Spencer Morgan. Three hours from parking lot to Bomber camp on Timpanogos Basin Rim. photos: Fireweed, Epilobium 8530

8531 USA: UTAH: Utah Co., Provo River, Provo Canyon, Hwy 189, Canyon View Park, N 40.32454 W 111.64403 elev. 1482,m, 10-Aug-2006 C. R. Nelson# 8531 & scouts 52 canyonview cub scout activity called by Sharlyn Barlow. caught and released: 1. Leeches,

2. Oligochaeta, 3. Baetis, 4. Epeorus, 5. Ephemerella, 6. Brachycentrus, 7. Oligophlebodes, 8. Hydropsyche, 9. Potamogeton, 10. Ranunculus, 11. Gerridae, 12. Ostracoda, 13. Isopoda Asellus, 14. Simulium, 15. Rhyacophila pupa, 16. sculpin, 17. Elmidae. 8531

8532 USA: UTAH: Utah Co., Provo, BYU lab, 123 WIDB, N 40.24625 W 111.649841, elev. 1420,m, 11-Aug-2006 C. R. Nelson# 8532 52 Plecoptera: Perlodidae: photos of Pictetiella expansa Banks nymphs, caught by Sarah Walker, USA: UTAH: Utah Co., South Fork American Fork River, above South Fork Ranger Station, site 3, N 40.45180 W 111.65754 (AF SF site 3) 1862 msl,, 10 August 2006, S. Walker 8532

8533 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883W 111.26775 elev. 1860 msl 12-Aug-2006 C. R. Nelson# 8533 & family 52 dug more pond near spring for aquatic insect habitat. Trip with USU friends Parrish, Smith, Ponds. photos: people and scenery; bird footprints in Green River Shale, 8533

8534 USA: UTAH: Davis Co. Wasatch Front, view to Brigham City from airline flight above Bountiful, N 40.9 W 111.9 elev. 1300 m, if on ground 16-Aug-2006 C. R. Nelson# 8534 & family 52 guess from Google Earth photos: scenery; 8534

8535 ARGENTINA: Santa Fe Province: Rosario, S 32.90990W 60.69362 near elev. 0? m, 17-20 August 2006 C. R. Nelson# 8535 & family 52 257ARG Riley, Kaye, Andrea, and Amy.

-32.90990 -60.69362, home of Juan Fernandes in Alberdi. Gift of sheep shears. photos: city life, Flag Memorial, Contemporary art museum, Rio Paran√•, Nikon clock is 4 hours behind local time at 3 pm local on 20 August 2006, Also changed time then on GPS to local time. 8535

8536 ARGENTINA: Santa Fe Province: Rafaela, S 31.21074W 61.51687 elev. 62 m, 21-Aug-2006 C. R. Nelson# 8536 & family 52 RAFPLAZA Riley, Kaye, Andrea, and Amy. photos: scenery people. 8536

8537 ARGENTINA: Misiones Province: Hwy between Posadas and Puerto Iguaz√•, S 27.27793 W 55.89844 elev. 113 m, 22-Aug-2006 C. R. Nelson# 8537 & family 52 map Posadas Riley, Kaye, Andrea, and Amy. photos: tropical forest in cold, 8537

8538 ARGENTINA: Misiones Province: Puerto Iguaz√•, S 25.59702 W 54.57185 elev. 150 m, 22-Aug-2006 C. R. Nelson# 8538 & family 52 257 HOTEL Riley, Kaye, Andrea, and Amy. photos: Psychodidae; Psychidae bag and pupal skin later larva. 8538

8539 ARGENTINA: Misiones Province: Iguaz√• Falls National Park, S 25.69552 W 54.43729 elev. 138 m, 23-Aug-2006 C. R. Nelson# 8539 & family 52 257 GARG Riley, Kaye, Andrea, and Amy. GPS reading from end of boardwalk at top of Throat of the Devil Falls, photos:

scenery, birds, family plush crested jay

8539

8540 BRAZIL: Paran  State: Bird Park near entrance to Iguaz  Falls National Park, S 25.6 W 54.5 elev. 156 m, 24-Aug-2006 C. R. Nelson# 8540 & family 52 from Google Earth Riley, Kaye, Andrea, and Amy. photos: scenery, birds, family. Macaws *Ara ararauna*; rhea *americana*, southern screamer *Chauna torquata*, demoiselle cranes *Anthropoides virgo*; mandarin duck *Aix galericulata*; chilean flamingo *Phoenicopterus chilensis* and african flamingo *Phoenicopterus ruber* or *roseus*; leafhopper; *Dolichopodidae*; rusty margined guan *Penelope supercilialis*; red winged tinamou *Rhynchotus rufescens*; red billed curassow *Crax blumenbachii*; southern lapwing *Vanellus chilensis*; scaly headed parrot *Pionus maximiliani* OR White eyed parakeet *aratinga leucophthalmus* (probably scaly headed parrot, best guess); red breasted toucan *Ramphastos discolorus*; bare faced curassow *Crax fasciolata*; southern lapwing again; red billed curassow again; toco toucan *Ramphastos toco*; red legged Seriema *Cariama cristata*; coreidae; salticidae; tachinidae; gray crowned crane *Balearica regularum*; red billed toucan *Ramphastos tucanus*; red breasted toucan again; Amazonas parrot; hyacinth Macaw *Anodorhynchus hyacinthinus*; blue and gold Macaw *Ara ararauna*; cassowary *Casuarius casuarius*; tamarin monkey *Saguinus*. 8540

8541 BRAZIL: Paran  State: Iguaz  Falls National Park, S 25.69090 W 54.43766 elev. 158 m, 24-Aug-2006 C. R. Nelson# 8541 & family 52 257BRACAT Riley, Kaye, Andrea, and Amy. photos

GPS at viewpoint of the Devils Throat. photos: 8541

8542 ARGENTINA: Misiones Province: Puerto Iguaz , international bridge with Brazil, S 25.5929 W 54.5821 elev. 130 m, 24-Aug-2006 C. R. Nelson# 8542 & family 52 from google earth Riley, Kaye, Andrea, and Amy. Photos Iguaz  River to Paran  River. people pictures; our taxi driver was Anib l 8542

8543 ARGENTINA: Misiones Province: Puerto Iguaz , international bridge with Brazil, S 25.5929 W 54.5821 elev. 130 m, 24-Aug-2006 C. R. Nelson# 8543 & family 52 from google earth Riley, Kaye, Andrea, and Amy. Photos Iguaz  River to Paran  River. people pictures; our taxi driver was Anib l 8543

8543 ARGENTINA: Misiones & Buenos Aires Province: overnight bus trip, Puerto Iguaz  to Buenos Aires, S 27.38342 W 55.88196 elev. xx m, 24-25 August 2006 C. R. Nelson# 8543 & family 52 use Posadas Riley, Kaye, Andrea, and Amy. Posadas bus station restaurant then crossing flood plain of the Paran  River. 8543

8544 ARGENTINA: Buenos Aires Province: Buenos Aires, downtown bus terminal to Ezeiza Airport, S 34.81396 W 58.53980 elev. 29 m, 25-Aug-2006 C. R. Nelson# 8544 & family 52 airport from google earth Riley, Kaye, Andrea, and Amy. Photos: stream scenes at approx. S 34.57 W 58.41; LDS temple S 34.72958 W 58.51848; people in taxi. 8544

8545 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River near Timpooneke Guard Station, site 4, N 40.43226 W 111.63741, elev. 2213 m, 04-Sep-2006 C. R. Nelson# 8545 & J. K. Nelson 51 photos: Kaye and Riley saw *Sweltsa borealis* female with eggs, in parking lot 100 m from stream; saw small caddisflies and mycetophilids close to stream 8545

8546 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180 W 111.65754 elev. 1862 m, 04-Sep-2006 C. R. Nelson# 8546 & J. K. Nelson 51 Perlodidae, *Pictetiella expansa*, worked about an hour for about 8 nymphs. Photos: Capniidae *Isocapnia* nymph, 1. saw many Hydropsychidae *Arctopsyche* and Philopotamidae. 8546

8547 USA: UTAH: Utah Co., Utah Lake, middle, off Lincoln Point, N 40.21640 W 111.75890 elev. 1371 m, 08-Sep-2006 C. R. Nelson# 8547 & class 51 UTAHLAKE photos: scenery and people

Aquatic Ecology Laboratory class: Riley Nelson, Dennis Shiozawa, Jennifer Coleman, Heather Semon, Limb Hapairai, Laura Price, John Aedo, Sam Zmolek, Sara Morrison, Ed Priddis. photos: Chironomidae in samples from Ekman Grab; 8547

8548 USA: UTAH: Utah Co., Utah Lake State Park Marina N 40.23976 W 111.73869 elev. 1375 m, 08-Sep-2006 C. R. Nelson# 8548 & class 51 HARBOR

Aquatic Ecology Laboratory class: Riley Nelson, Dennis Shiozawa, Jennifer Coleman, Heather Semon, Limb Hapairai, Laura Price, John Aedo, Sam Zmolek, Sara Morrison, Ed Priddis. garter snake, western grebes, california gulls, killdeer, egret, and white bass 8548

8549 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 elev. 1495 m, 10-Sep-2006 C. R. Nelson# 8549 52 with Amy and Andrea; became a pet in the lab. Lycosidae, large male silver and black, chelicerae orange haired *Geolycosa*? wolf spider 8549

8550 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River near Timpooneke Guard Station, site 4, N 40.43226 W 111.63741, elev. 2213 m, 12-Sep-2006 C. R. Nelson# 8550 & class 51 participants: Riley Nelson, Andrea Nelson, Limb Hapairai, Garrett Hughes, Gabriel Hughes, Laura Price, Brad Mortenson, Keith Tanner, Heather Semon, Jonnie Osborn, Robert Johnson, Mark Goodman. First 100 samples, my IDs from the field: Baetidae, Ephemerellidae, Ameletidae,

Heptageniidae, Leuctridae, Chloroperlidae, Perlodidae, Nemouridae, Uenoidae, Limnephilidae, Rhyacophilidae, Hydropsychidae, Glossosomatidae, flatworm, snail, Chironomidae, Dixidae, Tipulidae, Simuliidae; Hydrophilidae?, Empididae 8550

8551 USA: UTAH: Wasatch Co. Deer Creek Reservoir, off Marina at Deer Creek State Park, N 40.41931 W 111.50430, elev. 1759 m, 15-Sep-2006 C. R. Nelson# 8551 & J. K. Nelson 51 DEERCREEK photos: people and scenery; plankton tows and boxes, vertical profile. First cold snap of the season. Top of Mount Timpanogos dusted in snow (much more fell the night of 15-16 September) participants: Riley Nelson, Dennis Shiozawa, Laura Price, Limb Hapairai, Sara Morrison, John Aedo, Jennifer Coleman, Sam Zmolek, Ed Priddis, and Heather Semon plankton from tows 8551

8552 USA: UTAH: Utah Co., Mount Timpanogos, Salamander Lake, off Alpine Loop above Sundance and below Cascade Springs turnoff, N 40.42175 W 111.60230, 2294 m, 19-Sep-2006 C. R. Nelson# 8552 & class 52 SALAmanD Two First 100 samples per student.

Gained permission to enter private land from:

Taylor Toomalatai, cell phone: 376-2038. Call when need to enter again with students.

participants: Riley Nelson, Limb Hapairai, Heather Semon, Andrea Nelson, Jonnie Osborne, Keith Tanner, Mark Goodman, Laura Price, Garrett Hughes, Gabriel Hughes, Brad Mortenson, Sara Morrison. Hydrophilidae; Haliplidae, Dytiscidae, Aeshnidae, Corduliidae? or Libellulidae?, Coenagrionidae, Physidae, Planorbidae?, Sphaeriidae, Belostomatidae (Lethocerus americanus), Notonectidae, Corixidae, Gerridae, Baetidae, Hirudinea 8552

8553 USA: UTAH: Utah Co., Mount Timpanogos, Little North Fork Creek, Alpine Loop, Hwy 92, 1.2 km S of Sundance, N 40.38265 W 111.57131, 1767 m, 19-Sep-2006 C. R. Nelson# 8553 & class 52 Cleaned Salamander Lake mud from nets and boots

participants: Riley Nelson, Limb Hapairai, Heather Semon, Andrea Nelson, Jonnie Osborne, Keith Tanner, Mark Goodman, Laura Price, Garrett Hughes, Gabriel Hughes, Brad Mortenson, Sara Morrison. Blephariceridae: Bibiocephala grandis larvae; quick check while cleaning nets 8553

8554 USA: IDAHO: Franklin Co. Bear River, Oneida Narrows N 42.23437 W 111.75842, 1405 m, 23-Sep-2006 C. R. Nelson# 8554 & class 52 257 First 100 samples, 2 per person in aqu ent about 24 samples. Classes for aquatic entomology and aquatic ecology laboratory: Riley Nelson, Dennis Shiozawa, Russ Rader, Limb Hapairai, Laura Price, Sara Morrison, Andrea Nelson, Jonnie Osborne, Keith Tanner, Garrett Hughes, Gabriel Hughes, Brad Mortenson, Heather Semon, Mark Goodman, John Aedo, Ed Priddis, Jenn Coleman, and Sam Zmolek. PLanaria, mudsnails Baetidae Simuliidae 8554

8555 USA: IDAHO: Caribou Co. Soda Springs, geyser, N 42.65752 W 111.60538, 1744 m, 23-Sep-2006 C. R. Nelson# 8555 & class 52 258 Classes for aquatic entomology and aquatic ecology laboratory: Riley Nelson, Dennis Shiozawa, Russ Rader, Limb Hapairai, Laura Price, Sara Morrison, Andrea Nelson, Jonnie Osborne, Keith Tanner, Garrett Hughes, Gabriel Hughes, Brad Mortenson, Heather Semon, Mark Goodman, John Aedo, Ed Priddis, Jenn Coleman, and Sam Zmolek. photos: recent fossil plants quickly coated by the the hard water from the geyser. 8555

8556 USA: IDAHO: Caribou Co. Tin Cup Creek, Hwy 34, 17 km W of Freedom, N 42.97485 W 111.24831, 1966 m, 23-Sep-2006 C. R. Nelson# 8556 & class 52 259 First 100 samples, 1 each. narrow canyon with conifers and beaver dams on the Soda Springs to Thayne road. Classes for aquatic entomology and aquatic ecology laboratory: Riley Nelson, Dennis Shiozawa, Russ Rader, Limb Hapairai, Laura Price, Sara Morrison, Andrea Nelson, Jonnie Osborne, Keith Tanner, Garrett Hughes, Gabriel Hughes, Brad Mortenson, Heather Semon, Mark Goodman, John Aedo, Ed Priddis, Jenn Coleman, and Sam Zmolek. Hesperoperla Pteronarcys photos: Saldidae and liverworts Athericidae Baetidae Ephemerellidae Perlodidae photos crayfish on riley; Tetrigidae Elmidae Gerridae Corixidae Dytiscidae Leptophlebiidae Haliplidae 8556

8557 USA: WYOMING: Teton Co. Grand Teton National Park, Glacier viewpoint, N 43.69115 W 111.67336, 2027 m, 23-Sep-2006 C. R. Nelson# 8557 & class 52 260 photos: panoramas backward low forward 28mm lens setting; people. Classes for aquatic entomology and aquatic ecology laboratory: Riley Nelson, Dennis Shiozawa, Russ Rader, Limb Hapairai, Laura Price, Sara Morrison, Andrea Nelson, Jonnie Osborne, Keith Tanner, Garrett Hughes, Gabriel Hughes, Brad Mortenson, Heather Semon, Mark Goodman, John Aedo, Ed Priddis, Jenn Coleman, and Sam Zmolek. 8557

8558 USA: WYOMING: Teton Co. Snake River, 2 mi W of Flagg Ranch, Flagg Ranch to Ashton Road, N 44.09924 W 110.68770, 2069 m, 24-Sep-2006 C. R. Nelson# 8558 & class 52 262 First 100 samples, 2 per person. photos: scenery fog and people. Classes for aquatic entomology and aquatic ecology laboratory: Riley Nelson, Dennis Shiozawa, Russ Rader, Limb Hapairai, Laura Price, Sara Morrison, Andrea Nelson, Jonnie Osborne, Keith Tanner, Garrett Hughes, Gabriel Hughes, Brad Mortenson, Heather Semon, Mark Goodman, John Aedo, Ed Priddis, Jenn Coleman, and Sam Zmolek. Perlodidae Pteronarcyidae Heptageniidae Ephemerellidae Baetidae including cool ones that looked like Baetodes Leptophlebiidae 2 spp regular Paraleptophlebia and a larger neat one with tusks which I photographed. 8558

8559 USA: WYOMING: Teton Co. Polecat Creek, 1 mi W of Flagg Ranch, Flagg Ranch to Ashton Road, N 44.10914 W 110.68455, 2078 m, 24-Sep-2006 C. R. Nelson# 8559 & class

52 263 Classes for aquatic entomology and aquatic ecology laboratory: Riley Nelson, Dennis Shiozawa, Russ Rader, Limb Hapairai, Laura Price, Sara Morrison, Andrea Nelson, Jonnie Osborne, Keith Tanner, Garrett Hughes, Gabriel Hughes, Brad Mortenson, Heather Semon, Mark Goodman, John Aedo, Ed Priddis, Jenn Coleman, and Sam Zmolek. photos: Ptychopteridae Ptychoptera larvae to Gabriel Hughes. eclectic sampling, no First 100s 8559

8560 USA: WYOMING: Park Co. Yellowstone National Park, Lewis River Gorge, Hwy 89, N 44.19074 W 110.65574, 2304 m, 24-Sep-2006 C. R. Nelson# 8560 & class 52 264 Photos: scenery and people at lava flow. Classes for aquatic entomology and aquatic ecology laboratory: Riley Nelson, Dennis Shiozawa, Russ Rader, Limb Hapairai, Laura Price, Sara Morrison, Andrea Nelson, Jonnie Osborne, Keith Tanner, Garrett Hughes, Gabriel Hughes, Brad Mortenson, Heather Semon, Mark Goodman, John Aedo, Ed Priddis, Jenn Coleman, and Sam Zmolek. 8560

8561 USA: WYOMING: Park Co. Yellowstone National Park, Lewis Falls, Lewis River, Hwy 89, N 44.26733 W 110.63482, 2357 m, 24-Sep-2006 C. R. Nelson# 8561 & class 52 265 Photos: falls. Classes for aquatic entomology and aquatic ecology laboratory: Riley Nelson, Dennis Shiozawa, Russ Rader, Limb Hapairai, Laura Price, Sara Morrison, Andrea Nelson, Jonnie Osborne, Keith Tanner, Garrett Hughes, Gabriel Hughes, Brad Mortenson, Heather Semon, Mark Goodman, John Aedo, Ed Priddis, Jenn Coleman, and Sam Zmolek. saw sponge in river, saw woodpecker Williamsons? or yellow bellied 8561

8562 USA: WYOMING: Park Co. Yellowstone National Park, Yellowstone Lake, longshore bar near Arnica Creek, N 44.47276 W 110.52645, 2373 m, 24-Sep-2006 C. R. Nelson# 8562 & class 52 266 Photos: lecturing and scenery. Classes for aquatic entomology and aquatic ecology laboratory: Riley Nelson, Dennis Shiozawa, Russ Rader, Limb Hapairai, Laura Price, Sara Morrison, Andrea Nelson, Jonnie Osborne, Keith Tanner, Garrett Hughes, Gabriel Hughes, Brad Mortenson, Heather Semon, Mark Goodman, John Aedo, Ed Priddis, Jenn Coleman, and Sam Zmolek. 8562

8563 USA: WYOMING: Park Co. Yellowstone National Park, Grand Prismatic Spring area, tributary Firehole River, N 44.52896 W 110.83623, 2218 m, 24-Sep-2006 C. R. Nelson# 8563 & class 52 267 Photos: thermal feature scenery. Classes for aquatic entomology and aquatic ecology laboratory: Riley Nelson, Dennis Shiozawa, Russ Rader, Limb Hapairai, Laura Price, Sara Morrison, Andrea Nelson, Jonnie Osborne, Keith Tanner, Garrett Hughes, Gabriel Hughes, Brad Mortenson, Heather Semon, Mark Goodman, John Aedo, Ed Priddis, Jenn Coleman, and Sam Zmolek. photos: Naucoridae *Ambrysus heidemanni*, Dytiscidae: *Bidessus?*, dead *Aeshna* trapped on hot water. 8563

8564 USA: WYOMING: Park Co. Yellowstone National Park, Fountain Paint Pots, N 44.54845 W 110.80737, 2234 m, 24-Sep-2006 C. R. Nelson# 8564 & class 52 268 Photos: thermal feature scenery. Classes for aquatic entomology and aquatic ecology laboratory: Riley Nelson, Dennis Shiozawa, Russ Rader, Limb Hapairai, Laura Price, Sara Morrison, Andrea Nelson, Jonnie Osborne, Keith Tanner, Garrett Hughes, Gabriel Hughes, Brad Mortenson, Heather Semon, Mark Goodman, John Aedo, Ed Priddis, Jenn Coleman, and Sam Zmolek. photos: elk and bison between here and west entrance 8564

8565 USA: MONTANA: Madison Co. Madison River, Hwy 87, near jct Hwy 287, N 44.82663 W 111.48682, 1877 m, 24-Sep-2006 C. R. Nelson# 8565 & class 52 269 Photos: river at sunset. Classes for aquatic entomology and aquatic ecology laboratory: Riley Nelson, Dennis Shiozawa, Russ Rader, Limb Hapairai, Laura Price, Sara Morrison, Andrea Nelson, Jonnie Osborne, Keith Tanner, Garrett Hughes, Gabriel Hughes, Brad Mortenson, Heather Semon, Mark Goodman, John Aedo, Ed Priddis, Jenn Coleman, and Sam Zmolek. First 100s, 2 per person, 12x2=24
Pteronarcys Hesperoperla Baetidae 8565

8566 USA: UTAH: Utah Co., Mount Timpanogos, Little North Fork Creek, Alpine Loop, Hwy 92, 1 km N of Hwy 189 and Wildwood, N 40.37073 W 111.56705, 1643 m, 26-Sep-2006 C. R. Nelson# 8566 & class 52 270 First 100s, 2 per person. participants: Riley Nelson, Limb Hapairai, Heather Semon, Andrea Nelson, Jonnie Osborne, Keith Tanner, Mark Goodman, Laura Price, Garrett Hughes, Gabriel Hughes, Brad Mortenson, Sara Morrison, Robert Johnson. Blephariceridae: Bibiocephala grandis larvae and pupa; Drunella grandis, Simuliidae, Baetidae 8566

8567 USA: UTAH: Utah Co., Provo River, Upper Falls Picnic Area, N 40.34623 W 111.59379, 1550 m, 26-Sep-2006 C. R. Nelson# 8567 & class 52 271 First 100s, 2 per person for 13 people, but fewer because some only did one. participants: Riley Nelson, Limb Hapairai, Heather Semon, Andrea Nelson, Jonnie Osborne, Keith Tanner, Mark Goodman, Laura Price, Garrett Hughes, Gabriel Hughes, Brad Mortenson, Sara Morrison, Robert Johnson. Brachycentridae Isopoda Amphipoda Baetidae Hesperoperla tiny malenka adults 8567

8568 USA: UTAH: Utah Co., Springville, 161 E 200 S N 40.164035 W 111.607813, 1393 m, 30-Sep-2006 C. R. Nelson# 8568 & J. K. Nelson 52 from Google Earth photos: fruit of horse chestnut
Hippocastanaceae: Aesculus hippocastaneum 8568

8569 USA: UTAH: Utah Co., Goshen Warm Springs, N 39.95928 W 111.85556, 1377 m, 03-Oct-2006 C. R. Nelson# 8569 & class 52 272 12 First 100 Samples. scattered around first pond.

Participants: All 12 students in the Aquatic Entomology class and me. Elmidae, 2 spp., Dytiscidae, Hydrophilidae, Haliplidae, Naucoridae, Hydrometridae, Gerridae, Veliidae, Mesoveliidae, Hebridae, Notonectidae, Corixidae, Belostomatidae, Aeshnidae, Saldidae, snails 4 spp., Ephydriidae, Ceratopogonidae, Hydroptilidae, Baetidae, Coenagrionidae, Lestidae, Calopterygidae, Libellulidae, Chironomidae, Culicidae, Tabanidae, Dolichopodidae, Hydracarina, Pisauridae, Tetragnathidae, Lycosidae, Talitridae: *Hyaella azteca*. 8569

8570 USA: UTAH: Utah Co., Provo, BYU Greenhouses 700 N and nearby N 40.245021 W 111.648842, 1404 m, 06-Oct-2006 C. R. Nelson# 8570 52 photos: In greenhouses: plants with spines, Aloe, century plant agave, cactus, Euphorbiaceae, Zygocactus, Arecaceae palms, Solanaceae, crown of thorns (a euphorb). Ants, mealy bugs. Outside: figs, juniper, Pyracantha, cholla cactus, prickly pear cactus, joshua tree, rose. 8570

8571 USA: UTAH: Utah Co., Provo, 650 East jct Stadium Lane, N 40.262173 W 111.648859, 1446 m, 08-Oct-2006 C. R. Nelson# 8571 52 Photos: plant Zygophyllaceae, *Tribulus terrestris* Linnaeus, puncture vine, Caltrop. 8571

8572 USA: UTAH: Utah Co., Provo, 650 East jct 3100 North, N 40.274958 W 111.647480, 1451 m, 08-Oct-2006 C. R. Nelson# 8572 52 Photos: plant Solanaceae *Datura* sp. possibly *wrightii*, jimson weed fruit and flowers. In a garden. 8572

8573 USA: UTAH: Grand Co. Green River at Crystal Geyser, 4 mi S of Green River town, N 38.93774 W 110.13513, 1246 m, 13-Oct-2006 C. R. Nelson# 8573 & students 52 273GREEN trip to Moab area to run experiments at Bartlett Wash: Riley Nelson, Dennis Shiozawa, Heather Semon, Limb Hapairai, Andrea Nelson, Sara Morrison, Laura Price, Jonnie Osborne, Garrett Hughes, Mark Goodman, Keith Tanner, Brad Mortenson, Jenn Coleman. Later at Bartlett we met up with Russ Rader, Ed Priddis, and more students. Veliidae Perlidae Acroneuria Naucoridae Leptophlebiidae Simuliidae Hydropsychidae Corixidae Cicindelidae Coenagrionidae Gomphidae 8573

8574 USA: UTAH: Grand Co. Colorado River, Hwy 128, Big Bend Campground, N 38.64860 W 109.48029, 1215 m, 14-Oct-2006 C. R. Nelson# 8574 & students 52 274COLRIV trip to Moab area to run experiments at Bartlett Wash: Riley Nelson, Dennis Shiozawa, Heather Semon, Limb Hapairai, Andrea Nelson, Sara Morrison, Laura Price, Jonnie Osborne, Garrett Hughes, Mark Goodman, Keith Tanner, Brad Mortenson, Jenn Coleman. Later at Bartlett we met up with Russ Rader, Ed Priddis, and more students.

13-14 Oct 2006: We spent last night at Barlett Wash off Blue Hills Road. Heavy rains had

washed out parts of the road, making travel difficult with the van and trailer. We awoke to rain at 5:30 am and quickly packed and got out safely. We arrived at Big Bend around 8:30 am. Silphidae also saw tamarisk feeding Chrysomelidae 8574

8575 USA: UTAH: Grand Co. Sand Flats Recreation Area, Hells Revenge Trail, potholes on top of fin of Entrada Sandstone, N 38.58402 W 109.53621, 1475 m, 14-Oct-2006 C. R. Nelson# 8575 & students 52 275HELL photos: potholes on fin of Entrada Sandstone, scenery La Sal Mountains, people.

trip to Moab area to run experiments at Bartlett Wash:

Riley Nelson, Dennis Shiozawa, Heather Semon, Limb Hapairai, Andrea Nelson, Sara Morrison, Laura Price, Jonnie Osborne, Garrett Hughes, Mark Goodman, Keith Tanner, Brad Mortenson, Jenn Coleman. Russ Rader and other students

Photos: Crustacea Triops longicaudatus tadpole shrimp.

Brachynectes fairy shrimp; Dytiscidae; Notonectidae Notonecta undulata; Chrysomelidae on water surface. 8575

8576 USA: UTAH: Grand Co. Pack Creek, Moab, Hwy 191, N 38.56420 W 109.55055, 1264 m, 14-Oct-2006 C. R. Nelson# 8576 & students 52 276MOAB trip to Moab area to run experiments at Bartlett Wash:

Riley Nelson, Dennis Shiozawa, Heather Semon, Limb Hapairai, Andrea Nelson, Sara Morrison, Laura Price, Jonnie Osborne, Garrett Hughes, Mark Goodman, Keith Tanner, Brad Mortenson, Jenn Coleman. Russ Rader and other students

photos: Hydropsychidae, Baetidae, Perlodidae Isoperla.

crayfish, Veliidae, Gerridae, Chrysomelidae, Dytiscidae. 8576

8577 USA: UTAH: Utah Co., Provo River, Provo Canyon, Hwy 189, Canyon View Park, N 40.32435 W 111.64495 elev. 1481,m, 20-Oct-2006 C. R. Nelson# 8577 & class 52 canview fish shocking of 100 m of river below foot bridge. Aquatic ecology lab led by Dennis Shiozawa. participants: Heather Semon, Limb Hapairai, Laura Price, Sara Morrison, John Aedo, Ed Priddis, and Jenn Coleman. TA Landon Jones also led Dr. Hal Black's Appreciating Nature class. Photos: people and river

Pteronarcys Hesperoperla Hydropsychidae Rhyacophilidae Brachycentridae

shocked: brown trout, mountain whitefish, sculpin, rainbow trout. 8577

8578 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 elev. 1495 m, 01-Nov-2006 C. R. Nelson# 8578 52 pupa from: USA:

VERMONT: Windsor Co., Bethel Gilead, SW of Beanville, N 43.8 W 72.6, elev. 300 m, 10 October 2006, Mary and Bill Shriver, as pupa on clapboards of north wall of house 2.5 ft. above ground. Bill also took some adult shots on asters in Vermont.

Other stuff: Nelson home sunroom shots, 29 Oct 2006; also photos of Erkaa from Mongolia

at WIDB BYU, 1 November 2006. photos: Monarch, *Danaus plexippus*, emerging from pupa. some pupal shots taken 30 October 2006 8578

8579 USA: PENNSYLVANIA: Co. Philadelphia, 17-19 November 2006 C. R. Nelson# 8579 52 meetings of National Collegiate Honors Council, photos, terminal area near Marriott Hotel, Philadelphia Inquirer News building, Independence Hall, LOVE sculpture; photos: Delaware River and estuary, clouds, Nuclear power plant somewhere in Midwest U.S. Butterflies at the Academy of Natural Sciences of Philadelphia, indian leaf butterfly *Kallima paralekta*, paper kite *Idea leuconoe*, owl butterfly *Caligo memnon*, blue morpho *Morpho peleides*. 8579

8580 USA: UTAH: Utah & Salt Lake Co. Delta airline flight on approach to Salt Lake Airport 19-Nov-2006 C. R. Nelson# 8580 52 Utah Lake, Cedar Valley, Rush Valley, Kennecott Copper Mine, Stansbury Island, Antelope Island, Ben Lomond and Baldy Peaks, Great Salt Lake Marshes. 8580

8581 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 elev. 1495 m, 23-Nov-2006 C. R. Nelson# 8581 52 photos: turkey dinner and family 8581

8582 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 elev. 1495 m, 03-Dec-2006 C. R. Nelson# 8582 52 photos: turkey dinner and family photos: *Zygocactus* (*Schlumbergia* sp) Christmas cactus, magenta blooms. 8582

8583 USA: UTAH: Utah Co., Provo, BYU Widtsoe Building, 06-Dec-2006 C. R. Nelson# 8583 52 photos: fine and coarse mesh of malaise traps used at Lick Wash, GSENM 2005 - 2006, at 10x magnification. 8583

8584 USA: UTAH: Co. Uintah and Wasatch Mountains, 08-Dec-2006 C. R. Nelson# 8584 52 photos: scenery, Salt Lake Valley, Mount Timpanogos, Notch Peak, Red Castle Peak, Kings Peak. 8584

8585 USA: INDIANA: Co. Indianapolis Convention Center, 11-Dec-2006 C. R. Nelson# 8585 52 photos: Michelle Trautwein and her daughter Sophie Lynn, born in July, Michelle's mom, Lynn, was helping with the baby at the meetings of the Entomological Society of America. 8585

8586 USA: OHIO: approach and departure from Cincinnati airport 13-Dec-2006 C. R. Nelson# 8586 52 photos: Ohio River and power plant 8586

8587 USA: UTAH: Utah Co., American Fork Canyon, Martin Picnic Area, North Fork American Fork River, 20-Jan-2007 C. R. Nelson# 8587 & Doug Baird, Don Dorton, Zeb Weeks, Tyler Barlow, Josh Carter, and Reid Kuttler. 52 no specimens collected. Saw

Diamesinae Chironomidae, Heptageniidae; Sweltsa; Hydropsychidae; Uenoidae
Neothremma . Watched a dipper, Cinclus, foraging underwater for a long time. Air
temperature near 0F. Saw cat tracks, large bobcat or small cougar. 8587

8588 USA: UTAH: Utah Co., Provo, Rock Canyon, N 40.26553 W 111.62163 1642 m, 20-
Jan-2007 C. R. Nelson# 8588 & class 52 276 Nature Experience walk with Biology 100H
students, about 25 of them with TA Sarah Walker. saw rocky mountain bighorn sheep, scrub
jays, chickadees, robins, raptors, magpie nests, weasel, white. 8588

8589 USA: UTAH: Utah Co., Provo, Brigham Young University, near Knight mangu Hall, N
40.2458 W 111.6482 1409 m, 22-Jan-2007 C. R. Nelson# 8589 52 276 photos: california
quail 8589

8590 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W
111.64922 1495 m, 28-Jan-2007 C. R. Nelson# 8590 52 276 photos: red and purple
sunset, Mount Timpanogos and Cascade Mountain. 8590

8591 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W
111.64922 1495 m, 29-Jan-2007 C. R. Nelson# 8591 52 276 photos: red and purple
sunset, Mount Timpanogos and Cascade Mountain. photos: dead fish from my aquarium,
silver dollars: Metynnis sp. 9 dead; convict cichlids, 21 dead, Archocentrus nigrofasciatus.
9 of 15 metynnis died; 3 of 5 large old ones, 4 inch; 6 of 10 younger ones, 2 inch. 8591

8592 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South
Fork American Fork River near Timpooneke Guard Station, site 4, N 40.43226 W 111.63741
2213 m, 03-Feb-2007 C. R. Nelson# 8592 & S. Walker & E. R. Ball. 52 uploaded
temperature data from HOBO thermometer moved HOBO from air into water, downstream
from flat spot (central area) tied to small tree on east bank with white wire. Walked 2 miles
from Pine Hollow to Timpooneke on snow packed road, some postholing as we walked
upstream from the road. photos: people and scenery. 8592

8593 USA: UTAH: Utah Co., Mount Timpanogos, Pine Hollow Overlook, Hwy 92, Alpine
Loop N 40.449775 W 111.624714 2071 m, 03-Feb-2007 C. R. Nelson# 8593 & S. Walker &
E. R. Ball. 52 photo: Tipulidae: Chionea female, vouchered. 8593

8594 USA: UTAH: Utah Co., Mount Timpanogos, creek between Pine Hollow Overlook and
Altamont Campground, N 40.43891 W 111.63332 2102 m, 03-Feb-2007 C. R. Nelson#
8594 & S. Walker & E. R. Ball. 52 SHA benthics at Isoperla n sp stream. 8594

8595 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South
Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180 W 111.65754
1862 m, 03-Feb-2007 C. R. Nelson# 8595 & S. Walker & E. R. Ball. 52 read and moved

thermometer placed near flagged tree with a crown-snapped nearby tree. Stream completely iced over. We broke through 5 inch ice to get to the flowing water. Attached by black wire. 8595

8596 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, N 40.44749 W 111.68305, 1818 m, 03-Feb-2007 C. R. Nelson# 8596 & S. Walker & E. R. Ball. 52 installed thermometer in stream. I placed it in a deep run next to a clump of river birch trees above a deep pool with large boulders. the thermometer at this location had failed last fall when we retrieved it. It should arrive back from the factory, refurbished, on Monday. Photos: people and icy water. Attached by black wire. 8596

8597 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.43329 W 111.73836, 1547 m, 03-Feb-2007 C. R. Nelson# 8597 & S. Walker & E. R. Ball. 52 downloaded then moved from air to in river, attached to same cottonwood tree on south bank with green wire. Photos: Utacapnia? escaped
Capnia 2 spp. Trichoceridae 8597

8598 USA: UTAH: Utah Co., Mount Timpanogos, Hwy 92, at mouth of American Fork Canyon, N 40.43243 W 111.75033, 1506 m, 03-Feb-2007 C. R. Nelson# 8598 & S. Walker & E. R. Ball. 52 mouth Photos: rocky mountain bighorn sheep, Capnia adult (with squawbush bud in vial) 8598

8599 USA: TEXAS: Dallas Co. Dallas, Wyndham Hotel Dallas North, Hwy 635 jct Dallas Parkway N 32.92841 W 96.82613, 185 m, 6-8 February 2007 C. R. Nelson# 8599 52 DALLAS photos: sunset from hotel. 7 feb 2007: photos various galls on live oak, Quercus virginianus, collected many cynipidae galls from many trees. collected 109 cynipid galls on tree # 14; collected about 110 galls on tree 129. lot was 0.72 acres. 6 cedar elm trees, 24 live oak trees, and 3 crepe myrtle trees. Tree 14 circumference: basal: 5 ft 2 in; dbh stem 1: 2 ft 3 in; stem 2: 4 ft 1 in; stem 3: 1 ft 8 in. Tree #129 circumference: basal: 6 ft; dbh stem 1: 3 ft; stem 2: 2 ft 6 in; stem 3 2 ft 2 in. 12 feb photos in byu lab: Salticidae, brown and white from tree #129. various galls on live oak 8599

8600 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883W 111.26775 elev. 1860 msl 17-Feb-2007 C. R. Nelson# 8600 & scouts 52 photos: people and food at Glass Cliffs. Riley Nelson, Doug Baird, Brady Fox, Jeff Nichols, Don Dorton, Kit Stringham, Scott Henderson, Dallin Thomas, Reid Kuttler, Kevin C. Wilcox, Josh Carter, and Andrew Naylor 8600

8601 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180 W 111.65754 1862 m, 10-Mar-2007 C. R. Nelson# 8601 & students 52 Set 17 lindgren funnels starting at end fence of Guard Station compound on south end, spaced every 10-20 meters headed upstream. One trap, near trap 7 is not labeled yet with a business card. Checked instream thermometer. Set an air temperature thermometer. Photos: site and people. Riley Nelson, Sarah Walker, Kevin Khona, Christin Stradling, and Stew Morley. *Capnia nana* on snow; *Megarcys* in stream. 8601

8602 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, American Fork River, Grey Cliffs Picnic Area, N 40.449605 W 111.674357 1873 m, 10-Mar-2007 C. R. Nelson# 8602 & students 52 Riley Nelson, Sarah Walker, Kevin Khona, Christin Stradling, and Stew Morley. nymphs *Taeniopterygidae*: *Doddsia occidentalis*, *Megarcys*, *Skwala*, *Zapada* & adults, *Prostoia* & adults. 8602

8603 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, American Fork River bridge at canyon mouth, N 40.432847 W 111.747451 1600 m, 10-Mar-2007 C. R. Nelson# 8603 & students 52 Riley Nelson, Sarah Walker, Kevin Khona, Christin Stradling, and Stew Morley. adults *Taeniopterygidae*: *Doddsia occidentalis*, *Prostoia besmetsa*, *Zapada*. 8603

8604 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 20-Mar-2007 C. R. Nelson# 8604 52 276 thousands of mites infesting bran and apple colony of *Tenebrio molitor*, mealworms. 8604

8605 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180 W 111.65754 1862 m, 27-Mar-2007 C. R. Nelson# 8605 & students 53 emptied 17 lindgren funnels, funnel 3 bottle (and sample) missing. Set up 3 more funnels upstream. Some insects in traps.

Limb Hapairai, Sarah Walker, and Stew Morley. 280 is top trap: N40.45161 W111.65598 elev. 1976m; 281 is bottom trap N40.45246 W111.65880 elev. 1962m. insects 8605

8606 USA UTAH: Garfield Co. Grand Staircase - Escalante National Monument, white Entrada Sandstone, 2.4 mi W of Hole in the Rock Road, 0.2 mi NW of Collett Top Road N 37.55139 W 111.42278 6-7 April 2007 C. R. Nelson # 8606 & friends 53 gps from 2001. Kaye Nelson, Andrea Nelson, Sherry Dickinson, Jill Freitas, Edgemont 10th ward: Tolman, McKay, Thrupp, Crowley, Morrison, Barlow, Cannon, Dorton and dad, Baird David Wilford,

Devonas, Wilson, Nichols, Hunter, Fox, Romero, Goodwin, Robertson (Corey with Lucy Hiatt), Watkins. photos: dinosaur footprints, people, scenery, and squirrel jaw 8606

8607 USA UTAH: Kane Co., Grand Staircase - Escalante National Monument, Hole in the Rock Road, Dry Fork: Peekaboo and Spooky slot canyons. N 37.485 W 111.20944 07-Apr-2007 C. R. Nelson # 8607 & friends 53 gps from 2001. Kaye Nelson, Andrea Nelson, Sherry Dickinson, Jill Freitas, Edgemont 10th ward: Tolman, McKay, Thrupp, Crowley, Morrison, Barlow, Cannon, Dorton and dad, Baird David Wilford, Devonas, Wilson, Nichols, Hunter, Fox, Romero, Goodwin, Robertson (Corey with Lucy Hiatt), Watkins. GPS is top of Spooky narrows photos: people, scenery; 8607

8608 USA UTAH: Kane Co., Grand Staircase - Escalante National Monument, Hole in the Rock Road, 1 mi S of Red Well Turnoff ØN 37.417340 W 111.159248 1406m, 07-Apr-2007 C. R. Nelson # 8608 & friends 53 Kaye Nelson, Andrea Nelson, Jill Freitas, McKay: Bruce, Callie, Brigham, Duncan, Kajsa, Gavin, Lucy Hiatt, Corey Robertson photos: midget faded rattlesnake 8608

8609 USA UTAH: Kane Co., Glen Canyon National Recreation Area, Crack in the Wall, above jct Coyote Gulch and Escalante River, ØN 37.419166 W 110.985095 1129 m, 07-Apr-2007 C. R. Nelson # 8609 & friends 53 photos: Coyote Gulch, Escalante River, Stevens Arch, Crack in the Wall, people. Saw a few deep tinaja with water.
Kaye Nelson, Andrea Nelson, Jill Freitas, McKay: Bruce, Callie, Brigham, Duncan, Cajsa, Gavin, Lucy Hiatt, Corey Robertson 8609

8609 USA UTAH: Kane Co., Glen Canyon National Recreation Area, Crack in the Wall, above jct Coyote Gulch and Escalante River, ØN 37.419166 W 110.985095 1129 m, 07-Apr-2007 C. R. Nelson # 8609 & friends 53 photos: Coyote Gulch, Escalante River, Stevens Arch, Crack in the Wall, people. Saw a few deep tinaja with water.
Kaye Nelson, Andrea Nelson, Jill Freitas, McKay: Bruce, Callie, Brigham, Duncan, Kajsa, Gavin, Lucy Hiatt, Corey Robertson 8609

8610 USA UTAH: Garfield Co. Escalante, Circle D Motel, ØN 37.769789 W 111.608725 1789 m, 08-Apr-2007 C. R. Nelson # 8610 & family 53 photos: sheets blowing in the wind Kaye Nelson, Andrea Nelson, Jill Freitas. 8610

8611 USA UTAH: Garfield Co. Bryce Canyon National Park, Mossy Cave Trail near Hwy 12, ØN 37.664520 W 112.114740 2125 m, 08-Apr-2007 C. R. Nelson # 8611 & family 53 photos: Mossy Cave, Bryce Formations, people
Kaye Nelson, Andrea Nelson, Jill Freitas. 8611

8612 USA UTAH: Millard Co. I-15 near Fillmore $\hat{O}^a\emptyset$ N 38.903534 W 112.399062 1490 m, 08-Apr-2007 C. R. Nelson # 8612 & family 53 movies: rain on car window
Kaye Nelson, Andrea Nelson, Jill Freitas. 8612

8613 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180 W 111.65754 1862 m, 14-Apr-2007 C. R. Nelson# 8613 & students 53 photos: people, scenery
class: Sarah Walker, Kailey Kimball, Stew Morley, Steve Aston, Michelle Parry, Camille Moffat, Tim Perkins, John Clement, and Ben Fisher. photos: Philopotamidae, Dolophilodes inaequalis adults, Misumenops sp. crab spider; Pardosa? sp. wolf spider; Nemouridae: both Zapada haysi; Rhyacophilidae, Phycophila; Muscidae; people; Calliphoridae; Coccinelidae, 2 spp. Anatis? and Aphidecta?
caught: Capnia nana, Capnia confusa, Zapada cinctipes, Zapada columbiana, Zapada haysi, Prostoia besametsa, Doddsia occidentalis, spiders, beetles. 8613

8614 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 16-Apr-2007 C. R. Nelson# 8614 53 276 photos: tulips, daffodils, lilacs, apple, pear, apricot, Syrphidae: Syrphus sp. onion. Consider the lilies. 8614

8615 USA: UTAH: Utah Co., Provo, Edgemont, Canyon Road N 40.29 W 111.6 1475 m, 16-Apr-2007 C. R. Nelson# 8615 53 276 I moved some grape hyacinths from the yard of a home that will be demolished for a new subdivision to choice spots in my yard. An Iverson? fellow who owned the home said those flowers have been there for over 60 years. photos: tulips, hyacinths, daffodils. Consider the lilies. 8615

8616 USA: UTAH: Utah Co., Provo, BYU, Maeser Building, $\hat{O}^a\emptyset$ N 40.245254 $\hat{O}^a\emptyset$ W 111.653793, 1408 m, 16-Apr-2007 C. R. Nelson# 8616 53 276 photos: Maeser Building, interior looking out to Y Mountain. photos: flower plantings 8616

8617 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883W 111.26775 1860 m, 21-Apr-2007 C. R. Nelson# 8617 53 photos: people, Leonard and Lawrence Hawkes. 8617

8618 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 26-Apr-2007 C. R. Nelson# 8618 53 276 photos: leopard slug, Limax maximus 8618

8619 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883W 111.26775 1860 m, 28-Apr-2007 C. R. Nelson# 8619 53 photos: Scarabaeidae adults, Paracotalpa granicollis Haldeman 8619

8620 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 03-May-2007 C. R. Nelson# 8620 53 movies: rain on sunroom glass 8620

8621 USA: CALIFORNIA: Los Angeles Co. Los Angeles International Airport, terminal, N 33.94273 W 118.40836 56 m, 08-May-2007 C. R. Nelson# 8621 & S. Walker, K. Kimball, L. Hapairai. 53 283 photos: scale insect on orange flower "miro" tree, Muscidae, Coccinelidae pupae on azalea; azaleas. 8621

8622 FRENCH POLYNESIA: Society Islands, Windward Islands, Tahiti: Papeete, Latter-day Saint Temple S xx W xx 10 m, 8-9 May 2007 C. R. Nelson# 8622 & S. Walker, K. Kimball, L. Hapairai. 53 283 photos: Moroni on temple, night and morning 8622

8623 FRENCH POLYNESIA: Society Islands, Windward Islands, Tahiti: Faaa airport terminal, S xx W xx 10 m, 09-May-2007 C. R. Nelson# 8623 & S. Walker, K. Kimball, L. Hapairai. 53 283 Syrphidae: Ornidia obesa 8623

8624 FRENCH POLYNESIA: Society Islands, Windward Islands to Leeward Islands Faaa airport terminal, S xx W xx xx m, 09-May-2007 C. R. Nelson# 8624 & S. Walker, K. Kimball, L. Hapairai. 53 283 Photos: Tetiaroa, Maiao, Huahine, Tahaa, Borabora, Tupai, Maupiti. 8624

8625 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a Beach S 16.44817 W 152.27496 , 0 msl 09-May-2007 C. R. Nelson # 8625 & S. Walker, K. Kimball, L. Hapairai. 53 TEREIA photos: sunset & people Mohi's house at Terei'a is: 285: S16.44938 W 152.27339, 27 m, 8625

8626 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, near base of Hotu A'e Rock, S 16.43589 W 152.25945 0 msl 09-May-2007 C. R. Nelson # 8626 & S. Walker, K. Kimball, L. Hapairai. 53 photos: 20th birthday party for Lemhi Vaetua, foosball. 8626

8627 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, mountain top trail, Terei'a to Petei, S 16.44671 W 152.25574 384 msl 10-May-2007 C. R. Nelson # 8627 & S. Walker, K. Kimball, L. Hapairai. 53 285top2 Set malaise traps on peaks 1-3:

Peak 1: 285top1 S16.44694 W152.25539, elev 386 m; Peak 2: 285top2 S16.44671 W152.25574, 384m; Peak 3: 285top3 Tirianoo peak, S16.44635 W152.25763, 380 m.use peak two top for gps;

Three new readings for 2007.

photos: Platystomatidae? Lauxaniidae?, cicadellidae, mouch pisseuse?; Pentatomidae; Scutellaridae; Dolichopodidae; Bactrocera Tephritidae; Tephritinae; centipede;

Cerambycidae. Syrphidae Ornidia and Eristalis; Sphecidae, Nitidulidae in rotten coconut, Tettigoniidae, Libellulidae and Aeshnidae. 8627

8628 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a Beach S 16.44817 W 152.27496 , 0 msl 10-May-2007 C. R. Nelson # 8628 & S. Walker, K. Kimball, L. Hapairai. 53 TEREIA caught by Heiarii photos: Dolichopodidae 8628

8629 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Auira, nono farm of Teupoohuitua, S 16.42735 W 152.28369 , 11 m, 11-May-2007 C. R. Nelson # 8629 & S. Walker, K. Kimball, L. Hapairai. 53 285nono2 set 3 malaise traps in Morinda citrifolia orchard.
gps at orchard trap 2.

8629

8630 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Auira, tua from nono farm of Teupoohuitua, S 16.42471 W 152.28502 , 11 m, 11-May-2007 C. R. Nelson # 8630 & S. Walker, K. Kimball, L. Hapairai. 53 285nono2 set 3 malaise traps on ocean beach (tua) side in approximately native vegetation similar to pre nono farm.

285tua: S16.42471 W152.28502 7 m, sweepings near open reef beach: Ephydriidae. Syrphidae on tahinu plant flowers, small flies, Platystomatidae, bees, photos: cerambycidae. 8630

8631 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Auira, watermelon farm of Leon MOHI, S 16.43718 W 152.28917 , 14 m, 11-May-2007 C. R. Nelson # 8631 & S. Walker, K. Kimball, L. Hapairai. 53 285leon2 set 3 malaise traps along edge of watermelon farm,
285leon2 trap 2: S16.43718 W152.28917 14 m,

set another 3 malaise traps closer to the open ocean beach (tua) in native vegetation similar to what probably grew in the melon area before:
285leotua: S16.43690 W152.29018 12 m, 8631

8632 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a Beach S 16.44817 W 152.27496 , 0 msl 11-May-2007 C. R. Nelson # 8632 & S. Walker, K. Kimball, L. Hapairai. 53 TEREIA photos: coccnut cantharidae?; citrus scarabaeidae; Platystomatidae Scholastes 8632

8633 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a, W of Tukuriraa Ninahaere Point S 16.44817 W 152.27496 , 0 msl 12-May-2007 C.

R. Nelson # 8633 & S. Walker, K. Kimball, L. Hapairai. 53 set up three malaise traps near house at Terei'a, one under poro ati tree, one near pig pen, one in grass near freshwater pond.

Set up many colored bowls in an experiment, tourists flipped some, still got about 12 x 3 colors and 1 x 12 additional yellow. overturned bowls returned by a local. swept flies from beach. 8633

8634 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a, near caves E of Tutturiraa Ninahaere Point S 16.4528 W 152.27107 0 msl 12-May-2007 C. R. Nelson # 8634 & S. Walker, K. Kimball, L. Hapairai. 53 photos: people and scenery. Also photos people at Loreta's store at Ta'i manu base of Hotu Paraoa. Called caves NE of Tutturiraa Ninahaere in written notes, checking a map shows it east and slightly south, on the coast.

Loreta's store is: \hat{O}^a -16.4561702873, lon=-152.252023649 swept flies from beach. photos: small flies, ants carrying amphipods, camera flash acting up, not firing properly. 8634

8635 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Auira, Hoakatea, freshwater spot near lagoon beach near watermelon farm of Yannick Teriihaunui, S 16.44099 W 152.28488 , 0 m, 14-May-2007 C. R. Nelson # 8635 & S. Walker, K. Kimball, L. Hapairai. Faaneti Mohi. 53 285nono2 set up 3 malaise traps near lagoon beach, #1 near freshwater lake, flowing, photos of eared eel, puhi taria. #2 in overgrown coconut grove; #3 in wild nono and purau (*Hibiscus tiliaceus*). walked across inland to Leon's farm. gps at freshwater 8635

8636 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Auira, watermelon farm of Leon MOHI, S 16.43718 W 152.28917 , 14 m, 14-May-2007 C. R. Nelson # 8636 & S. Walker, K. Kimball, L. Hapairai. Faaneti Mohi. 53 285leon2 emptied and reset 3 malaise traps along edge of watermelon farm, 285leon2 trap 2: S16.43718 W152.28917 14 m,

emptied and reset 3 malaise traps closer to the open ocean beach (tua) in native vegetation similar to what probably grew in the melon area before (tahinu, tafano, naupata, coconuts, and raau (aihere) tapau:

285leotua: S16.43690 W152.29018 12 m.

Walked along tua beach to the nono farm of Ben Loyat and Puhi Teupoohuitua. Next traveled by boat to Tuana'i photos: flies and beetles on tahinu flowers on tua side 8636

8637 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Auira, tua and nono farm of Teupoohuitua, S 16.42735 W 152.28369 , 11 m, 14-May-

2007 C. R. Nelson # 8637 & S. Walker, K. Kimball, L. Hapairai. Faaneti Mohi 53 285nono2 emptied and reset 3 malaise traps in Morinda citrifolia orchard. gps at orchard trap 2. emptied and reset 3 malaise traps in tua vegetation next to Motu Tuana'i 8637

8638 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Tuana'i, Patrick Loyat "chalet", little pass near Paeao S 16.42250° W 152.25705°, 0 m, 14-May-2007 C. R. Nelson # 8638 & S. Walker, K. Kimball, L. Hapairai. Faaneti Mohi 53 285nono2 set 50 yellow pans 130 - 330 pm good catch. swam in little pass, many fish. Talked with Jean and Hilda Vaetua. They caught ouma for tarao bait. 8638

8639 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, mountain top trail, Petei to Terei'a S 16.44671 W 152.25574 384 msl 15-May-2007 C. R. Nelson # 8639 & S. Walker, K. Kimball, L. Hapairai. 53 285top2 emptied and reset malaise traps on peaks 1-3:

Peak 1: 285top1 S16.44694 W152.25539, elev 386 m; Peak 2: 285top2 S16.44671 W152.25574, 384m; Peak 3: 285top3 Tirianoo peak, S16.44635 W152.25763, 380 m. Last set 9 May 2007, 8627.

Walked up from Petei in town after being dropped off by Mick. Set and emptied about 35 yellow pans, running on ridge trail, from 1040am to 300 pm. photos: people and scenery including 3 panoramas, 1 lens set at 28mm, 2 & 3 set at 35mm. One vertical panorama. Drawing of pass. photos: flies and other insects between peaks. 8639

8640 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a, W of Tutturiraa Ninahaere Point S 16.44817 W 152.27496 0 msl 15-May-2007 C. R. Nelson # 8640 & S. Walker, K. Kimball, L. Hapairai. 53 emptied and reset three malaise traps near house at Terei'a, one under poro ati tree, one near pig pen, one in grass near freshwater pond. Last set 12 May 2007, 8633.

Set up many colored bowls in an experiment, tourists flipped some, still got about 12 x 3 colors and 1 x 12 additional yellow. overturned bowls returned by a local. 8640

8641 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a, W of Tutturiraa Ninahaere Point S 16.44817 W 152.27496 0 msl 16-May-2007 C. R. Nelson # 8641 & S. Walker, K. Kimball, L. Hapairai. 53 photos: underwater, reef and fishes 8641

8642 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Paeao, on Motu Aira side near Chez Janine pension, S 16.42068 W 152.26176 , 0 msl 17-May-2007 C. R. Nelson # 8642 & S. Walker, K. Kimball, L. Hapairai. Mick, Emilta,

Faaneti, Heiarii MOHI, sister matha & Tipanie. 53 287PAEAO Left Terei'a in the rain, tried to go to the pass, wind too rough, went to the calmer other side of the island.

Set out about 30 yellow pans on lagoon beach

Set out about 30 yellow pans on the tua beach coral foundation. ran them from 900am to 300pm, good catch. 287PAETUA S 16.41877 W152.26146. Collected sweep sample from the coral foundation; Collected sweep samples from mikimiki plant (tua). Collected sweep samples from mixed low vegetation on lagoon side. swam across small pass to Motu Auira when the current proved too strong along the papa coral foundation at tua.

Coordinates estimated on map and entered in GPS 8642

8643 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, coral heads near reef, south of Terei'a and Motu Auira, S 16.46474 W 152.27792 0 msl 17-May-2007 C. R. Nelson # 8643 & S. Walker, K. Kimball, L. Hapairai. Mick, Emilta, Faaneti, Heiarii MOHI, sister matha & Tipanie. 53 photos and movies underwater and about strong current filling the lagoon from high seas reef between Motu Auira and Motu Pitiahe. Great water clarity. Called north of Tereia in field notes, actually south 8643

8644 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Auira, tua and nono farm of Teupoohuitua, S 16.42735 W 152.28369 , 11 m, 18-May-2007 C. R. Nelson # 8644 & S. Walker, K. Kimball, L. Hapairai. Faaneti Mohi 53 285nono2 emptied and reset 3 malaise traps in Morinda citrifolia orchard.

gps at orchard trap 2.

emptied and reset 3 malaise traps in tua vegetation

last reset 14 May 2007 #8637.

Took vegetation transects using Robert Johnson's iron quadrat: 4 transects of 10 points each from middle of nono patch on four cardinal points of the compass. Also did transects (same procedure) in tua vegetation.

ran 40 yellow pan traps each in nono and tua. Ran from about 5 hours, 1000am to 300 pm. misnumbered as 8641, change on field samples to 8644! 8644

8645 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Auira, watermelon farm of Leon MOHI, S 16.43718 W 152.28917 , 14 m, 18-May-2007 C. R. Nelson # 8645 & S. Walker, K. Kimball, L. Hapairai. Faaneti Mohi. 53 285leon2 emptied and reset 3 malaise traps along edge of watermelon farm, 285leon2 trap 2: S16.43718 W152.28917 14 m, last reset 14 May 2007 #8636.

emptied and reset 3 malaise traps closer to the open ocean beach (tua)

Took vegetation transects in each as in 8644 but melon at center on side to avoid walking on vines, estimated points in melon patch.

ran 25 yellow pans at exact edge of melon patch and 15 more 10 feet away laterally across trail. Significantly more thrips on the melon side. Ran traps for about 4 hours 100pm to 500pm. Ran 40 yellow pans in tua vegetation for about 3 hours 200pm to 500pm.

misnumbered as 8642, change on field samples to 8645! 8645

8646 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Auirā, Hoakatea, freshwater spot near lagoon beach near watermelon farm of Yannick Teriihaunui, S 16.44099 W 152.28488, 0 m, 18-May-2007 C. R. Nelson # 8646 & S. Walker, K. Kimball, L. Hapairai. Faaneti Mohi. 53 285nono2 emptied and reset 3 malaise traps near lagoon beach, #1 near freshwater lake, flowing, photos of eared eel, puhi taria. #2 in overgrown coconut grove; #3 in wild nono and purau (*Hibiscus tiliaceus*).

last set up 14 May 2007, #8635. Done by Kailey Kimball. misnumbered as 8643, change on field samples to 8646! 8646

8647 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, church, Harana'i Valley S 16.43825 W 152.25153, 0 m, 19-May-2007 C. R. Nelson # 8647 & S. Walker, K. Kimball 53 photos young women weaving and baking activity. people, new chapel building construction.

Emilta Mohi, Hilda Vaetua, Florence Vaetua, Hereiti daughter of Heifara of Toto 1976. Tiare Firuu of Enota Firuu. Flo's daughters Ahumata and Natali. Also Moeata? daughter of ? and Hanalei daughter of Gerard Vaetua. misnumbered as 8644, change on field samples to 8647! 8647

8648 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a Beach S 16.44817 W 152.27496, 0 msl 19-May-2007 C. R. Nelson # 8648 & L. Hapairai. 53 TEREIA Heiarii cuts foot with big knife, needs 6 stitches.

night diving with Limb: I speared mu, ume tarei, and uu. misnumbered as 8645, change on field samples to 8648! 8648

8649 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, mountain top trail, Petei Trail, S 16.44671 W 152.25574 384 msl 21-May-2007 C. R. Nelson # 8649 & S. Walker, K. Kimball, L. Hapairai. 53 285top2 emptied and reset malaise traps on peaks 1-3:

Peak 1: 285top1 S16.44694 W152.25539, elev 386 m; Peak 2: 285top2 S16.44671 W152.25574, 384m; Peak 3: 285top3 Tirianoo peak, S16.44635 W152.25763, 380 m. Last set 15 May 2007, 8639.

Plant transect along trail, right side of trail from 1st big cliff to Peak 1. range frame

measurements every 5 m.

2871CLIFF S16.44720 W152.52388, elev. 254 m. (about 200 trail meters from Urufatiu Peak)

Plant transect along trail, right side of trail, from Peak 2 to base of cliff of Peak 3, range frame every 5 m.

Emptied and reset yellow pan traps, last set 15 May 2007, 8639. Ran new set 4 hours then harvested.

Could see clean water filter into lagoon, twisted my knee and cracked rib on descent.

Pressed plant samples from each transect. misnumbered as 8646, change on field samples to 8649! 8649

8650 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Auira, Hoakatea, freshwater spot near lagoon beach near watermelon farm of Yannick Teriihaunui, S 16.44099 W 152.28488 , 0 m, 22-May-2007 C. R. Nelson # 8650 & S. Walker, K. Kimball, L. Hapairai. Faaneti Mohi. 53 285nono2 emptied and took down 3 malaise traps near lagoon beach, #1 near freshwater lake, flowing, photos of eared eel, puhi taria. #2 in overgrown coconut grove; #3 in wild nono and purau (Hibiscus tiliaceus). last set up 18 May 2007, #8646.

Did 4 vegetation transects of 10 samples on cardinal points from malaise trap 2.

Set 40 yellow pans on lagoon beach ran 1000am to 200pm. emptied. A well-meaning Tahitian, Sikipoto, gathered about 13 before he realized we were doing something with them. lost data. Set 13 pan traps at each malaise trap, most near trap 1 near pond were turned by tupas, land crabs. Pressed plant samples. misnumbered as 8647, change on field samples to 8650! 8650

8651 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Auira, watermelon farm of Leon MOHI, S 16.43718 W 152.28917 , 14 m, 22-May-2007 C. R. Nelson # 8651 & S. Walker, K. Kimball, L. Hapairai. Faaneti Mohi. 53 285leon2 emptied and took down 3 malaise traps along edge of watermelon farm, 285leon2 trap 2: S16.43718 W152.28917 14 m, last reset 18 May 2007 #8645.

emptied and took down 3 malaise traps closer to the open ocean beach (tua)

photos: Leon and Katia Mohi, watermelons, scenery. misnumbered as 8648, change on field samples to 8651! 8651

8652 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Motu Auira, tua and nono farm of Teupoohuitua, S 16.42735 W 152.28369 , 11 m, 22-May-2007 C. R. Nelson # 8652 & S. Walker, K. Kimball, L. Hapairai. Faaneti Mohi 53 285nono2 emptied and took down 3 malaise traps in Morinda citrifolia orchard.

gps at orchard trap 2.

emptied and took down 3 malaise traps in tua vegetation

last reset 18 May 2007 #8644.

misnumbered as 8649, change on field samples to 8652! 8652

8653 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a Beach S 16.44817 W 152.27496 , 0 msl 22-May-2007 C. R. Nelson # 8653 & S. Walker, K. Kimball, L. Hapairai. 53 TEREIA Mick and Emilta's house, photos: cooking breadfruit, people, plants and fruit, Tenebrionidae on coconut husk.

Gave Mick Mohi 60000f about \$700 as partial payment. misnumbered as 8650, change on field samples to 8653!

centipede, Evaniidae 8653

8654 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, Terei'a Beach S 16.44817 W 152.27496 , 0 msl 23-May-2007 C. R. Nelson # 8654 & S. Walker, K. Kimball, L. Hapairai. 53 TEREIA emptied and reset 3 malaise traps. Moved one 15 m from under a poro ati tree to be in a more open area closer to the lagoon beach where robber flies abound.

last emptied 15 May 2007, 8640. misnumbered as 8651, change on field samples to 8654! 8654

8655 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti, coral heads near reef, south of Terei'a and Motu Auira, Ô°S 16.46474 W 152.27792 0 msl 23-May-2007 C. R. Nelson # 8655 & S. Walker, K. Kimball, L. Hapairai. Mohi family 53 photos underwater shots around coral heads both day and night. called north in field notes, actually south

strong current filling the lagoon from high seas reef between Motu Auira and Motu Pitiahe. Great water clarity.

ladies and BYU day, boys and byu boys night.

Long day, left Terei'a at 900am and returned at 500pm; left Terei'a again at 600pm and

returned at 1100 pm. Good spearfishing for 20 inch "blue" parrotfish ho'u. many vana (long spined sea urchins). misnumbered as 8652, change on field samples to 8655!
added 20 March 2017: Kailey Kimball took many pictures, including of titan triggerfish,
8655

8656 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti,
mountain top trail, Petei Trail, S 16.44671 W 152.25574 384 msl 24-May-2007 C. R. Nelson
8656 & S. Walker, K. Kimball, L. Hapairai. 53 285top2 emptied and took down malaise
traps on peaks 1-3:
Last set 21 May 2007, 8649.

misnumbered as 8653, change on field samples to 8656! 8656

8657 FRENCH POLYNESIA: Society Islands Leeward Group (Iles Sous Le Vent) Maupiti,
Terei'a Beach S 16.44817 W 152.27496 , 0 msl 25-May-2007 C. R. Nelson # 8657 & S.
Walker, K. Kimball, L. Hapairai. 53 TEREIA emptied and took down 3 malaise traps.
last emptied 23 May 2007, 8654.
Photos of people etc., in town. misnumbered as 8654, change on field samples to 8657!

Pinned 4 Stichopogon robber flies.
8657

8658 FRENCH POLYNESIA: Society Islands, Leeward Islands to Windward Islands Maupiti
airport to Tahiti Faaa airport terminal, S 16 W 152 xx m, 25-May-2007 C. R. Nelson# 8658
& S. Walker, K. Kimball, L. Hapairai. 53 Photos: Maupiti, Borabora, Tahaa, Raiatea,
Huahine. 8658

8659 FRENCH POLYNESIA: Society Islands, Leeward Islands Tahiti, Papeete, S 17.6
W149.5 xx m, 25-May-2007 C. R. Nelson# 8659 & S. Walker, K. Kimball, L. Hapairai. 53
Photos: eating at roulottes on wharf in Papeete with Leila Hapairai. 8659

8660 USA: CALIFORNIA: Los Angeles Co. Los Angeles International Airport, terminal, N
33.94273 W 118.40836 56 m, 26-May-2007 C. R. Nelson# 8660 & S. Walker, K. Kimball. 53
283 Photos: Sarah and Kailey at end of trip. 8660

8661 USA: ILLINOIS: Champaign Co. Urbana-Champaign, home of Ed DeWalt and Sandy,
N 40.11564 W 88.25233 252 m, 31-May-2007 C. R. Nelson# 8661 & stonefly workers 53
287EDHOUSE 287URBANA (Holiday Inn Hotel) N 40.13206 W 88.22212, 205 m, not Ed's
house.

Boris Kondratieff, John Sandberg, Dennis Heimdal photos: Tritoxa flexa Otitidae onion fly;
Calliphoridae; people 8661

8662 USA: ILLINOIS: Champaign Co. Champaign, University of Illinois, Illinois Natural History Survey, N 40.11 W 88.22 252 m, 01-Jun-2007 C. R. Nelson# 8662 & stonefly workers 53 PhotosP Boris Kondratieff, John Sandberg, De DeWalt; B. D. Walsh historic materials. 8662

8663 USA: ILLINOIS: Champaign Co. Champaign Airport, N 40.039306 W 88.270025 225 m, 02-Jun-2007 C. R. Nelson# 8663 53 Photos: City of Champaign-Urbana and surrounding farmland from the air. flying east to Detroit. photo book cover, Old man and the Sea, by Ernest Hemingway. University of Illinois Willard Airport, CMI. photos: Scarabaeidae, Polyphaga in airport; 8663

8664 USA: MICHIGAN: Wayne Co. Lake Erie near Detroit, OHIO: Cuyahoga Co. N 42 W 82 177 m, 02-Jun-2007 C. R. Nelson# 8664 53 photos: Lake Erie shoreline in both Michigan and Ohio, near Cleveland and Ontario, NE of Point Pelee. 8664

8665 USA: SOUTH CAROLINA: Richland Co. Columbia Convention Center, N 33.997167 W 81.037842 71 m, 04-Jun-2007 C. R. Nelson# 8665 53 photos: Meredith Worthen and Andrew Clamann; 5 June 2007: Ed DeWalt at Taxonomy fair. Meetings of the North American Benthological Society. 8665

8666 USA: SOUTH CAROLINA: Lexington Co. West Columbia, Comfort Inn Hotel N 33.95406 W 81.09753 31 m, 06-Jun-2007 C. R. Nelson# 8666 53 287 photos: trucks in parking lot called Instar. 8666

8667 USA: SOUTH CAROLINA: Richland Co. Congaree National Park, Kingsnake Trail N 33.803053 W 80.763983 27 m, 06-Jun-2007 C. R. Nelson# 8667 53 with Andrew Clamann and Mateo Scoggins of Austin, Texas. photos: harvestmen opiliones, tree, snake, caterpillar, honeysuckle, people, tettigoniidae, group 8667

8668 USA: SOUTH CAROLINA: Richland Co. Columbia Convention Center, N 33.997167 W 81.037842 71 m, 06-Jun-2007 C. R. Nelson# 8668 53 photos: dancing Tatyana Vish..kova, Takemon, Len Ferrington and Suvdaa; group. 8668

8669 USA: SOUTH CAROLINA: Richland Co. Congaree National Park, Visitors center and boardwalk, N 33.783275 W 80.783125 27 m, 07-Jun-2007 C. R. Nelson# 8669 53 with Heather Semon, Sarah Walker, and Dennis Shiozawa. Saw Mark Vinson and Chuck Hawkins of Utah State University on the boardwalk. photos: mosquito meter, trees, cypress knees, shadows, people. 8669

8670 USA: UTAH: Utah Co., Springville, launched from Junior High School, N 40.164426 W 111.596703 1404 m, 08-Jun-2007 C. R. Nelson# 8670 53 photos: balloon launching and ride, Kaye, Bronson Kelly, and son. 8670

8671 USA: UTAH: Kane Co., Deer Springs Ranch, upper cabins, 7 mi W of Skutumpah Road, N 37.40380 W 112.27145 2166 m, 08-Jun-2007 C. R. Nelson# 8671 & UBEST class 53 BCABIN2 of 2006 photos: sunrise on Pink Cliffs, Buprestidae, Cleridae. 8671

8672 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Sheep Creek junction Skutumpah Road, N 37.495278 W 112.066389 1760 m, 11-Jun-2007 C. R. Nelson# 8672 & UBEST class 53 First 100 samples of aquatics; flow/temp/substrate. Algae sample.

Coccidae? Pseudococcidae? Ortheziidae? on rabbitbrush.

Asilidae: Ablautus? photos, Efferia zonatus n. sp.

Old gps reading: 37 29 43 N 112 03 59 W 8672

8673 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Sheep Creek, jct Willis Creek, N 37.47270 W 112.06504 elev. 1752 m, 11-Jun-2007 C. R. Nelson# 8673 & UBEST class. 53 BWILLIS photos: petroglyphs, blue snake and big panel 8673

8674 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Calf Creek, site, 0.5 mi above Calf Creek Campground, N 37.79902 W 111.41108 1656 m, 12 June 2007, C. R. Nelson# 8674 & UBEST class. 53 Plant Transects, First 100s, abiotic characterization. 8674

8675 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Boulder Creek, 2 mi NE of Lower Calf Creek Campground, N 37.798955 W 111.379391 1647 m, 12 June 2007, C. R. Nelson# 8675 & UBEST class. 53 Hike to explore site possibilities, Adam Mitchell and Josh Stowers reached creek and took samples: First 100s, abiotic characterization, nitrate/algae/substrate. Other three of us looked for a simpler route, rimmed out 300 m NW of Bowington Arch. Parking place: 288CAFBOL N 37.80475 W 111.40096 elev 1785 m; 288NOGO (best route to creek by Josh and Adam, No Go by Riley Nelson, Bob Louder, and David Kent: N 37.79966 W 111.38579 1681 m. Later I got trapped by ledges on the south near Bowington Arch: N 37.77995 W 111.39316 1672 m. 8675

8676 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, 2 mi SW of Escalante River Bridge, Hwy 12, N 37.75458 W 111.43609 1761 m, 12 June 2007, C. R. Nelson# 8676 & UBEST class. 53 photos: Poliomenantha incana plant; Cerambycidae on Hymenopappus filifolius 8676

8677 USA: UTAH: Garfield Co. Escalante, Golden Loop Cafe N 37.77013 W 111.60118 1776 msl, 12-Jun-2007 C. R. Nelson# 8677 & UBEST class. 53 UTGOLDEN photos:

UBEST group in cafe by Yev Pevzner. Blattidae: Oriental cockroaches in men's bathroom.
8677

8678 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, plateau 1.0 mi S of Lick Wash, N 37.35942 W 112.19856 1959 m, 13 June 2007, C. R. Nelson# 8678 & UBEST class. 53 292RATTLE (taken later) photos: two rattlesnakes, about 200 m apart
8678

8679 USA: UTAH: Garfield Co. Dixie National Forest, Boulder Creek, 3 mi NW of Garkane Power Plant, Road 165 jct Hwy 12 N 38.00119 W 111.46567 2394 m, 13 June 2007, C. R. Nelson# 8679 & UBEST class. 53 288BOUL4 3 First 100s, substrate/nitrate/algae. With David Kent, Adam Mitchell, Robert Louder, Josh Stowers photos & movies: Cyrtopogon, Pteronarcella, Sweltsa. Also Isoperla, Prostoia?, and Eucapnopsis 8679

8680 USA: UTAH: Garfield Co. Boulder Creek, Boulder, jct Hwy 12 N 37.90117 W 111.43658 2015 m, 13 June 2007, C. R. Nelson# 8680 & UBEST class. 53 288BOU5 3 First 100s, substrate/nitrate/algae. With David Kent, Adam Mitchell, Robert Louder, Josh Stowers. water temp 21°C Drunella, Ephemerella, Baetis, Elmidae, Heptageniidae, Chironomidae
8680

8681 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Calf Creek, site, 0.5 mi above Calf Creek Campground, N 37.79902 W 111.41108 1656 m, 13 June 2007, C. R. Nelson# 8681 & UBEST class. 53 With David Kent, Adam Mitchell, Robert Louder, Josh Stowers. photos: turkeys, underwater in riffles and pools; photos small scorpions caught with UV light 8681

8682 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Boulder Creek, jct Dry Hollow below Hogback Overlook, Hwy 12, N 37.82497 W 111.40228 1724 m, 14 June 2007, C. R. Nelson# 8682 & UBEST class. 53 288BOUSLOT 3 First 100s, and all abiotic like other Boulder Creek samples. With David Kent, Adam Mitchell, Robert Louder, Josh Stowers. Holopogon, Meloidae, Trichoptera adult. 8682

8683 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Dry Hollow above jct Boulder Creek, below Hogback Overlook, Hwy 12, N 37.82493 W 111.40470 1752 m, 14 June 2007, C. R. Nelson# 8683 & UBEST class. 53 289DRY 3 First 100s, and all abiotic like other Boulder Creek samples. With David Kent, Adam Mitchell, Robert Louder, Josh Stowers. photos: Stephanidae 8683

8684 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Calf Creek, site, 0.5 mi above Calf Creek Campground, N 37.79902 W 111.41108 1656 m, 14 June 2007, C. R. Nelson# 8684 & UBEST class. 53 Set 63 or 58? yellow pan traps, gathered 58

samples. ran from 9:00 am to 3:00 pm. With David Kent, Adam Mitchell, Robert Louder, Josh Stowers. Buprestidae 8684

8685 USA: UTAH: Kane Co., Hwy 89, milemarker 75, 6 mi s of Mount Carmel Junction, N 37.16998 W 112.61090 1797 m, 15 June 2007, C. R. Nelson# 8685 & D. J. Betts. 53 291WYETHIA collected flower head of Wyethia scabra to rear flies, given to Robert Johnson 8685

8686 USA: UTAH: Kane Co., Dixie National Forest, Paunsaugunt Plateau, East Fork Creek, jct forest roads 87 & 92, 9 mi S of Tropic Reservoir N 37.47009 W 112.30660 2485 m, 17 June 2007, C. R. Nelson# 8686 & D. J. Betts & R. Johnson. 54 291 Leptoceridae, Perlodidae Isoperla, Anthomyiidae, Otitidae 8686

8687 USA: UTAH: Kane Co., Deer Springs Ranch, Cabin 10, Skutumpah Road N 37.33267 W 112.22453 1960 m, 17 June 2007, C. R. Nelson# 8687 54 292RANCH10 soft beetle 8687

8688 USA: UTAH: Kane Co., Deer Springs Ranch, Cabin 10, Skutumpah Road N 37.33267 W 112.22453 1960 m, 18 June 2007, C. R. Nelson# 8688 & UBEST 54 292RANCH10 class discussion; class collections;

Professors: Riley Nelson, Nikki Hanegan.

Grad students: Sarah Morrison, David Betts, David Kent, Adam Mitchell, and Laura Price.

year 1 teachers: Harrison Beckett, Jen Nikandrova, John Moon, Ashley Thompson, Chamberlin Wendlandt, Kali Pettijohn, Dennis Erickson, Lance Robins, Jason Carwin, Pat Quigg, Dax Higgins, Samantha Thompson. Year 2: Anne Lewis, Karen Cloud, Donna Hrynshyn. Chrysomelidae on oak, Quercus gambelii; Efferia benedicti, Archaeogantha. 8688

8689 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Lick Wash, head of narrows, Skutumpah Road, N 37.36452 W 112.18845 1913 m, 18 June 2007, C. R. Nelson# 8689 & UBEST 54 BLICKPARK (old record in parking lot) Measured plant richness at three plots on sagebrush flat using Horn's nested quadrat method. (1993) as in previous years. BLIC F (1-3) flats, use number 2 as an average: N 37.36687 W 112.18961 1904 m. BLICM (1-3) is mountainside, use 2 as average: N 37.36164 W 112.18900 1935 m.

Professors: Riley Nelson, Nikki Hanegan.

Grad students: Sarah Morrison, David Betts, David Kent, Adam Mitchell, and Laura Price.

year 1 teachers: Harrison Beckett, Jen Nikandrova, John Moon, Ashley Thompson, Chamberlin Wendlandt, Kali Pettijohn, Dennis Erickson, Lance Robins, Jason Carwin, Pat Quigg, Dax Higgins, Samantha Thompson. Year 2: Anne Lewis, Karen Cloud, Donna Hrynshyn. Stenopogon, Dicropaltum? 8689

8690 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Lick Wash, head of narrows, Skutumpah Road, N 37.36452 W 112.18845 1913 m, 19 June 2007, C. R. Nelson# 8690 & UBEST 54 BLICKPARK (old record in parking lot) Set up pairs of coarse/fine malaise traps on three sites of flats and three sites of mountain. See 8689.

Photos: people.

Listened to Monument Ecologist, Kim Anderson, spoke about area. See precise GPS at CRN 8689

BLIC F (1-3) flats, use number 2 as an average: N 37.36687 W 112.18961 1904 m.

BLICM (1-3) is mountainside, use 2 as average: N 37.36164 W 112.18900 1935 m.

Professors: Riley Nelson, Nikki Hanegan.

Grad students: Sarah Morrison, David Betts, David Kent, Adam Mitchell, and Laura Price.

year 1 teachers: Harrison Beckett, Jen Nikandrova, John Moon, Ashley Thompson, Chamberlin Wendlandt, Kali Pettijohn, Dennis Erickson, Lance Robins, Jason Carwin, Pat Quigg, Dax Higgins, Samantha Thompson. Year 2: Anne Lewis, Karen Cloud, Donna Hrynshyn. photos: Pompilidae Pepsis to Dennis Erickson, large beetle larva near Pogonomyrmex nest. 8690

8691 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, springs of Henrieville Creek, Hwy 12, 7 miles NE of Henrieville, N 37.61156 W 111.89503 2013 m, 19 June 2007, C. R. Nelson# 8691 & UBEST 54 HENTRAP (of 2003)

Professors: Riley Nelson, Nikki Hanegan.

Grad students: Sarah Morrison, David Betts, David Kent, Adam Mitchell, and Laura Price.

year 1 teachers: Harrison Beckett, Jen Nikandrova, John Moon, Ashley Thompson, Chamberlin Wendlandt, Kali Pettijohn, Dennis Erickson, Lance Robins, Jason Carwin, Pat Quigg, Dax Higgins, Samantha Thompson. Year 2: Anne Lewis, Karen Cloud, Donna Hrynshyn. Polacantha? or Machimus? mating pair. Gelastocoridae, first for Monument?; Tabanidae: Chrysops sp. 8691

8692 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Calf Creek, site, 0.5 mi above Calf Creek Campground, N 37.79902 W 111.41108 1656 m, 19 June 2007, C. R. Nelson# 8692 & UBEST class. 53 CALFCMP (of 2003) Afternoon: Each student took 2 First 100 aquatic macroinvertebrate samples. Photos: people and scenery.

Professors: Riley Nelson, Nikki Hanegan.

Grad students: Sarah Morrison, David Betts, David Kent, Adam Mitchell, and Laura Price.

year 1 teachers: Harrison Beckett, Jen Nikandrova, John Moon, Ashley Thompson, Chamberlin Wendlandt, Kali Pettijohn, Dennis Erickson, Lance Robins, Jason Carwin, Pat Quigg, Dax Higgins, Samantha Thompson. Year 2: Anne Lewis, Karen Cloud, Donna Hrynshyn. Chrysomelidae on Atriplex canescens.

Evening: scorpions, searched with UV lights, Hadrurus and smaller species, Solpugida. many Opuntia pads had frass that fluoresced under UV, coming out of them. 8692

8693 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Lick Wash, head of narrows, Skutumpah Road, N 37.36452 W 112.18845 1913 m, 20 June 2007, C. R. Nelson# 8693 & UBEST 54 BLICKPARK (old record in parking lot) Emptied and reset malaise traps of CRN 8690 at noon. Set out three yellow pan transects of 20 pans each on the flat, same on the mountainside. Gathered at 4 or 5pm? Walked down Lick Wash between yellow pan set & harvest.

See precise GPS at CRN 8689

BLIC F (1-3) flats, use number 2 as an average: N 37.36687 W 112.18961 1904 m.

BLICM (1-3) is mountainside, use 2 as average: N 37.36164 W 112.18900 1935 m.

Professors: Riley Nelson, Nikki Hanegan.

Grad students: Sarah Morrison, David Betts, David Kent, Adam Mitchell, and Laura Price.

year 1 teachers: Harrison Beckett, Jen Nikandrova, John Moon, Ashley Thompson,

Chamberlin Wendlandt, Kali Pettijohn, Dennis Erickson, Lance Robins, Jason Carwin, Pat

Quigg, Dax Higgins, Samantha Thompson. Year 2: Anne Lewis, Karen Cloud, Donna

Hrynyshyn. 8693

8694 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Lick Wash, head of narrows, Skutumpah Road, N 37.36452 W 112.18845 1913 m, 21 June 2007, C. R. Nelson# 8694 & UBEST 54 BLICKPARK (old record in parking lot) Emptied and reset malaise traps of CRN 8693 at 10:00 am. Again, set out three yellow pan transects of 20 pans each on the flat, same on the mountainside. Gathered in yellow pans at 430 pm, open for six hours.

See precise GPS at CRN 8689

BLIC F (1-3) flats, use number 2 as an average: N 37.36687 W 112.18961 1904 m.

BLICM (1-3) is mountainside, use 2 as average: N 37.36164 W 112.18900 1935 m.

Professors: Riley Nelson, Nikki Hanegan.

Grad students: Sarah Morrison, David Betts, David Kent, Adam Mitchell, and Laura Price.

year 1 teachers: Harrison Beckett, Jen Nikandrova, John Moon, Ashley Thompson,

Chamberlin Wendlandt, Kali Pettijohn, Dennis Erickson, Lance Robins, Jason Carwin, Pat

Quigg, Dax Higgins, Samantha Thompson. Year 2: Anne Lewis, Karen Cloud, Donna

Hrynyshyn. caught Stenopogon inquinatus,

Notonecta, at shiny van, no water.

Saw Coenagrionidae and Aeshna 8694

8695 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Sheep Creek, head of narrows, Skutumpah Road, N 37.48375 W 112.06447 1711 m, 21 June 2007, C. R.

Nelson# 8695 & UBEST 54 292SHENARO (beginnings of narrows) Collected from Skutumpah Road down to confluence with Willis Creek, often from Tamarix flowers. Megachilidae, Pompilidae, Sphecidae, Asilidae Efferia near zonata; Chrysomelidae. 8695

8696 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Sheep Creek Petroglyphs, SW corner of jct Sheep Creek and Willis Creek, N 37.47315 W 112.06544 1710 m, 21 June 2007, C. R. Nelson# 8696 & UBEST 54 292W photos: petroglyphs, SW corner, go up sand bank.

Blue Snake Petroglyphs upstream on Sheep Creek from Willis Creek jct. 292BLUE N 37.47832 W 112.06687 1717 m. photos: circle petroglyphs, 100 m upstream on Willis Creek, north wall, 10 m up on wall. Megachilidae, Pompilidae, Sphecidae, Asilidae Efferia near zonata; Chrysomelidae. 8696

8697 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Willis Creek, Skutumpah Road, N 37.47315 W 112.06544 1710 m, 21 June 2007, C. R. Nelson# 8697 & UBEST 54 292W (at jct Sheep Creek) photos: people and scenery. Buprestidae, Acmaeodera with spots. 8697

8698 USA: UTAH: Kane Co., Deer Springs Ranch, Cabin 10, Skutumpah Road N 37.33267 W 112.22453 1960 m, 21 June 2007, C. R. Nelson# 8698 & UBEST 54 292RANCH10 photos: scenery, Deer Spring Point. 8698

8699 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Lick Wash, head of narrows, Skutumpah Road, N 37.36452 W 112.18845 1913 m, 22 June 2007, C. R. Nelson# 8699 & UBEST 54 BLICKPARK (old record in parking lot) Emptied and took down all 12 malaise traps of CRN 8693 at 10:00 am. End of experiments. 8699

8700 USA: UTAH: Kane Co., Grand Staircase - Escalante National Monument, Skutumpah Road, 2.5 mi N of Johnson Canyon Road, N 37.27720 W 112.35845 1860 m, 22 June 2007, C. R. Nelson# 8700 & UBEST 54 Roadrunner! rare bird around GSENM 8700

8701 USA: UTAH: Kane Co., Johnson Canyon, 8.5 mi N of Hwy 89, Jensen Painted sign on Kayenta or Wingate Formation, N 37.14999 W 112.39318 1675 m, 22 June 2007, C. R. Nelson# 8701 & UBEST 54 292JENSEN photos: old painted words (billboard) on sandstone wall advertising store in Fredonia, Arizona. 8701

8702 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 27 June 2007, C. R. Nelson# 8702 54 Pteronarcella female, flying near mailbox over newly paved road! First stonefly at the house! 8702

8703 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 27 June 2007, C. R. Nelson# 8703 54 Pteronarcella female, flying near mailbox over newly paved road! First stonefly at the house! 8703

8703 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.43329 W 111.73836, 1547 m, 28-Jun-2007 C. R. Nelson# 8703 & S. Walker 54 read Hobo temperature probe into laptop; probe failure in February 8703

8704 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, N 40.44749 W 111.68305, 1818 m, 28-Jun-2007 C. R. Nelson# 8704 & S. Walker 54 uploaded temperature data from Hobo probe, worked well. photos: Salticidae eating Sweltsa coloradensis on dogwood Cornus sericea 8704

8705 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180 W 111.65754, 1862 m, 28-Jun-2007 C. R. Nelson# 8705 & S. Walker 54 uploaded temperature data from Hobo probes, worked well. One probe wet, in stream; one probe dry, attached to tree at chest height 8705

8706 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River near Timpooneke Guard Station, site 4, N 40.43226 W 111.63741 2213 m, 28-Jun-2007 C. R. Nelson# 8706 & S. Walker 54 uploaded temperature data from Hobo probe, worked well. Pictetiella expansa nymph! First this high on South Fork. 8706

8707 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River near Timpooneke Trail, below Giant Staircase lower meadow, site 5, N 40.42458 W 111.63899 elev. 2291 m, 28-Jun-2007 C. R. Nelson# 8707 & S. Walker 54 stream dry; photos Sarah in dry stream bed photos: Scarabaeidae, Cleridae, both posed on yarrow Achillea from BYU, yarrow was present on 8707 but beetles were on Geranium 8707

8708 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building N 40.24625 W 111.64984, 1420 m, 29-Jun-2007 C. R. Nelson # 8708 54 photos: Lygaeidae on yarrow, Achillea millefolia from campus 8708

8709 USA: UTAH: Utah Co., Sixth Water Creek, Sheep Creek Road, new bridge 18.3 mi N of Hwy 6, N 40.15128 W 111.30106, 2035 m, 29-Jun-2007 C. R. Nelson # 8709 & Entomology Class 54 3006water others: Mark Goodman, Adam Mitchell, Jordan Faux, Rich Dutton, Luke Talley, Sarah Blake, Casey Day, Leonora Butler, Carly Ferrin, Amber mansius, Tristan Call, Katie Savage (not in class Tristan's friend), Christian Davies, Suzette Holyoak, and Marci Clark.

mileage: dirt 3.2, parvment 15.1 total 18.3 miles photos: Athericidae Masses under

bridge, adults; Dermestidae in Masses; Hydropsychidae and another caddis, ant with Atherix eggs. 8709

8710 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m, 29-Jun-2007 C. R. Nelson # 8710 & Entomology Class 54 3006water others: Mark Goodman, Adam Mitchell, Jordan Faux, Rich Dutton, Luke Talley, Sarah Blake, Casey Day, Leonora Butler, Carly Ferrin, Amber mansius, Tristan Call, Katie Savage (not in class Tristan's friend), Christian Davies, Suzette Holyoak, and Marci Clark.

mileage: dirt 3.2, parvment 15.1 total 18.3 miles Pseudococcidae on Artemisia tridentata; Gomphidae; Elateridae; Buprestidae; Raphidiidae; Scarabaeidae, Phyllophaga decimlineata; Noctuidae; Hydropsychidae; Tephritidae, Eutreta? small on Artemisia tridentata 8710

8711 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 2 July 2007, C. R. Nelson# 8711 54 morning: Saturniidae, Hemileuca adult, given to Luke Talley; evening: photos of neighbors Raschel Hanama ikai with muddy kids Kelani and James. 8711

8712 USA: UTAH: Davis Co. Antelope Island, White Rock Bay, N 41.02692 W 112.24499 1288 m, 6-7 July 2007, C. R. Nelson# 8712 & Entomology class 54 302white others: Mark Goodman, Adam Mitchell, Jordan Faux, Rich Dutton, Sarah Blake, Casey Day, Amber mansius, Tristan Call, Katie Savage (not in class Tristan's friend), Christian Davies, Suzette Holyoak, Debra Texeira, Natalie Ryther, Annie McKay, Reid Smith, Andrea Simons, Elizabeth Bankhead, Karen Reece, and Marci Clark movies Ephydra brine flies and people; photos pronghorn antelope; Efferia benedicti one with Pogonomyrmex carrying it; Proctacanthus nearno with prey; reddish, golden metallic Salticidae on Artemisia tridentata; Cicindelidae; Chrysomelidae on chenopod; Tabanidae, Chrysops.

long family list:Araneidae

Lycosidae

Salticidae

Theridiidae

Vaejovidae

Artemiidae

Anthicidae

Buprestidae

Carabidae

Cerambycidae

Chrysomelidae
Cicindelidae
Coccinellidae
Curculionidae
Dytiscidae
Heteroceridae
Hydrophilidae
Melyridae
Scarabaeidae
Staphylinidae
Tenebrionidae
Asilidae
Bombyliidae
Calliphoridae
Chironomidae
Culicidae
Ephydriidae
Ephydriidae
Muscidae
Stratiomyidae
Tabanidae
Tipulidae
Baetidae
Cicadellidae
Cicadidae
Corixidae
Lygaeidae
Miridae
Nabidae
Notonectidae
Pentatomidae
Reduviidae
Rhopalidae
Saldidae
Apidae
Formicidae
Halictidae
Megachilidae

Mutillidae
Pompilidae
Scoliidae
Sphecidae
Tiphidae
Geometridae
Lasiocampidae
Noctuidae
Pieridae
Pyralidae
Mantidae
Machilidae
Chrysopidae
Myrmeleontidae
Aeshnidae
Coenagrionidae
Libellulidae
Acrididae 8712

8713 USA: UTAH: Davis Co. Antelope Island, Buffalo Point, N 41.03310 W 112.26331 1446 m, 7 July 2007, C. R. Nelson# 8713 & Entomology class 54 302buffalo others: Mark Goodman, Adam Mitchell, Jordan Faux, Rich Dutton, Sarah Blake, Casey Day, Amber mansius, Tristan Call, Katie Savage (not in class Tristan's friend), Christian Davies, Suzette Holyoak, Debra Texeira, Natalie Ryther, Annie McKay, Reid Smith, Andrea Simons, Elizabeth Bankhead, Karen Reece, and Marci Clark Stratiomyidae, photos: Chrysomelidae Trirhabda on Artemisia tridentata 8713

8714 USA: UTAH: Davis Co. Antelope Island, bay of island S of causeway, N 41.05925 W 112.23717 1297 m, 7 July 2007, C. R. Nelson# 8714 & Entomology class 54 302cause others: Mark Goodman, Adam Mitchell, Jordan Faux, Rich Dutton, Sarah Blake, Casey Day, Amber mansius, Tristan Call, Katie Savage (not in class Tristan's friend), Christian Davies, Suzette Holyoak, Debra Texeira, Natalie Ryther, Annie McKay, Reid Smith, Andrea Simons, Elizabeth Bankhead, Karen Reece, and Marci Clark Stichopogon salinus; dark Ephydriidae 8714

8715 USA: UTAH: Davis Co. causeway to Antelope Island N 41.083 W 112.204 1281 m, 7 July 2007, C. R. Nelson# 8715 & Entomology class 54 others: Mark Goodman, Adam Mitchell, Jordan Faux, Rich Dutton, Sarah Blake, Casey Day, Amber mansius, Tristan Call, Katie Savage (not in class Tristan's friend), Christian Davies, Suzette Holyoak, Debra

Texeira, Natalie Ryther, Annie McKay, Reid Smith, Andrea Simons, Elizabeth Bankhead, Karen Reece, and Marci Clark photos: avocets 8715

8716 USA: UTAH: Utah Co., American Fork, I-15 N 40.37 W 111.81 1392 m, 7 July 2007, C. R. Nelson# 8716 & Entomology class 54 photos: Riley Nelson pinning insects and recording data; others: Mark Goodman, Adam Mitchell, Jordan Faux, Rich Dutton, Sarah Blake, Casey Day, Amber mansius, Tristan Call, Katie Savage (not in class Tristan's friend), Christian Davies, Suzette Holyoak, Debra Texeira, Natalie Ryther, Annie McKay, Reid Smith, Andrea Simons, Elizabeth Bankhead, Karen Reece, and Marci Clark 8716

8717 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River near Timpooneke Guard Station, jct Great Western Trail, above site 4, N 40.43048 W 111.63886 2140 m, 10-Jul-2007 C. R. Nelson# 8717 & students 54 302up4 four First 100 samples: 2 on each fork of spring head near ninebark patch. These springs arise about 25 m below bridge for the Great Western Trail. Summer Scholars class: Michelle Bowers, Katie Gibbs, Tamara Watkins, and Chris Haskell. saw Alloperla in samples 8717

8718 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River near Timpooneke Guard Station, site 4, N 40.43226 W 111.63741 2213 m, 10-Jul-2007 C. R. Nelson# 8718 & students 54 Four First 100 samples from mossy riffle.

Summer Scholars class: Michelle Bowers, Katie Gibbs, TamaraWatkins, and Chris Haskell. 302up4clos (very near site 4): N40.43113 W 111.63803 elev 2133 (2D, poor reception) Chrysomelidae on Apocynum androsaemifolium (plant museum voucher) near Timpooneke Trailhead Parkling lot 8718

8719 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.43329 W 111.73836, 1547 m, 10-Jul-2007 C. R. Nelson# 8719 & students 54 read Hobo temperature probe. It was working fine.

Summer Scholars class: Michelle Bowers, Katie Gibbs, TamaraWatkins, and Chris Haskell. 8719

8720 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m, 14-Jul-2007 C. R. Nelson # 8720 & J. K. Nelson 54 photos swing and Mikaela and Erin Smith. USU friends: Blair & Cynthia Parrish; Hank & Rexanne Pond; Tracy & Penny Smith. 8720

8721 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 16 July 2007, C. R. Nelson# 8721 54 Machilidae given to Casey Day 8721

8722 USA: UTAH: Utah Co., Mosida Lodge Preserve, west side of Utah Lake, 13.7 km NE of Elberta, N 40.07120 W 111.91050 1383 m, 18 July 2007, C. R. Nelson# 8722 & UBEST class 54 mosidlookout photos: people
gps from near lookout tower photos: Cerambycidae
Aeshnidae 8722

8723 USA: UTAH: Utah Co., Provo, BYU, Martin Building N 40.24625 W 111.64984 1420 m, 20 July 2007, C. R. Nelson# 8723 & UBEST class 54 photos: UBEST people 8723

8724 USA: UTAH: Sanpete Co. Skyline Drive, Camp Shalom, N 39.67539 W 111.26477 2682 m, 20 July 2007, C. R. Nelson# 8724 & J. K. Nelson 54 shalom photos: ward girls camp, Edgemont Tenth Ward,
testimonies: Riley Nelson, Mikaela Hunter, Maddie Baird, Sarah Crowley, Rebecca Devonas, Bailey Baird, Marina Hudgens, Hunter Gibson, Tamara Schmidt, Cami Hunter, Deborah Fox, Cami Hunter again, Jasmine Wilcox, Kaye Nelson, April Baird, Becky Soderquist, Sharilyn Barlow, Sarah Crowley again, and Bailey Morgan. 8724

8725 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 25 July 2007, C. R. Nelson# 8725 54 photos: cat tapeworm proglottid from Heiva the cat, on kitty litter background 8725

8726 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m, 28-Jul-2007 C. R. Nelson # 8726 & family 54 photos: family at Wheeler Family Reunion 8726

8727 USA: UTAH: Wayne Co. Cheese Factory NW of Loa, N 38.42111 W 111.66084 2210 m, 03-Aug-2007 C. R. Nelson # 8727 & class 54 others: Mark Goodman, Sarah Walker, Christian Davies, Suzette Holyoak, Debra Texeira, Marci Clark, Amber mansius, Casey Day, Rich Dutton, Luke Talley, Elizabeth Bankhead, Joe Wilson (BYU videographer), Tristan Call, Katie Savage (humanities guest), Carly Ferrin, Karen Reece, and Leonora Butler horned lizard near Pogonomyrmex ant nest 8727

8728 USA: UTAH: Garfield Co. Boulder Mountain, Hwy 12, Larb Hollow Overlook N 38.13234 W 111.32589 2665 m, 03-Aug-2007 C. R. Nelson # 8728 & class 54 Views in overcast skies of Henry Mountains.
others: Mark Goodman, Sarah Walker, Christian Davies, Suzette Holyoak, Debra Texeira, Marci Clark, Amber mansius, Casey Day, Rich Dutton, Luke Talley, Elizabeth Bankhead, Joe

Wilson (BYU videographer), Tristan Call, Katie Savage (humanities guest), Carly Ferrin, Karen Reece, and Leonora Butler big bull snake 8728

8729 USA: UTAH: Garfield Co. Boulder Mountain, Hwy 12, Steep Creek Overlook N 38.02709 W 111.34340 2857 m, 03-Aug-2007 C. R. Nelson # 8729 & class 54 Views of The Gulch, Navajo Mountain, etc. in overcast skies.

others: Mark Goodman, Sarah Walker, Christian Davies, Suzette Holyoak, Debra Texeira, Marci Clark, Amber mansius, Casey Day, Rich Dutton, Luke Talley, Elizabeth Bankhead, Joe Wilson (BYU videographer), Tristan Call, Katie Savage (humanities guest), Carly Ferrin, Karen Reece, and Leonora Butler Miridae and Aphididae on Lupine 8729

8730 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Hogback Overlook, Hwy 12, ridge above Lower Calf Creek Falls, N 37.83081 W 111.41502 1917 m, 03-Aug-2007 C. R. Nelson # 8730 & class 54 Views of Calf Creek, Dry Hollow, Boulder Creek, and Boulder Mountain.

others: Mark Goodman, Sarah Walker, Christian Davies, Suzette Holyoak, Debra Texeira, Marci Clark, Amber mansius, Casey Day, Rich Dutton, Luke Talley, Elizabeth Bankhead, Joe Wilson (BYU videographer), Tristan Call, Katie Savage (humanities guest), Carly Ferrin, Karen Reece, and Leonora Butler Efferia benedicti to Carly Ferrin 8730

8731 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, Calf Creek Campground and 0.5 mi N at permanent site, N 37.79373 W 111.41518 1630 m, 3-4 August 2007 C. R. Nelson # 8731 & class 54 BLM camp maintenance: Lloyd from Louisiana; host: Charlene Robinson

others: Mark Goodman, Sarah Walker, Christian Davies, Suzette Holyoak, Debra Texeira, Marci Clark, Amber mansius, Casey Day, Rich Dutton, Luke Talley, Elizabeth Bankhead, Joe Wilson (BYU videographer), Tristan Call, Katie Savage (humanities guest), Carly Ferrin, Karen Reece, and Leonora Butler Mydidae, black with orange wings with Elizabeth Bankhead; Myrmeleontidae, Phasmidae with Elizabeth, Sphecidae, large black first thought Pompilidae; Pseudococcidae, Ortheziidae, Dactylopiidae, Gomphidae, Gerridae 8731

8732 USA: UTAH: Garfield Co. Grand Staircase - Escalante National Monument, springs of Henrieville Creek, Hwy 12, 7 miles NE of Henrieville, N 37.61156 W 111.89503 2013 m, 4 August 2007, C. R. Nelson# 8732 & class 54 HENTRAP (of 2003) others: Mark Goodman, Sarah Walker, Christian Davies, Suzette Holyoak, Debra Texeira, Marci Clark, Amber mansius, Casey Day, Rich Dutton, Luke Talley, Elizabeth Bankhead, Joe Wilson (BYU videographer), Tristan Call, Katie Savage (humanities guest), Carly Ferrin, Karen Reece, and Leonora Butler Gelastocoridae; Danaiinae; Xylocopa; Sphingidae; Nemouridae (lost);

Tipulidae; Coenagrionidae: Amphagrion (a first?) and Enallagma or Argia; Cercopidae; Bombyliidae; Machilidae; Tettigoniidae; Nymphalidae; Satyrinae 8732

8733 USA: UTAH: Garfield Co. Sevier River, 6 mi S of Circleville, Hwy 89, N 38.10685 W 112.33597 1896 m, 4 August 2007, C. R. Nelson# 8733 & class 54 circle photo of stream.

Group photos minus a few who left trip early

others: Mark Goodman, Sarah Walker, Christian Davies, Suzette Holyoak, Marci Clark, Casey Day, Rich Dutton, Luke Talley, Elizabeth Bankhead, Tristan Call, Katie Savage (humanities guest), Carly Ferrin, Karen Reece, and Leonora Butler Plecoptera (Perlodidae); Gomphidae nymphs common; Leptohyphidae; Heteroceridae; Reduviidae; Cicindelidae; Gyrinidae; Dytiscidae; Gerridae; Tachinidae; Naucoridae 8733

8734 USA: UTAH: Utah Co., Mount Timpanogos, Timpanogos Basin, Timpooneke Trail, N 40.40489 W 111.64681 3095 m, 10-11 August 2007, C. R. Nelson# 8734 & J. K. Nelson 54 timpcamp07 photos: scenery

Met Bob Oscarson, a man a bit older than me, who knew much about the mountain goats because he has followed them through the years. He called them the Pika herd. He is from Orem, I think. photos: Mountain goats; Saturniidae, Hemileuca probably eglanderina 8734

8735 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trail, 300 meters N of Timpanogos Saddle N 40.40012 W 111.65436 3300 m, 11 August 2007, C. R. Nelson# 8735 & J. K. Nelson 54 photos: scenery photos: Mountain goats close up
Tipulidae, Asilidae: Cyrtopogon; Cerambycidae 8735

8736 USA: UTAH: Utah Co., Mount Timpanogos Summit, N 40.39093 W 111.64597 3579 m, 11 August 2007, C. R. Nelson# 8736 & J. K. Nelson 54 timptop photos: people, scenery, panoramas first as with 28mm lens; second as with 50 mm lens.
fossils kept from last dark gray strata before summit photos: Saturniidae, Hemileuca probably eglanderina 8736

8737 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trail, Giant Staircase, first big switchback, N 40.41271 W 111.64249 2700 m, 11 August 2007, C. R. Nelson# 8737 & J. K. Nelson 54 met John Henderson on trail. He works for the BLM out of Rock Springs, Wyoming and deals with aquatic insects. He helped Kaye with some water to drink. photos: grouse mother & babies 8737

8738 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trailhead, N 40.43134 W 111.63858 2240 m, 10 and 11 August 2007, C. R. Nelson# 8738 & J. K. Nelson 54 photos: Kaye at beginning of hike; Kaye and Riley at end of hike with Mount Timpanogos in the background. 8738

8739 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 elev. 1495 m, 14 August 2007, C. R. Nelson# 8739 54 photo session for Thysanura: USA: UTAH: Utah Co., Provo, BYU, Smoot Building, N 40.25081 W 111.64931, elev. 1420 m, 8 August 2007, Brittani Johnson, collector Thysanura 8739

8740 USA: UTAH: Utah Co., Provo River, Provo Canyon, Hwy 189, Canyon View Park, N 40.32435 W 111.64495 elev. 1481 m, 14-Aug-2007 C. R. Nelson# 8740 54 canview I was filmed in an interview on experiential learning and learning outcomes by Rob Youngberg and Joe Wilson of the BYU Harold B. Lee Library Media group 8740

8741 USA: UTAH: Utah Co., Provo, 2702 North Timpview Drive, Norma Rohde's yard, N 40.26952 W 111.64737 elev. 1457 m, 15-Aug-2007 C. R. Nelson# 8741 54 canview photos in lab, 7 September 2007 Curculionidae, long nosed weevils with two lengths of probosci, in seeds of Hollyhock, *Alcea rosea*. 8741

8742 DENMARK Zealand, Copenhagen N 55.67744 E 12.58028 elev. 10 m, 19-Aug-2007 C. R. Nelson# 8742 & J. K. Nelson 54 COPENPARLI Tivoli Nyhavn, Christianshavn, Little Mermaid, Parliament, GPS near Parliament. I forgot to reset the time and date for this European trip. Denmark and Sweden are 8 hours ahead of Mountain time in Utah. 8742

8743 SWEDEN Skane, Malmö, N 55.60572 E 12.99772 elev. 5 m, 21-Aug-2007 C. R. Nelson# 8743 & J. K. Nelson 54 MALMOHOTEL University of Malmö, Lilla Torg, Öresund bridge in bus, both sides, around Hotel Maester Johan; Malmöhus castle. 8743

8744 DENMARK Zealand, Copenhagen N 55.67744 E 12.58028 elev. 10 m, 23-Aug-2007 C. R. Nelson# 8744 & J. K. Nelson 54 COPENPARLI Experimentarium, used GPS from across town at Parliament 8744

8745 SWEDEN Skane, Malmö, N 55.60572 E 12.99772 elev. 5 m, 24-Aug-2007 C. R. Nelson# 8745 & J. K. Nelson 54 MALMOHOTEL around Hotel Maester Johan, park by Malmöhus, university, 8745

8746 SWEDEN Skane, Hölleviken, Foteviken, N 55.92829 E 12.95222 elev. 5 m, 24-Aug-2007 C. R. Nelson# 8746 & J. K. Nelson 54 FOTEVIKING Foteviken Viking Village Syrphidae, Opiliones, Muscidae, Calliphoridae, Acrididae 8746

8747 SWEDEN Skane and Södermanland train, Malmö to Norrköping N 57 E 15 elev. varied m, 25-Aug-2007 C. R. Nelson# 8747 & J. K. Nelson 54 average BUSKSWEDE & MALMO photos: countryside, train ride, and tracks. 8747

8748 SWEDEN Södermanland Buskhytten, 12 km SE of Nyköping, N 58.77601 E 17.02157 elev. 10 m, 25-Aug-2007 C. R. Nelson# 8748 & J. K. Nelson 54 BUSKSWEDE Anna and Kevin Holston's house, Veronica age 13 and Johannes age 4 8748

8749 SWEDEN Sodermanland Buskhytten, 12 km SE of Nykoping, N 58.77601 E 17.02157 elev. 10 m, 26-27 August 2007 C. R. Nelson# 8749 & J. K. Nelson 54 BUSKSWEDE Anna and Kevin Holston's house, Veronica age 13 and Johannes age 4 8749

8750 SWEDEN Sodermanland Kila, 23 km W of Nykoping, N 58.74554 E 16.54863 elev. 72 m, 26-Aug-2007 C. R. Nelson# 8750 & J. K. Nelson & Holstons 54 KILASWEDEN photos: church, graveyard, scenery. Town of ancestors of Lars Jensen Halling from the 1600s. 8750

8751 SWEDEN Stockholm, N 59.41406 E 18.10547 elev. 5 m, 27-Aug-2007 C. R. Nelson# 8751 & J. K. Nelson & K. C. Holston. 54 off gps map photos: Natural History Museum, Riksmuseet 8751

8752 SWEDEN Sodermanland Buskhytten, 12 km SE of Nykoping, N 58.77601 E 17.02157 elev. 10 m, 27-Aug-2007 C. R. Nelson# 8752 & J. K. Nelson 54 BUSKSWEDE photos of family: Anna and Kevin Holston's house, Veronica age 13 and Johannes age 4 with Kaye and Riley Nelson 8752

8753 SWEDEN DENMark train, Nykoping, Malmo, and Copenhagen, N 57 E 15 elev. varied m, 28-Aug-2007 C. R. Nelson# 8753 & J. K. Nelson 54 average BUSKSWEDE & MALMO photos: countryside, train ride, and tracks. 8753

8754 DENMark Zealand, Copenhagen N 55.67744 E 12.58028 elev. 10 m, 28-Aug-2007 C. R. Nelson# 8754 & J. K. Nelson 54 COPENPARLI photos: downtown, Nikolai Church, Nyhavn, Island Brygge. 8754

8755 DENMark Zealand, Roskilde, harbor and near Domskirke Church N 55.65062 E 12.08104 elev. 0 m, 29-Aug-2007 C. R. Nelson# 8755 & J. K. Nelson 54 DENROVIK photos: church and museum, GPS: DENROSKRR downtown at train station: N 55.63931 W 12.08874, elev 18 m. DENROVIK near harbor and museum, given above 8755

8756 DENMark Zealand, Copenhagen, Island Brygge, N 56.66488 E 12.58111 elev. 5 m, 29-Aug-2007 C. R. Nelson# 8756 & J. K. Nelson 54 DENISLANDBR photos: Hotel Copenhagen. Left Copenhagen on morning of 30 August 2007 at 11:00 am. 9.5 hour flight to Atlanta, Georgia. 8756

8757 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m, 02-Sep-2007 C. R. Nelson # 8757 & family 54 photos: Coleoptera, Rhipiceridae 8757

8758 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 4 September 2007, C. R. Nelson# 8758 54 photos: Mantidae egg Mass, ootheca of mantis religiosa 8758

8759 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 5 September 2007, C. R. Nelson# 8759 54 photos: morning lightning storm. 8759

8760 USA UTAH: Utah Co., Utah Lake, 1 mi W of Lincoln Beach, N 40.14109 W 111.82088, 1366 m, 07-Sep-2007 C. R. Nelson # 8760 & class 46 UTLIN photos: Entomology students and insects at blacklight sheets. Riley Nelson, Limb Hapairai, Jessica Barnes, Liesel & Blake Christensen, Lindsay Cole, Shelly Hancock, Laura Hodgen, Lisa Hoover, Sara Jo Johnson, Janet Lee, and Jillian Schults. students collected: Heteroceridae, Staphylinidae, Chironomidae Chironomus frommeri, Tipulidae, Corixidae, Belostomatidae. 8760

8761 USA UTAH: Utah Co., Utah Lake, Lincoln Beach Marina, N 40.14308 W 111.80353, 1366 m, 07-Sep-2007 C. R. Nelson # 8761 & class 46 UTLIN photos: Entomology students and insects at blacklight sheets. Riley Nelson, Limb Hapairai, Jessica Barnes, Liesel & Blake Christensen, Lindsay Cole, Shelly Hancock, Laura Hodgen, Lisa Hoover, Sara Jo Johnson, Janet Lee, and Jillian Schults. bufo sp?; spiders, Sphingidae 8761

8762 USA: UTAH: Utah Co., Provo, Rock Canyon mouth, N 40.26553 W 111.62163 1642 m, 08-Sep-2007 C. R. Nelson# 8762 & class 54 276 Nature Experience walk with Biodiversity students, about 20. photos small group at end. Riley Nelson, Isabella Dias, Sarah Gehen photo, Brittney McDermott photo, Spencer McMullin photo, Steve Merkley photo, Michael Osborn, Daniel Palaski, ?Bonnie Weber, Kanyun Xue photo, Hilary Smith photo saw osprey with large fish, bighorn sheep. swept insects from Apocynum and Chrysothamnus for demonstration 8762

8763 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95623 W 111.26763 1829 m, 14-15 September 2007 C. R. Nelson # 8763 & Entomology students 54 photos: sunrise 15 September 2007. present: Riley Nelson, Kaye Nelson, Limb Hapalrai, Liesel Christensen, Lisa Hoover, Laura Hodgen, Mary Meagan Waites, Joss Wertz, Kelton Welch, Lindsay Cole, Camie Martin, Paul Frandsen, Janet Lee, Shelly Hancock, and Sara Jo Johnson. caught insects on rabbitbrush; insects at mercury vapor lamp; all insects to students 8763

8764 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95623 W 111.26763 1829 m, 14-15 September 2007 C. R. Nelson # 8764 & Entomology students 54 photos: students on stream, also movie of students chasing tiger beetles present: Riley Nelson, Kaye Nelson, Limb Hapalrai, Liesel Christensen, Lisa Hoover, Laura Hodgen, Mary Meagan Waites, Joss Wertz, Kelton Welch, Lindsay Cole, Camie Martin, Paul

Frandsen, Janet Lee, Shelly Hancock, and Sara Jo Johnson. tiger beetles, Cicindelidae, Carabidae; 8764

8765 USA: UTAH: Utah Co., Provo, BYU, near Martin Building N 40.246 W 111.648 1420 m, 17-Sep-2007 C. R. Nelson # 8765 & M. Goodman 54 photos: mantodea Mantidae *Tenodera aridifolia sinensis*, some shots eating Chironomidae *Chironomus frommeri* 8765

8766 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Tibble Fork, N 40.49045 W 111.65482 2067 m, 16-Aug-2007 C. R. Nelson # 8766 & S. Walker 54 C. R. Nelson not present when collected! Collected by S. Walker photos taken 12 September 2007 in lab by C. R. Nelson, Sarah Walker and others of Perlodidae *Pictetiella expansa* emerging, died before getting out. 8766

8767 USA: UTAH: Utah Co., Provo, BYU, Carillon Tower N 40.25271 W 111.64807 1428 m, 19-Sep-2007 8767 55 Bruchidae in seed of red bud, *Cercis canadensis*, given to Kelton Welch; seeds planted at Nelson home in front yard. 8767

8768 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 21 September 2007, C. R. Nelson# 8768 & scouts 55 jerusalem cricket caught by neighborhood scouts, Ethan Baird, K. C. Wilcox, Justin Carter and others in the street on Timpview Drive. *Stenopelmatus fuscatus*, photos taken 23 September 2007 on glass, paper, and rock 8768

8769 USA: UTAH: Washington Co. Mountain Meadows Monument, Hwy 18, 10 mi S of Enterprise, N 37.47556 W 113.64368 1747 m, 28 September 2007, C. R. Nelson# 8769 & Entomology class 55 mountmeado Riley Nelson, Limb Hapairai, Janet Lee, Kelton Welch, Jillian Schults, Mary Megan Waites, Lisa Hoover, Liesel Christensen, Lindsay Cole, Camie Martin, Paul Frandsen, and Jeremiah Muldowney photos Massacre site, grave site; Chrysomelidae *Disonycha* and Cecidomyiidae pine cone galls on *Salix exigua*. Tenebrionidae 8769

8770 USA: UTAH: Washington Co. magotsu Creek, 2 miles North of junction Santa Clara River, N 37.33556 W 113.72020 1225 m, 28 September 2007, C. R. Nelson# 8770 & Entomology class 55 moodystcla Riley Nelson, Limb Hapairai, Janet Lee, Kelton Welch, Jillian Schults, Mary Megan Waites, Lisa Hoover, Liesel Christensen, Lindsay Cole, Camie Martin, Paul Frandsen, and Jeremiah Muldowney. GPS map calls the spot Moody Wash, I chose to use magotsu. 2 miles above jct Santa Clara River, 4 miles North of Gunlock. Megaloptera Corydalidae *Corydalus cognatus* larvae, Dryopidae *Helichus*, fish, mountain? sucker, dace; Hydrophilidae Dytiscidae, Lycaenidae pygmy blue butterflies, Cicindelidae, photos: Geometridae pupae on *Chilopsis linearis*; Chrysomelidae with lines on *Datura*, spotted on *Curcubita* stink gourd. seeps of *Datura* kept to plant at home 8770

8771 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, headquarters and wash N 37.14306 W 114.02222 854 m, 28-29 September 2007, C. R. Nelson# 8771 & Entomology class 55 lytlehq Riley Nelson, Limb Hapairai, Janet Lee, Kelton Welch, Jillian Schults, Mary Megan Waites, Lisa Hoover, Liesel Christensen, Lindsay Cole, Camie Martin, Paul Frandsen, and Jeremiah Muldowney. light of 28 Sep 2007: Myrmeleontidae, Saturniidae, Hemileuca neumogeni, Collembola, Tenebrionidae Eleodes. near stream: set out yellow pans, also Gelastocoridae, Tetrigidae, Carabidae, bombardier beetles, Brychinus?. Day 29 Sep: Pompilidae Pepsis, photos: Meloidae, 3 spp., also Berytidae on mustard in wash, gomphidae, Acrididae, Sphecidae, Nicoletiidae alone, not with ants. coachwhip snake, zebra tail lizard, Uta 8771

8772 USA: UTAH: Washington Co. Beaver Dam Slope, Welcome Springs N 37.09694 W 113.91133 1295 m, 29 September 2007, C. R. Nelson# 8772 & Entomology class 55 Riley Nelson, Limb Hapairai, Janet Lee, Kelton Welch, Jillian Schults, Mary Megan Waites, Lisa Hoover, Liesel Christensen, Lindsay Cole, Camie Martin, Paul Frandsen, and Jeremiah Muldowney. burned area, only a few trees saved near the parking lot. Bombyliidae, Libellulidae 8772

8773 USA: UTAH: Washington Co. Beaver Dam Slope, 1 mi South of Welcome Springs Junction, N 37.05873 W 113.91973 1020 m, 29 September 2007, C. R. Nelson# 8773 & Entomology class 55 welcomdown Riley Nelson, Limb Hapairai, Janet Lee, Kelton Welch, Jillian Schults, Mary Megan Waites, Lisa Hoover, Liesel Christensen, Lindsay Cole, Camie Martin, Paul Frandsen, and Jeremiah Muldowney. at stock tank down slope from the trunk road to Lytle 1 mi S of junction Welcome Springs turnoff Thysanura, both Lepismatidae? and Nicoletiidae with bicolored ants
Chilopoda, Diplura with Paul Frandsen, Acrididae gray and also Bootettix on Larrea tridentata; Tettigoniidae, Insara covilleae on Larrea, Pseudoscorpion-Lisa Hoover, gray spider, Scytodes? Mary Megan Waites; Blaberidae Arenivaga MM Waites. 8773

8774 USA: UTAH: Washington Co. Red Cliffs Campground, 2 mi S of Leeds, N 37.22477 W 113.40530 928 m, 29-30 September 2007, C. R. Nelson# 8774 & Entomology class 55 redcamp6 Riley Nelson, Limb Hapairai, Janet Lee, Kelton Welch, Jillian Schults, Mary Megan Waites, Lisa Hoover, Liesel Christensen, Lindsay Cole, Camie Martin, Paul Frandsen, and Jeremiah Muldowney. ran lights: Hemileuca neumogeni, Arctiidae clear wing and little lichen feeders. Campground 6 is the best. photos: sunrise (30 Sep 2007) group photos, shadows, BUGS word, and people, "talk" stories of dad and costa rica by Riley, Tephritidae on wolfberry? Lycium?, Miridae, Meloidae, Mantidae Litaneutria minor, Tachinidae, Curculionidae. scorpions at night with UV light. 8774

8775 USA: UTAH: Kane Co., Coral Pink Sand Dunes, Ponderosa Grove Campground, N 37.08717 W 112.67161 1906 m, 30 September 2007, C. R. Nelson# 8775 & Entomology class 55 pondergrov Riley Nelson, Limb Hapairai, Janet Lee, Kelton Welch, Jillian Schults, Mary Megan Waites, Lisa Hoover, Liesel Christensen, Lindsay Cole, Camie Martin, Paul Frandsen, and Jeremiah Muldowney. cold but clear, Wyethia scabra and Chrysothamnus in bloom; not many bugs; photos people and nets 8775

8776 USA: UTAH: Kane Co., Mount Carmel Junction, Hwy 89 N 37.22357 W 112.68127 1600 m, 30 September 2007, C. R. Nelson# 8776 & Entomology class 55 Riley Nelson, Limb Hapairai, Janet Lee, Kelton Welch, Jillian Schults, Mary Megan Waites, Lisa Hoover, Liesel Christensen, Lindsay Cole, Camie Martin, Paul Frandsen, and Jeremiah Muldowney. Scarabaeidae, Dynastes granti, 1 male found dead by Kelton Welch. 8776

8777 USA: UTAH: Kane Co., Orderville, Valley Elementary School N 37.27579 W 112.63638 1669 m, 30 September 2007, C. R. Nelson# 8777 & Entomology class 55 Riley Nelson, Limb Hapairai, Janet Lee, Kelton Welch, Jillian Schults, Mary Megan Waites, Lisa Hoover, Liesel Christensen, Lindsay Cole, Camie Martin, Paul Frandsen, and Jeremiah Muldowney. Scarabaeidae, Dynastes granti, many found dead; ten lined scarab found dead Polyphylla decemlineata 8777

8778 USA: UTAH: Kane Co., Long Valley Rest Area, Hwy 89, 9 miles South of Long Valley Junction, N 37.27 W 112.59 2000 m, 30 September 2007, C. R. Nelson# 8778 & Entomology class 55 Riley Nelson, Limb Hapairai, Janet Lee, Kelton Welch, Jillian Schults, Mary Megan Waites, Lisa Hoover, Liesel Christensen, Lindsay Cole, Camie Martin, Paul Frandsen, and Jeremiah Muldowney. Stellars jays, ants, kept by Kelton Welch. 8778

8779 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 6 October 2007, C. R. Nelson# 8779 55 photos: fall colors in yard, aspen, maple, oak, walnut, sumac. photos: cats: Notch, Chuny, Stella, Heiva, and Guida 8779

8780 USA: UTAH: Box Elder Co. Brigham City Cemetery N 41.50346 W 112.01067 1370 m, 13 October 2007, C. R. Nelson# 8780 & J. K. Nelson 55 photos burial of Lyle Joseph Young, born 30 July 1930 died 9 October 2007, family 8780

8781 USA: UTAH: Box Elder Co. Brigham City, main Street N 41.50927 W 112.01570 1353 m, 13 October 2007, C. R. Nelson# 8781 & J. K. Nelson 55 photos Brigham City sign 8781

8782 USA: UTAH: Box Elder Co. Brigham City, Young home, 645 North 100 East, N 41.52403 W 112.01338 1322 m, 13 October 2007, C. R. Nelson# 8782 & J. K. Nelson 55 photos after funeral buffet for Lyle Young 8782

8783 USA: UTAH: Box Elder Co. Corinne, Woods Creek Duck Club, 2 mi S of Corinne, N 41.51702 W 112.14846 1284 m, 13 October 2007, C. R. Nelson# 8783 & J. K. Nelson 55 photos farm and people, Riley Nelson, Kaye Nelson, Ned Young, Melanie Young, Kevin Young, Vinnie Locasio, Tod Young, and Julie Young. copied photos of cabin building 15 October 2007. 8783

8784 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 11 October 2007, C. R. Nelson# 8784 & Josh Carter 55 photos: spider Clubionidae with red abdomen, dead in photos 8784

8785 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building, N 40.24625 W 111.64984 1420 m, 17 October 2007, C. R. Nelson# 8785 55 photos: student sprawled on floor under painting of prophets 8785

8786 USA: UTAH: Utah Co., Provo, BYU, Ellsworth Building, Horse Barn N 40.26447 W 111.66053 1413 m, 17 October 2007, C. R. Nelson# 8786 55 photos: long legged spider 8786

8787 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 23 October 2007, C. R. Nelson# 8787 55 photos: Einar Larsen's sheet metal duck decoy silouettes on picnic table in show. It snowed heavily, about 4 inches at home, on 20 October 2007 8787

8788 USA: UTAH: Utah Co., Provo, N 40.29 W 111.65 1420 m, 2xx October 2007, C. R. Nelson# 8788 55 Collected by Jonathan Osborne, C. R. Nelson not present when collected. Photos by C. R. Nelson photos: Cimicidae, Cimex lecticularis, bedbugs. 25 October 2007 8788

8789 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, boathouse, N 30.28177 W 97.78049 , 170 m, 25-Oct-2007 C. R. Nelson # 8789 55 BFLBOAT Photos: Polistes exclamans, Syrphidae Volucella mexicana on a sunflower, Hesperidae, Salticidae Phiddipus, Nymphalidae, Tettigoniidae, Pyrrhocoridae, Buprestidae Acmaeodera; Dermaptera, Blattaria 8789

8790 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, pecan grove near stream, N 30.28456 W 97.78286 , 138 m, 25-Oct-2007 C. R. Nelson # 8790 55 Photos: in rotten pecan log: Dermaptera, Blattaria, Anisopodidae? larvae. 8790

8791 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, west fish tanks, N 30.28573 W 97.78007 , 152 m, 25-Oct-2007 C. R. Nelson # 8791 55 Photos: bladder work, Lentibulariaceae, Utricularia sp., fishing spider Pisauridae Dolomedes, ramshorn snail. 8791

8792 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, ponds 5 and 6, east boundary, N 30.2800 W 97.77717 , 142 m, 26-Oct-2007 C. R. Nelson # 8792 & J. Abbott. 55 They were in the sheety fibrous bark against wood, not so much in the frassy decaying loose stuff. Photos: Zoraptera *Zorotypus hubbardi* under bark of dead cottonwood tree. Also Isopoda and Pseudoscorpionida 8792

8793 USA TEXAS: Travis Co. Austin, Brackenridge Field Laboratory, pond F, N 30.28417 W 97.77806 , 170 m, 26-Oct-2007 C. R. Nelson # 8793 55 Also photos at 40th Anniversary Party for BFL at main building: video and photos, friends and band: Austin Lounge Lizards. Nepidae *Ranatra*, Naucoridae *Pelocoris*, Pleidae *Neoplea* 8793

8794 USA TEXAS: Travis Co. Garfield, 2 mi N of Hwy 71, N 30.21076 W 97.54098 , 134 m, 26-Oct-2007 C. R. Nelson # 8794 & J. K. Nelson & Pearces 55 home of the John & Jan Pearce family Reduviidae *Arilus cristatus* (this specimen with an injured wheel crest died after a few days) Coreidae, Acanthocephala; seeds of *Psophora* mountain laurel. 8794

8795 USA TEXAS: Travis Co. Austin, Callahan's General Store, N 30.23731 W 97.68613 , 145 m, 27-Oct-2007 C. R. Nelson # 8795 & J. K. Nelson & Pearces 55 photos: strange products in a country store 8795

8796 USA TEXAS: Travis Co. Austin, 31st and Guadalupe, Toy Joy, N 30.29553 W 97.74286 , 181 m, 27-Oct-2007 C. R. Nelson # 8796 & J. K. Nelson & Pearces 55 photos: funny toys 8796

8797 USA TEXAS: Travis Co. Austin, South Congress and William Cannon Drive, N 30.19668 W 97.78537 , 214 m, 27-Oct-2007 C. R. Nelson # 8797 & J. K. Nelson & Pearces 55 photos: friends at Taiwan Restaurant, hog's head then beans at HEB supermarket. 8797

8798 USA TEXAS: Travis Co. Garfield, 2 mi N of Hwy 71, N 30.21076 W 97.54098 , 134 m, 28-Oct-2007 C. R. Nelson # 8798 & J. K. Nelson & Pearces 55 home of the John & Jan Pearce family photos: Great Plains narrowmouth frog, *Gastrophryne olivacea*; Reduviidae *Arilus cristatus*; Mantidae *Stagmomantis carolina*

Noticed eggs of *Arilus* in lab on 12 Nov 2007, took picture of female guarding them on 13 Nov 2007

Some hatched 10 January 2008, Photos taken of hatched first instars 13 January 2008, CRN#8829 8798

8799 USA TEXAS: Travis Co. Austin, Parker Lane LDS Church, Parker Lane and Oltorf Streets, N 30.23289 W 97.73601 , 188 m, 28-Oct-2007 C. R. Nelson # 8799 & J. K. Nelson & Pearces 55 friends at church. photos: me with Henry Fisher. Autistic Henry is now fixated

on somebody being able to make full-sized truck out of a small toy truck he hands out.
8799

8800 USA TEXAS: Travis Co. Austin, Laverne Walsh's house on Willow Street near Pedernales Street, South of Cesar Chavez Blvd., N 30.25330 W 97.71769 , 140 m, 28-Oct-2007 C. R. Nelson # 8800 & J. K. Nelson & Jan Pearce 55 photos: Riley and Laverne, she is 94 years old and good and active; We dug some ferns to transplant into Utah. I ate a few papershell pecans from her yard. I also got some four-o'clock flower seeds from her.
8800

8801 USA TEXAS: Travis Co. Austin, downtown from air, N 30.28 W 97.70 , airplane, 29-Oct-2007 C. R. Nelson # 8801 & J. K. Nelson. 55 photos: downtown and the Brackenridge Field Laboratory, 8801

8802 USA COLORADO: Alamosa Co. San Luis Valley, from air N 37.23064 W 105.34752 , airplane, 29-Oct-2007 C. R. Nelson # 8802 & J. K. Nelson. 55 photos: town of San Luis junction of two streams in wandering meanders, Rio Grande and Alamosa Creek. 8802

8803 USA UTAH: Grand Co. Book Cliffs, Green River from air N 39.34 W 110.00 , airplane, 29-Oct-2007 C. R. Nelson # 8803 & J. K. Nelson. 55 photos: Book Cliffs, Tavaputs Plateau and Green River. 8803

8804 USA UTAH: Carbon Co. view to Price from air N 39.77 W 110.57 , airplane, 29-Oct-2007 C. R. Nelson # 8804 & J. K. Nelson. 55 photos: town of Price from air. 8804

8805 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, from air N 39.95623 W 111.26763 airplane, 29-Oct-2007 C. R. Nelson # 8805 & J. K. Nelson 55 photos: cabin from air. 8805

8806 USA: UTAH: Utah Co., Utah Lake, from air, N 40.18 W 111.73 airplane, 29-Oct-2007 C. R. Nelson # 8806 & J. K. Nelson 55 photos: from air, Mount Loafer, Mount Nebo, Lincoln Beach, Pelican Point, Saratoga Springs, and start of the Jordan River, 8806

8807 USA: UTAH: Salt Lake Co. Salt Lake Valley, Oquirrh Mountains, N 40.56 W 111.97 airplane, 29-Oct-2007 C. R. Nelson # 8807 & J. K. Nelson 55 photos: Kennecott Copper mine. 8807

8808 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Lab, N 40.24625 W 111.64984 1420 m, 30-Oct-2007 C. R. Nelson # 8808 55 photo session of Pleidae from BFL, CRN#8793. also: USA: UTAH: Utah Co., Provo, BYU Grounds Compound, N 40.2468 W 111.64408 elev. 1414 m, 26 October 2007, matt Zweifel photos: Lycosidae Hogna carolinensis, CRN not present when captured. 8808

8809 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Lab, N 40.24625 W 111.64984 1420 m, 01-Nov-2007 C. R. Nelson # 8809 55 photos: Clare Tappen ____ and baby daughter Artemesia "Mesia." 8809

8810 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Lab, N 40.24625 W 111.64984 1420 m, 09-Nov-2007 C. R. Nelson # 8810 55 measurements: female adult is 1; male pupa is 2; and larva is 3.

12 Nov 2007 1:6.468g 2:15.996g 3: 15987g photos: larva, pupa, and adult of Scarabaeidae Dynastes granti, grown from eggs from specimen collected by Kentaro Miwa in Orderville, Utah in September 2005 8810

8811 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River near Timpooneke Guard Station, site 4, N 40.43226 W 111.63741 2213 m, 09-Nov-2007 C. R. Nelson # 8811 & S. Walker & Andrew Schauerhamer. 55 uploaded Hobo Temperature data from probe, last done 7 Sep 2007 by S. Walker and E. Bankhead. Photos: creek. 8811

8812 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180 W 111.65754 1862 m, 09-Nov-2007 C. R. Nelson # 8812 & S. Walker & Andrew Schauerhamer. 55 uploaded Hobo Temperature data from probe, last done 7 Sep 2007 by S. Walker and E. Bankhead. 8812

8813 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, N 40.44749 W 111.68305, 1818 m, 09-Nov-2007 C. R. Nelson # 8813 & S. Walker & Andrew Schauerhamer. 55 uploaded Hobo Temperature data from probe, last done 7 Sep 2007 by S. Walker and E. Bankhead. Photos: blasting zone.. 8813

8814 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.43329 W 111.73836 1547 m, 09-Nov-2007 C. R. Nelson # 8814 & S. Walker & Andrew Schauerhamer. 55 uploaded Hobo Temperature data from probe, last done 7 Sep 2007 by S. Walker and E. Bankhead. 8814

8815 USA: CALIFORNIA: San Diego Co. San Diego, Allied Gardens N 32.78496 W 117.088853 80 m, 21-Nov-2007 C. R. Nelson # 8815 & Janet E. Lee 55 photos: Tingidae on Lantana camara, photographed in lab by C. R. Nelson, he wasn't present when collected. Collected by Janet E. Lee. 8815

8816 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Lab, N 40.24625 W 111.64984 1420 m, 29-Nov-2007 C. R. Nelson # 8816 55 photos: California red scale, Diaspididae, Aonidiella aurantii on commercial orange 8816

8817 USA: UTAH: Utah Co., Provo, BYU, NE corner of Benson Building, N 40.24625 W 111.64984 1420 m, 30-Nov-2007 C. R. Nelson # 8817 & J. Gish of BYU Grounds, Pest Control specialist. 55 photos two ladies, shorter from El Paso, taller from Santa Cruz, California. photos: scale insects, Coccidae Pulvinaria? "Lecanium"? on linden, Tilia sp. 8817

8818 USA: UTAH: Utah Co., Provo, BYU, West side of Harmon Building, N 40.25644 W 111.64579 1440 m, 30-Nov-2007 C. R. Nelson # 8818 & J. Gish 55 CRN not present when collected by J. Gish of BYU Grounds. photos: scale insects, Coccidae Pulvinaria? "Lecanium"? on Gleditsia triacanthus, honey locust. 8818

8819 USA: CALIFORNIA: San Diego Co. La Jolla, Wind and Sea Beach, N 32.83078 W 117.28096 5 m, 08-Dec-2007 C. R. Nelson # 8819 & L. M. K. Hapairai 55 photos: ocean scenery Coelopidae, small flies 8819

8820 USA: CALIFORNIA: San Diego Co. La Jolla, Casa Beach, 840 Coast Blvd. N 32.84730 W 117.27855 5 m, 08-Dec-2007 C. R. Nelson # 8820 & L. M. K. Hapairai 55 photos: harbor seals, flying brown pelicans 8820

8821 USA: CALIFORNIA: San Diego Co. La Jolla, north rocks, Ellen Scripps Browning Park N 32.850546 W 117.27321 5 m, 08-Dec-2007 C. R. Nelson # 8821 & L. M. K. Hapairai 55 photos: many grooming brown pelicans 8821

8822 USA: CALIFORNIA: San Diego Co. La Jolla, Birch Aquarium at Scripps, N 32.86616 W 117.25018 70 m, 08-Dec-2007 C. R. Nelson # 8822 & L. M. K. Hapairai 55 photos: anemone; rockfish Sebastes sp; black abalone Haliotis cracherodii; grunt sculpin Rhamphocottus richardsonii; red saddleback anemonefish, Amphiprion ephippium in anemone of tank 29; lionfish Pterois volitans; sardines Sardinops sagax; Pacific giant octopus Enteroctopus dofleini; Figure 8 pufferfish Tetraodon biocellatus; sailfin tang Zebrasoma desjardinii?. 8822

8823 USA: UTAH: Utah Co., Provo, BYU, Bean Museum, N 40.25312 W 111.64749 1431 m, 20-Dec-2007 C. R. Nelson # 8823 55 photos: insect collectins of Liesel Christensen and Kelton Welch. 8823

8824 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 20 December 2007, C. R. Nelson # 8824 55 photos: Bishopric party, Bonnie & Roger Wilson (bishop); Kaye and Riley Nelson (first counselor); Tamela and Boyd

Blake (second counselor); Julie and Brian Hollingworth (executive secretary); Justine & Don Dorton (ward clerk); and Callie and Bruce McKay (former ward clerk). 8824

8825 USA: UTAH: Salt Lake Co. Sandy, 725 East 10600 South, Living Planet aquarium N 40.55985 W 111.87136 1385 m, 28 December 2007, C. R. Nelson# 8825 55 family & friends: Riley Nelson, Kaye Nelson, Andrea Nelson, Amy Nelson, David Parker, Jera Parker, Desi Parker, John Pearce, Jan Pearce, Jared Pearce, Jacob Pearce. photos: lake trout, woundfin, june sucker; boreal toad; moray? eels; sea nettles *Chrysora* sp.; upsidedown jellyfish *Cassiopea* sp; moon jellyfish *Aurelia*; mixed tropical cnidaria; sea horses; surgeonfish; anemonefish; barberpole shrimp; cleaner wrasse; purple grama?; crab; cardinalfish; shrimp; horseshoe crab *Limulus*; flame scallops *Limax scabra*; feather duster worm Sabellidae; green brittlestar; octopus model; porcupinefish *Diodon hystrix*?; Marine angelfish; 8825

8826 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 30 December 2007, C. R. Nelson# 8826 & J. Bennion 55 photos: roses intentionally frozen in a clear block of solid ice; found in trash at Zions Bank near Provo High School 8826

8827 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 1 January 2008, C. R. Nelson# 8827 55 photos family and friends: Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, Seth Spurlock (Brandy's little brother), Andrea Nelson, Amy Nelson, David Parker, Jera Parker, Daniel Parker, Tamera Parker, Desi Parker, John Pearce, Jan Pearce, Jared Pearce, Jacob Pearce, Anna Alger. 8827

8828 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.6 mi S of Vivian Park & Hwy 189 N 40.34762 W 111.54778, 1582 m 12-Jan-2008 C. R. Nelson# 8828 & class 56 First 100 aquatic samples taken with Biology 100 classes; Discussed Nature Experience; air temperature 4°C; water temperature 5°C. Present: instructors: Riley Nelson, Sarah Walker, Christy Meyers, Bob Chestnut, Lauren Clough, Brittney McDermott, Steve Merkley; students (& friends): Jacob Collins, Mariam Silverio, Katie Brandt, Tyler Oppie, Heath Armstrong, Ben Priest, Michael Alemany, Claire Sorenson, Liz Jones, Malinda Winterton, Katie Watkins, Lindsay Crandall, Robert Watts, James Anderson, Jacob Terry Jessica Lono, Lauren Fry, Cara Jones, Luran Lloyd, Emily Hill, Thelissa Alvord, Jon Bright (not in class), Tommy Montoya and others. saw Diamesinae Chironomidae *Capnia gracilaria*
Capnia nana
none collected
mule deer; elk, red? squirrel;
CRN saw in samples in field: *Hesperoperla pacifica*, *Sweltsa*, *Zapada*, *Rhyacophila*,

Cinygmula?, Baetis, Simulium, Brachycentrus, Neothremma?, Oligophlebodes?, Capniidae, Chironomidae, Isoperla. 8828

8829 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 13 January 2008, C. R. Nelson# 8829 56 photos: Reduviidae Arilus cristatus first instar hatchlings from eggs laid by adults collected in Texas by C. R. Nelson #8794 & 8798, October 2007. Noticed eggs hatching in lab 10 January 2008, by Andrew Wittig. 8829

8830 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m, 19 January 2008, C. R. Nelson# 8830 & scouts 56 photos: skiing, snowboarding, sledding, and people:

Roger Wilson, Michael Thrupp, Samuel Thrupp, Benson Blake, Josh Carter, David Naylor, Andrew Naylor, Chad Naylor, Scott Henderson, Tyler Barlow, Tim Pugmire, Berrett Pugmire, Jameson Pugmire, K. C. Wilcox, Raphael Devonas, Benjamin Hiatt, Reed Kuttler. 8830

8831 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m, 21 January 2008, C. R. Nelson# 8831 & family 56 snowmobiling; Kaye Nelson, Jason Nelson, Brandy Nelson, Andrea Nelson, Amy Nelson, Hillary Hathaway, Elizabeth Bankhead, Jill Frietas, Amy Maxwell, Beth Hiatt, Nathan Singleton, Tyler Singleton, and Limb Hapairai. 8831

8832 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Lab, N 40.24625 W 111.64984 1420 m, 24-25 January 2008 C. R. Nelson # 8832 56 photo session of winter stoneflies from Boise area, Idaho. collector's data on next few pages. photo session: Utacapnia nedia and Capnia gracilaria. 8832

8833 USA: IDAHO: Boise Co. 6.8 mi W of Horseshoe Bend on Harris Creek Road, jct Harris Creek and Shafer Creek, N 43.87025 W 116.1689 960 m, 19-Jan-2008 C. R. Nelson # 8833 David Ward & Alan Gillogly. 56 C. R. Nelson not present during collecting. but photo session, see CRN8832. Locality 1 -

IDAHO: Boise Co.; 6.8 miles west of Horseshoe Bend on Harris Creek Road, at intersection of Shafer Creek Road (this was right at the intersection of the two creeks); N 43 degrees 52.215', W 116 degrees 10.134', elevation 960 meters; time about 12:30--3:00 PM, during which the plecops were actively moving; air temperature about 31 degrees; about 2-3" of snow on the ground; intermittent sunshine (full shade in some areas towards 3:00 PM, but the plecops were still moving), light breeze; no individuals in flight, although a few fluttered their wings weakly when disturbed; some had climbed thin, erect twigs (willow, etc.) to several feet above the ground; most were actively scurrying across the snow; both creeks generally had at last 1/3 of their width open; no cast skins of immatures were seen,

either at the ice/water edge, on the ice, or at several places where the creek-surface ice met soil without snow that might allow immatures to crawl beneath the ice directly onto moist land; no individuals were seen beneath the small bridge, on the vertical concrete face beneath the bridge, nor on the bridge railings (about 10" wide, flat, metal), so we assume that they were attracted to light and away from dark or sheltered spots. Active individuals were collected up to about 30-40 meters away from either creek.

Dave took a number of digital pics of at least two forms of these plecops as they ran over the snow, although it was really tough to keep them in focus. This is the only locality where we saw apterous individuals. photo voucher #5 & three other vials:

Capnia gracilaria,

photo voucher 1m to byu

4m3f to BYU

1m1f to College of Idaho

2m2f to BYU

photo voucher #3, big females. & 2 other vials

Utacapnia nedia 2f to BYU

2m2f to College of Idaho

photo voucher 4th male *Utacapnia nedia*, stills of day 2 and video 2.

!Mesocapnia lapwae 1f photo voucher to BYU

other specimens:

Utacapnia nedia 1f in 100% to BYU

8m 5f in 100% to BYU

Capnia gracilaria 2m1f in 100% to BYU

8m 2f to College of Idaho

Capnia glabra 1m to BYU 8833

8834 USA: IDAHO: Boise Co. 9.6 mi W of Horseshoe Bend on Harris Creek Road, Harris Creek, N 43.87717 W 116.06076 1270 m, 19-Jan-2008 C. R. Nelson # 8834 David Ward & Alan Gillogly. 56 C. R. Nelson not present during collecting. but photo session, see CRN8832. Gillogly notes: Locality 2 -

IDAHO: Boise Co.; 9.6 miles west of Horseshoe Bend on Harris Creek Road; N 43 degrees 52.630', W 116 degrees 03.646', elevation 1270 meters; time about 3:30 PM; air temperature about 31 degrees; shady, light breeze; about 12" of snow on the ground; we caught the only two specimens that we saw in about 15 minutes of searching - these were

about 10 meters from the creek; Harris Creek was about 95% covered with ice at this point.

Note: although we continued up Harris Creek Road to the summit, the creek was completely frozen over from about mile 10.

photo voucher *Utacapnia nedia* male to BYU

& #1 female *nedia*? medium sized.

NO! actually *Mesocapnia lapwae* 1 m to BYU 8834

8835 USA: IDAHO: Boise Co. Porter Creek Road, 2.1 miles East of Highway 55, 3 air miles NE of Horseshoe Bend, N 43.9586 W 116.15585 914 m, 19-Jan-2008 C. R. Nelson # 8835 David Ward & Alan Gillogly. 56 C. R. Nelson not present during collecting. but photo session, see CRN8832. Gillogly notes: Locality 3 -

IDAHO: Boise Co.; Porter Creek Road, 2.1 miles East of Highway 55 (locality is about 3 air-miles NE of Horseshoe Bend); N 43 degrees 57.516', W 116 degrees 09.351', elevation 914 meters; time about 4:30 PM; air temperature about 32 degrees; shady, no breeze; about 4" of snow on the ground; we caught the only specimen that we saw in about 15 minutes of searching; specimen was sitting on the snow about 25 meters from the creek and was feeble when aspirated. Locality was about 1/4 mile past intersection with Jerusalem Road, where Porter Creek Road crosses Porter Creek from north to south side. no photo vouchers but *Capnia glabra* 2f to BYU 8835

8836 USA: IDAHO: Boise Co. Porter Creek jct Hwy 55, Porter Creek Road, 2 mi N of Horseshoe Bend, N 43.94765 W 116.19298 815 m, 19-Jan-2008 C. R. Nelson # 8836 David Ward & Alan Gillogly. 56 C. R. Nelson not present during collecting. but photo session, see CRN8832. Gillogly notes: Locality 4 -

IDAHO: Boise Co.; intersection of Highway 55 and Porter Creek Road, about 2 miles North of Horseshoe Bend; N 43 degrees 56.859', W 116 degrees 11.579', elevation 815 meters; time about 5:00-5:35 PM; air temperature about 31 degrees; full shade, light breeze; about 4" of snow on the ground; Porter Creek Road begins here, from the east side of Hwy 55; Porter Creek is immediately north of Porter Creek Road and crosses beneath Hwy 55.

This collection was primarily made from about 50-150' east of Hwy 55 on the north side of Porter Creek Road; almost all of these specimens were stationary, resting on the north (creek side) face of 3'-high concrete barriers between Porter Creek and Porter Creek Road (no more than 10 meters from the creek), as if they were either too cold to move, or the light was too low. One specimen was caught about 200 feet east of Hwy 55 on the south side of Porter Creek Road, right where Porter Creek crosses under Porter Creek Road from the

north side to the south side.

All of these streams were fast-moving, with rocky/cobbly bottoms and considerable ice along the edges, occasionally covering the entire stream surface.

Unsuccessful stops (Ada County):

We spent an hour searching at Sand Creek in Boise, Ada County, just before it runs into the Boise River (south end of Rose Street, just south of State Street). Sand Creek is now contained in a concrete flume which probably drains the city streets to the north, and may be pretty polluted. The flume portion ends as it nears the river and the stream widens a bit, but is still within a maintained earthen ditch with high sides. The stream flow was much slower than where we collected the plecops later in the day in Boise Co., and the bottom was sandy or covered with dead leaves. There was no snow on the ground to facilitate spotting any plecops that may have been present.

One additional stop before the Boise County collections was on the north side of Boise, in Quail Hollow. 36th Street runs north up this valley, turns into W. Bison road, and then crosses the creek from the west side to the east. We spent about 30 minutes checking the sides of the creek, where most of the ground had 1-1.5" of snow. The stream flow was faster than the lower end of Sand Creek (but still slower than the streams we checked in Boise County), but we found nothing.

We did see a few chironomids, and collected at least one or two; also, one insect from Locality 4 had an odd shape, or was in an odd position, and may have been a mecopteran. These were aspirated, but not seen again or sorted out from the plecops. If they are excess to your needs, please return them for our collection....again, at your convenience! photo voucher: *Capnia gracilaria* male, day 2 last, yes to BYU video, last stills.

2nd female of *Utacapnia nedia*.
NO! *Capnia gracilaria* 1f to BYU

also: *Capnia gracilaria* 3m to BYU
1m1f to College of Idaho
1 f in 100% to BYU

5m in 100% to BYU

Chironomidae Diamesiinae 1f to BYU 8836

8837 USA: UTAH: Utah Co., maple Creek, above Whiting Campground, East of mapleton, N 40.13670 W 111.52205 1712 m, 02-Feb-2008 C. R. Nelson # 8837 56 mapLEUP photo voucher:Chironomidae, Diamesiinae 8837

8838 USA: UTAH: Utah Co., maple Canyon, below Whiting Campground, near water treatment shack, East of mapleton, N 40.13142 W 111.54529 1560 m, 02-Feb-2008 C. R. Nelson # 8838 56 photos: elk, deer, scenery 8838

8839 USA: UTAH: Utah Co., Right Fork Hobbie Creek, Jolley Ranch, East of Springville, N 40.16714 W 111.49243 1559 m, 02-Feb-2008 C. R. Nelson # 8839 56 306 Yay! I got Utacapnia! photos: large Capniidae #1 Utacapnia logana 1 female with black divided plate! one other female in 100% ethanol. photo: Capnia utahensis 1 male, and 6m 1f 2 ny in 100% ethanol. 8839

8840 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m, 9 February 2008, C. R. Nelson# 8840 & family 56 photos: cremation of Chuny the Cat; fire, sledding and snowmobiling. Kaye Nelson, Jason Nelson, Brandy Nelson, Andrea Nelson, Callie McKay, Duncan McKay, Gavin McKay, Paul Ashton, Andrew Ashton, and Cooper Ashton. 8840

8841 USA: UTAH: Utah Co., Provo, beginning of south airport dike, N 40.21304 W 111.70823 1369 m, 16 February 2008, C. R. Nelson# 8841 56 309 photos: scenery, ducks and geese. 8841

8842 USA: UTAH: Utah Co., Provo, near east end airport dike, Hinckley property N 40.21672 W 111.70391 1369 m, 16 February 2008, C. R. Nelson# 8842 56 photos: Collembola, probably Hypogastruridae Hypogastrura nivicola, on snow. winter springtails or snow fleas. 8842

8843 USA: UTAH: Wasatch Co. Deer Creek Reservoir, Deer Creek State Park, N 40.41512 W 111.50887 1589 m, 18 February 2008, C. R. Nelson# 8843 & J. K. Nelson 56 310 photos: scenery, Mount Timpanogos in snow 8843

8844 USA: UTAH: Wasatch Co. Deer Creek Reservoir, Hwy 189, near island, N 40.44074 W 111.48941 1619 m, 18 February 2008, C. R. Nelson# 8844 & J. K. Nelson 56 311 photos: scenery, Mount Timpanogos in snow; Deer Creek Reservoir 8844

8845 USA: UTAH: Wasatch Co. Daniels Creek, Hwy 40, 9 mi South of Heber City N 40.39263 W 111.30262 1995 m, 18 February 2008, C. R. Nelson# 8845 & J. K. Nelson 56 312 silty; 1.7 miles south of Whiskey Springs saw a few chironomidae; no stoneflies seen 8845

8846 USA: UTAH: Wasatch Co. South Fork Provo River, Hwy 35, below Nobletts Hollow, 7 miles East of Woodland, N 40.55151 W 111.10531 2244 m, 18 February 2008, C. R. Nelson# 8846 & J. K. Nelson 56 313 photos: river and scenery photos: Utacapnia lemoniana 1 female 8846

8847 USA: UTAH: Summit Co. Provo River, Hwy 35, 3.2 miles East of Woodland, near Camperworld, N 40.55904 W 111.17359 2119 m, 18 February 2008, C. R. Nelson# 8847 & J. K. Nelson 56 314 photos river and scenery Utacapnia lemoniana 2 females photos: Chironomidae 2 spp. one with short winged males and females 8847

8848 USA: UTAH: Summit Co. Provo River, Lower Provo River Road, below Woodland N 40.59664 W 111.27427 1980 m, 18 February 2008, C. R. Nelson# 8848 & J. K. Nelson 56 316 photos: elk bulls 8848

8849 USA: UTAH: Wasatch Co. Provo River, Hwy 32, Victory Ranch Club, near Lemons Grove, N 40.60651 W 111.31332 1924 m, 18 February 2008, C. R. Nelson# 8849 & J. K. Nelson 56 317 photos: Provo River, type locality of Utacapnia lemoniana 8849

8850 USA: UTAH: Wasatch Co. Heber City, N 40.50635 W 111.41350 1707 m, 18 February 2008, C. R. Nelson# 8850 & J. K. Nelson 56 photos: Wasatch High School Wasps; Chick's Cafe, 8850

8851 USA: UTAH: Wasatch Co. Provo River, 1 mile downstream from Deer Creek Dam, N 40.39223 W 111.54067 1627 m, 18 February 2008, C. R. Nelson# 8851 & J. K. Nelson 56 318 photos: Provo River and Cascade Mountain and moon saw many small chironomidae dead on the snow late in the day. No stoneflies on snow 8851

8852 USA: UTAH: Grand Co. Book Cliffs, East Tavaputs Plateau, jct East and Westwater Canyons, Paradise Ranch N 39.27792 W 109.28427 1582 m, 1 March 2008, C. R. Nelson# 8852 & family 56 319truck photos: staging area for Dr. Hal Black's bear search; Kaye Nelson, Andrea Nelson, Amy Nelson, and many others. photos: petroglyphs GPS at parking spot near small panel of inscriptions. 8852

8853 USA: UTAH: Grand Co. bear den, 2 km NNE jct Westwater and Dark Canyons, N 39.30193 W 109.31519 1925 m, 1 March 2008, C. R. Nelson# 8853 & family 56 321DENCLOS photos: Hal Black and bear crew (Josh Heward, Wade Paskett, Larisa Harding, Steven Bunnell, Janene Auger, Rick & Deena Stockburger, Sandy ___, visitors.

GPS: start

321PARK, truck parking, start hike: N 39.31097 W 109.32355. elev. 1935m; 320, far point of search N 39.30040 W 109.30830, elev 1994m; 321NEST, last year's bear nest, N 39.29924 W 109.31132, elev. 1959 m; 321SIGNAL, 1st radio signals on ridge near balanced rock arch, N 39.30150 W 109.31470, elev. 1932 m; 321DEN, first view of predicted den, N 39.30199 W 109.31527, elev. 1913 m, 2:38pm; *321DENCLOS, at den's mouth, N 39.30193 W 109.31518, elev. 1925m, 4:32pm after work with bear done.

Information from Janene Auger:

1 March 2008

Heidi's Den

No offspring present

162 lbs

83.5 cm Chest girth

53.5 cm Head girth

46.5 cm Neck girth

61.5 inches Length

Front Pad Width 11 cm

Rear Pad Width 8.5 cm

Zone 12 S 645259 4351652 NAD83 photos: Heidi the 23 year old female bear 8853

8854 USA: UTAH: Grand Co. Colorado River Canyon, between Cisco and Moab, N 38 W 109 1450 m, 2 March 2008, C. R. Nelson# 8854 & family 56 photos: Fisher Towers, etc. on Amy's camera. 8854

8855 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 7 March 2008, C. R. Nelson# 8855 56 photos: Jelly Belly jelly bean variety 8855

8856 USA: UTAH: Utah Co., Orem, University Parkway, Barnes & Noble Bookstore, N 40.27549 W 111.68806 1445 m, 8 March 2008, C. R. Nelson# 8856 56 photos: Drs. Duane Jeffrey, William Evenson, and William Bradshaw after lecture by Jeffrey and Evenson on Mormonism and Evolution. They have made great strides to open up teaching of these important topics at BYU. Now all three will be (or have) retired. Who will pick up the slack? 8856

8857 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922 1495 m, 9 March 2008, C. R. Nelson# 8857 & J. K. Nelson 56 photos: C. R. Nelson, age 52, self-portrait with help from Kaye. Happy Birthday yesterday. 8857

8858 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Lab, N 40.24625 W 111.64984 1420 m, 10-Mar-2008 C. R. Nelson # 8858 56 photos: Mary Meagan Waites dressed up for role as devil. 8858

8858.5 USA: UTAH: Utah Co., Provo, BYU, Maeser Building steps, N 40.24 W 111.64 1420 m, 12-Mar-2008 C. R. Nelson # 8858.5 56 photos: Biology 100 class, arranged by height on steps, 5' to 6' 8". 177 students. Normal distribution. Polygenic inheritance. 8858.5

8859 USA: NORTH CAROLINA: Jackson Co. South Fork Sugarloaf Creek, Balsam Mountain Preserve, N 35.37075 W 83.11022 1201 m, 15-16 March 2008 C. R. Nelson # 8859 56 photos: Morse Cabin: Brookhaven; unnamed creek and South Fork Sugarloaf Creek, many slow shutter speed shots.

photos people: Riley Nelson, Kaye Nelson, Evalyn Gelhaus, Jon Gelhaus, Barbara Hayford, Suzanne Morse, and John Morse. GPS readings, nelson gps set on utah time, two hours early: 321morsedrv, Morse driveway near cabin, N 35.37088 W 83.11030, elev. 1176 m; 321stream (south fork below cabin) N 35.37115 W 83.11008, elev. 1159 m.

photos: wooly hemlock adelgid; Peltoperlidae: Tallaperla nymph; Limnephilidae: Pycnopsyche larva; Hydropsychidae: Diplectrona larva; Sericostomatidae: Fattigia sp. larva. (in unnamed tributary of creek) with Amphinemura appalachia 1 m; Leuctridae: Leuctra adult.

Perlodidae: Yugus? sp. nymph; Nemouridae Soyedina adult; Heptageniidae: Epeorus and another genus; 8859

8860 USA: NORTH CAROLINA: Jackson Co. Sugarloaf Mountain, Balsam Mountain Preserve, N 35.3697 W 83.1214 1396 m, 16-Mar-2008 C. R. Nelson # 8860 56 Photos: views on trail 23 and from top of Sugarloaf. photos: moss, ferns, trees, lichens 8860

8861 USA: UTAH: Utah Co., Provo, BYU, Widstoe Lab 123 N 40.24625 W 111.64984 1420 m, 20-Mar-2008 C. R. Nelson # 8861 56 Photo session with stereomicroscope: Outside label: Capniidae, Capnia umpqua Frison male, Det. T. H. Frison 1942. ILL. NAT. HIST. SURV.

Inside labels: OREGON: Douglas Co., Umpqua River, 21 February 1939, S. C. Jewett, Sr.; INHS PLECOPTERA #1387; (Red label) HOLOTYPE male, Capnia umpqua Frison; drew this male, Mar. 1940, - Mohr.

Also more on 24 April 2008 Capnia umpqua Frison, HOLOTYPE:
8861

8862 USA: UTAH: Utah Co., Provo, 500 East 4525 North, Nelson home N 40.29343 W 111.64922, 1495 m, 22-Mar-2008 C. R. Nelson # 8862 56 also Tod Young called yesterday.

His cell phone is 435-730-4585. Combination for gates at farm is Lyle Young's birthday.
0730 Hemiptera: Cimicidae? in compost heap and mouse nest. 8862

8863 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Lab, N 40.24625 W 111.64984 1420 m,
28-Mar-2008 C. R. Nelson # 8863 56 photo session of hatching Tettigoniidae, eggs
collected by BYU grounds Gish. 8863

8864 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South
Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180 W 111.65754
1862 m, 29-Mar-2008 C. R. Nelson # 8864 & S. Walker 56 First 100s, at least 7. photos of
people. Riley Nelson, Sarah Walker, Aaron Smith, Wes Christensen, matt Christensen,
Burke Andersen, Chris Straubhaar, and Jason Lloyd. Pictetiella nymphs 8864

8865 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, American
Fork River bridge at canyon mouth N 40.43297 W 111.74779 1545 m, 29-Mar-2008 C. R.
Nelson # 8865 & S. Walker 56 First 100s, at least 7. photos of people. Riley Nelson, Sarah
Walker, Aaron Smith, Wes Christensen, matt Christensen, Burke Andersen, Chris
Straubhaar, and Jason Lloyd. Prostoia besametsa, Capnia, Zapada, Skwala, Dolophilodes
aequalis, Calliphoridae 8865

8866 USA: UTAH: Utah Co., Provo, BYU, Maeser Building, N 40.245254 W 111.653793,
1408 m, 31-Mar-2008 C. R. Nelson # 8866 56 photos spring snow on
daffodils and April Fools trick of Kaye on Riley: paper in sandwich. 8866

8866.5 USA: UTAH: Utah Co., Provo, 500 Foothill Drive, Nelson home N 40.29343 W
111.64922, 1495 m, 31-Mar-2008 C. R. Nelson # 8866.5 56 photos: Mount Timpanogos,
snow on bench. 8866.5

8867 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Lab, N 40.24625 W 111.64984 1420 m,
04-Apr-2008 C. R. Nelson # 8867 56 photos: people in lab: Ben Buckner, Kelton Welch,
Roger Stimpson, Kylie ?, Lauren Clough, and Lauren Fry 8867

8868 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W
111.26763 1829 m, 11 April 2008, C. R. Nelson# 8868 & family 56 photo: 40 mule deer
near gate 8868

8869 USA: UTAH: Utah Co., Provo, 500 Foothill Drive, Nelson home N 40.29343 W
111.64922, 1495 m, 13-Mar-2008 C. R. Nelson # 8869 56 our official address for our
house changed from 500 East 4525 North to 500 Foothill Drive. Both addresses are the
same place. photos: Bombyliidae on Veronica flowers, Bombylius?, Veronica, possibly
arvensis; ants in house 8869

8869.5 USA: UTAH: Utah Co., Orem, Mi Ranchita Restaurant, 22-Apr-2008 C. R. Nelson # 8869.5 56 photos: Emilta Mohi and Nelson family. 8869.5

8870 USA: UTAH: Utah Co., Provo, BYU campus 25-Apr-2008 C. R. Nelson # 8870 & J. K. & A. J. Nelson. 56 photos: graduation of Andrea and Kaye in the Harris Fine Arts Center. Graduation of Limb Hapairai and others in Marriott Center. Andrea and Kaye in robes around campus. Limb's graduation party at Motel 8 near campus. 8870

8871 USA: UTAH: Box Elder Co. Brigham City, Hansen home on fifth west 26-Apr-2008 C. R. Nelson # 8871 56 photos at Hansen / Larsen home on Fifth West. Riley Nelson, Amy Nelson, Kaye Nelson, Dick Hansen, Melanie Young, Rick Nelson, Ned Young, and Andrea Nelson. Gate combination at farm: 0730, Tod Young's cell phone 435-730-4585 8871

8872 USA: UTAH: Utah Co., Provo River, Canyon Glen Park, 27-Apr-2008 C. R. Nelson # 8872 56 photos: Kaye, Andrea, and Amy Nelson 8872

8873 USA: UTAH: Utah Co., Provo, 500 Foothill Drive, Nelson home N 40.29343 W 111.64922, 1495 m, 01-Apr-2008 C. R. Nelson # 8873 56 photos: ? 8873

8874 USA: UTAH: Utah Co., Provo, BYU campus, Joseph Fielding Smith Building, 30-Apr-2008 C. R. Nelson # 8874 & class, INHUT 56 Beginning on INHUT: Integrated Natural History of Utah class. Bennion exercise: During the next month I hope to explore again biology and its connections with people. I hope to learn better how to draft an essay, using interactions between the natural and human world. I need some simplified relaxation. The bright minds surrounding me will be important for all these goals.

Class notes: Brian Cannon : Three Provinces, Basin & Range; Rocky Mountains, and Colorado Plateau. Lake Bonneville, High Plateaus, People archaic 8000 BC. map drawn of indian distribution. Domingues Escalante; Trappers, Peter Skene Ogden-Hudsons Bay. Reservations 1860-1880. Polygamy.

Meeting in Pavillion Park. Meeting at Bennions: first section: Falling toward heaven book. 8874

8875 USA: UTAH: Utah Co., Provo, BYU campus, Joseph Fielding Smith Building, 01-May-2008 C. R. Nelson # 8875 & class, INHUT. 56 Bennion: replication, Henry James window's vision. multiple perspectives. subjective. Synthesis, statistical, rans and turkey vulture. Yesterday: cells, landscape, leadership, accuracy, native people, maps, application: so what?; writing; diversity: why so much stuff? Synthesis: yesterday, subjective sense. choose three: divesity, natives, maps. Why are there so many kinds of indians? How do they share and divide space? When Europeans came to Utah they found people in new cultures. They found the Northwestern Shoshone in the upper northeastern corner of what was to become the state of Utah. Another related

culture, the western Shoshone, called the northwestern corner home. The Utes, of Timpanogos, ranged to the south of these, roughly from Point of the Mountain south through Utah Valley and beyond. The Goshute lived in the west desert, the harshest portion of the Great Salt Lake desert. Further to the southwest were the . . . Bennion: Hemingway suggested stopping mid thought so you could come back.

Nelson: Scales lecture, yoga, enery flows, nutrients cycle. 8875

8876 USA: UTAH: Utah Co., Provo, Provo River BYU Park, 01-May-2008 C. R. Nelson # 8876 & class, INHUT. 56 8876

8877 USA: UTAH: Tooele Co. Fairfield, Camp Floyd, N 40.26091 W 112.09341, 1416 m, 02-May-2008 C. R. Nelson # 8877 & class, INHUT. 56 351 photos: people; also in cemetery. Johnston's army discussion 1858. Participants: Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Jasmine Nutter, Tristan Call, Katy Savage, John Kovalenko, Meghan McGrath, Shannon Soper, Camille Richey, Emily Richey, Travis Beckett, Ari Menon, Ryan Nielsen, Adam Griggs, Whitney Bush, Chris Nielsen, Ashley Sanders, Andrew Coy, Lori Fuller, later Sean Summerhays. 8877

8878 USA: UTAH: Tooele Co. Ophir, N 40.37000 W 112.25495, 1985 m, 02-May-2008 C. R. Nelson # 8878 & class, INHUT. 56 352ophir photos: mine and mining gear;

Participants: Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Jasmine Nutter, Tristan Call, Katy Savage, John Kovalenko, Meghan McGrath, Shannon Soper, Camille Richey, Emily Richey, Travis Beckett, Ari Menon, Ryan Nielsen, Adam Griggs, Whitney Bush, Chris Nielsen, Ashley Sanders, Andrew Coy, Lori Fuller, later Sean Summerhays. 8878

8879 USA: UTAH: Tooele Co. Hwy 73, turnoff to Ophir, N 40.35103 W 112.30939, 1727 m, 02-May-2008 C. R. Nelson # 8879 & class, INHUT. 56 352 73 ophir photos: Deseret Chemical and Sheeprock Mountains.

Participants: Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Jasmine Nutter, Tristan Call, Katy Savage, John Kovalenko, Meghan McGrath, Shannon Soper, Camille Richey, Emily Richey, Travis Beckett, Ari Menon, Ryan Nielsen, Adam Griggs, Whitney Bush, Chris Nielsen, Ashley Sanders, Andrew Coy, Lori Fuller, later Sean Summerhays. 8879

8880 USA: UTAH: Tooele Co. Lookout Pass Dog Cemetery, N 40.11875 W 112.57776, 1797 m, 02-May-2008 C. R. Nelson # 8880 & class, INHUT. 56 352dog photos: John Bennion.

Participants: Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Jasmine Nutter, Tristan Call, Katy Savage, John Kovalenko, Meghan McGrath, Shannon Soper, Camille Richey,

Emily Richey, Travis Beckett, Ari Menon, Ryan Nielsen, Adam Griggs, Whitney Bush, Chris Nielsen, Ashley Sanders, Andrew Coy, Lori Fuller, later Sean Summerhays. 8880

8881 USA: UTAH: Tooele Co. Green Jacket Ranch, Benmore, N 40.01249 W 112.39944, 1820 m, 2 - 4 May 2008 C. R. Nelson # 8881 & class, INHUT. 56 352green Friday 2 May: arrived at ranch of Liz and Alan Mitchell. Liz is John Bennion's younger sister.

Saturday 3 May: photos: morning scenics from Porphyry Point. photos: tick, *Dermacentor andersoni*; photos: afternoon talk on Porphyry Point.

Sunday 4 May. photos: morning scenics from rock above chained plateau of Porphyry Point to the east of the ranch. evening; photos sprinkler irrigation.

Participants: Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Jasmine Nutter, Tristan Call, Katy Savage, John Kovalenko, Meghan McGrath, Shannon Soper, Camille Richey, Emily Richey, Travis Beckett, Ari Menon, Ryan Nielsen, Adam Griggs, Whitney Bush, Chris Nielsen, Ashley Sanders, Andrew Coy, Lori Fuller, later Sean Summerhays. photos: tick, *Dermacentor andersoni*; 8881

8882 USA: UTAH: Tooele Co. Green Jacket Ranch, bajada below Egan Knob, N 39.998 W 112.412, 1860 m, 03-May-2008 C. R. Nelson # 8882 & class, INHUT. 56 juniper clearing work detail, photos people. Participants: see 8877. 8882

8883 USA: UTAH: Tooele Co. Benmore, old townsite, N 40.01267 W 112.42758, 1836 m, 03-May-2008 C. R. Nelson # 8883 & class, INHUT. 56 352benscho examined foundations of old school and old homes, including dugouts. Saw remains of cast iron school desk. saw a nice iron pick. kicked some dirt over it to hide it from scroungers (like us). photos people.

Participants: see 8877. 8883

8884 USA: UTAH: Tooele Co. Vernon, church and near, N 40.095 W 112.433, 1678 m, 04-May-2008 C. R. Nelson # 8884 & class, INHUT. 56 photos: people of Vernon with INHUT students at church. Cosetta "Cosie" Castagno 88 yers old. photos of her old photos. Photos: Sharp mansion, John Bennion on his cemetery plot. portrait of John on board at green cabin at Green Jacket. 8884

8885 USA: UTAH: Tooele Co. Sheeprock Mountains, Dutch Peak trail up Harker Canyon and down Bennion Canyon, N 39.95510 W 112.48054, 2712 m, 05-May-2008 C. R. Nelson # 8885 & class, INHUT. 56 352dutch 352harktrk: harker canyon, truck parking N39.98397 W112.47570 elev 1997m. 352dutch, summit dutch peak N 39.95510 W 112.48054 elev. 2712m. stop 1 on way up N 39.97881 W 112.48052 elev. 2082m. stop 2 on way up, 352st2 N 39.97117 check W, elev. 2249m. 352saddle, down N 39.95776 W 112.48009 elev 2655m.

352Esaddle N 39.95430 W 112.47712 elev 2606m.

5 May journal entry transferred to red journal. saw *Fritillaria* (no, *Erythroneum*) glacier lilies. many *Apiaceae*. *Astragalus* 2-3 species. *Prostoia* adult in Harker Creek. coyote ran across a snow field. 8885

8886 USA: UTAH: Tooele Co. Sheeprock Mountains, Bennion Canyon, N 39.95309 W 112.44624, 2136 m, 5 - 6 May 2008 C. R. Nelson # 8886 & class, INHUT. 56 352bencamp photos: morning 6 May, view to east, Mount Timpanogos.

also up at top of canyon: 352STEER (head of canyon, steershead flowers, *Dicentra*) N 39.95292 W 112.46972, elev. 2414m. *Fritillaria* (no *Erythroneum*) lilies with anthophora bees, also visiting *Claytonia lanceolata*. *Lomatium*. indian potato, ate some, *Orogenia linearifolia*. photos: 352steer (head of canyon, steershead flowers. *Dicentra uniflora*, *Fumariaceae*. 8886

8887 USA: UTAH: Tooele Co. Sheeprock Mountains, Little Valley Creek, above Vernon Reservoir, N 39.96010 W 112.37856, 1960 m, 06-May-2008 C. R. Nelson # 8887 & class, INHUT. 56 352litval also up canyon above camp, water shots: 352LVUP N 39.95934 W 112.38380 elev. 1977. Memory for John Bennion assignment: I've always been a good Mormon boy. I've always thought of myself as an obeyer of church and divine laws. Somehow in me I always knew I'd go on a mission. that being said, I've also kept my mind open to see inconsistencies in practice and feeling among those with whom I associate. I remember going to the Salt Lake Mission home to begin my LDS mission to Tahiti. My parents drove me to North Temple in our 1970 Impala, as I recall. We separated for a time, knowing this wasn't the final separation. They went out and I went in to a large auditorium filled with short-haired young men in dark suits. As we filled the hall, perhaps 1000 of us, an old man, slender but bent a bit with age walked up and down along the rows of full chairs and occasionally stopped and talked to a new elder. He was terse, emphatic, and showed no nonsense. He stopped at perhaps every fifth person. I was concerned as he reached me and then he said, "You, your hair is too long. Go to Deseret Gym nearby and get a haircut. It will cost 75 cents. Be back at 1:00 pm groomed and ready to go." I was shocked. I had a new haircut given lovingly by Earl Olsen in Brigham (as I recall) which used as a template the short-haired photo from the church that hung in every bishop's office. I was sure I had complied. I turned to protest but was silenced by body language and the old man continued down the line. . . finish later. photos: flowing stream, camp, buprestidae-bronze. Trichoptera 8887

8888 USA: UTAH: Tooele Co. Sheeprock Mountains, Vernon Creek, 1960 m, 07-May-2008 C. R. Nelson # 8888 & class, INHUT. 56 same as 8887? photos: morning scenery and slow shutters of creek.

lectures streamside above reservoir a half mile or so. 8888

8889 USA: UTAH: Tooele Co. Sheeprock Mountains, Vernon Reservoir, S of Benmore, N 39.986 W 112.386, 1879 m, 07-May-2008 C. R. Nelson # 8889 & class, INHUT. 56 photos: lunch in a hail storm 8889

8890 USA: UTAH: Utah Co., Provo, 500 Foothill Drive, Nelson home N 40.29343 W 111.64922, 1495 m, 07-May-2008 C. R. Nelson # 8890 & class, INHUT. 56 photos: group dinner at home after big rainstorm. 8890

8891 USA: UTAH: Utah Co., Provo, BYU campus, Joseph Fielding Smith Building, 08-May-2008 C. R. Nelson # 8891 & class, INHUT. 56 things we as individuals and a class learned on the trip so far, written haphazardly on the white board:

cities took over farmland, tamale pie, don't put 15 macaroni and cheese in one pan, how to samurai chop, there is something called a stonefly, actagatcggttacg... bald tops, i need a bigger whole, nerve gas, nama stay, nerve gas, natural validation, jobs more than safety, forest service life faith cows people chemical plants (gray areas), that was a tangent, dry farming and Utah, caring about where you live, vision, science, art, life changing moments, flow of thought, bald tops, chemical warfare, don't touch the rocket, don't use a splintered shovel, don't touch a prickly pear, importance of a ranch to a farmer, science, faith, force, consensus, art, magic, history of streams, people, pen, RTTR, ACGTU, two person tent means two people, personal dogma, gifts given and received, analogy, homology, getting up early is totally worth it, pain, Brian Cannon knows everything, ranching is hard, home and place, focus, little lessons learned, don't turn around with a 40 lb backpack going up hill, altitude, details, objective, subjective. WATER.

assignment, pick three's for essay:

don't touch the rocket, flow of thought, nerve gas.

stonefly, Brian Cannon knows everything, vision.

caring about where you live, tamale pie.

up early worth it, juniper, dry farming. John Bennion: storytelling, contrast, narration, lumped to place. Figure out a narration.

Adam Griggs touched the hot portable stove. Others laughed at first he did not. Laughing came later. His thoughts. . .

9:15am Riley Nelson: nutrients cycle, trophic levels, interactions

11:00am Brian Cannon. history, resources and stewardship, Thomas Alexander, Walter Cottam, less sage brush, lots and farms in Salt Lake City. hierarchy in distribution, John Bennion, detail, writing exercise, describe person, no metaphor, direct, clear,

accurate detail.

mine: Meghan McGrath. Furtive eyes and willing heart. She is concerned with a strange situation. Her layers of clothes covering her comfortably. A speckled face given by ancestors and enhanced by sun. she walks with a lumbering deliberate pace, checking each foothold and rolling to the next. She is compact and her stature matching many others. Meghan's curved hair frames her round face and piercing brown eyes look out with innocence more than fire. She aims to please and has intellectual tools to do so. She inspires a desire for me to understand her thoughts, but doesn't offer many opportunities for exploration. She seems to prefer brown and gray to red and blue. She loves the brick, glass, and mortar of architecture and I expect to learn to love that more through her. 8891

8892 USA: UTAH: Utah Co., Utah Lake, Provo Airport Dike, N 40.22247 W 111.72962 1369m, 10-May-2008 C. R. Nelson # 8892 & class, INHUT. 56 photos: Utah Lake, lecturing D. Robert Carter, Mount Timpanogos. 8892

8893 USA: UTAH: Utah Co., Provo River, East of Utah Lake State Park, N 40.23853 W 111.72158 1300m 10-May-2008 C. R. Nelson # 8893 & class, INHUT. 56 352PROV talk of water levels and history. 8893

8894 USA: UTAH: Utah Co., Provo, Fort Utah, Center Street. N 40.23547 W 111.69406 1374 m, 10-May-2008 C. R. Nelson # 8894 & class, INHUT. 56 352FTUT photos: D. Robert Carter, false Fort Utah reconstruction. 8894

8895 USA: UTAH: Utah Co., Provo River, Fort Utah, near I-15 by Paul Reams Wilderness Park, N 40.23983 W 111.68829 1379 m, 10-May-2008 C. R. Nelson # 8895 & class, INHUT. 56 352FORD photos: D. Robert Carter, ford on wagon trail, Fort Utah monument. 352FORD (ford of Provo River near "real" first Fort Utah) . 8895

8896 USA: UTAH: Utah Co., Provo River, Columbia Lane, N 40.25323 W 111.66797 1403 m, 10-May-2008 C. R. Nelson # 8896 & class, INHUT. 56 352Max CEYS photos: stories of "chastising" the indians near where the big battle occurred. Battle of the Provo River, indians in the fort, settlers attacking. 8896

8897 USA: UTAH: Utah Co., Provo, North Park N 40.24086 W 111.66523 1396 m, 10-May-2008 C. R. Nelson # 8897 & class, INHUT. 56 352NORTH photos: Katy Savage and Tristan Call with fungus. Second Fort Utah, gone by 1852. 8897

8898 USA: UTAH: Utah Co., Provo, mouth of Rock Canyon, N 40.26445 W 111.63088 1558 m, 10-May-2008 C. R. Nelson # 8898 & class, INHUT. 56 352ROCK photos: lecture on Squaw Peak, climbing of Old Elk's wife and falling to her death. 8898

8899 USA: UTAH: Utah Co., Provo, Provo River Park, LDS Motion Picture Studios, N 40.26498 W 111.66422 1411 m, 10-May-2008 C. R. Nelson # 8899 & class, INHUT. 56 Breakfast. Photos: beginning of Bicycle trip to Vivian Park. 8899

8900 USA: UTAH: Utah Co., Provo River Trail between Provo, LDS Motion Picture Studios, and Vivian Park, N 40.35573 W 111.57346 1593 m, 10-May-2008 C. R. Nelson # 8900 & class, INHUT. 57 352VIV photos: bicycling 8900

8901 USA: UTAH: Utah Co., Mount Timpanogos, Stewarts Falls, N 40.38622 W 111.60478 2148 m, 11-May-2008 C. R. Nelson # 8901 & class, INHUT. 57 352VIV photos: stream and falls 8901

8902 USA: UTAH: Summit Co. Woodland, Handley Cabin, N 40.54984 W 111.15549 2143 m, 11-12 May 2008 C. R. Nelson # 8902 & class, INHUT. 57 12 May 2008, Description: Small flakes floating down surround the world. The twigs are coated with accumulations of snow on this late spring day. I am cold, but not so cold I can't move and enjoy the scene. The fissures of the bark of spruce trees capture snow on one side of the trunks. This snow grades to wetness then dry moving to the other side of the trunks. Few other shrubs have leafed out, but the nine-bark has half grown leaves. A dipper flies up the twenty foot wide creek. In flight it chirps a metallic ping, ping, ping, ping, ping then the sound fades as the bird becomes distant. Other whistles of juncos and sparrows punctuate the sounds of the stream's flow on a riffle. I watch the water slide over rocks and think of its voyage to the sea. The stream is lined on its banks with fifty foot tall cottonwood trees exactly at the edge and with englemann spruce of equal height scattered less precisely and more distant. Some are close but others far, not ranged creek side. An understory of 15-25 foot birches, choke cherries, aspens, and dogwoods forms an intermediate level. Dogwoods hug the stream like the cottonwoods. The others scatter more like the spruce. Overall this understory forms denser stands and covers much more ground, as seen (or imagined) from above. Still lower, beneath the chokecherries and dogwoods is a layer of nine-bark and sagebrush, averaging 3 feet in height and grading shorter to the grasses that are only 4 inches tall. I can only see the grasses from where I sit because my tent (now gone) had shaded the grasses from the six inches of snow that fell this morning. As I look closer I see a few taller stalks of last year's horsetails poking a few inches above the snow. The tent spot devoid of snow leaves me lucky for I can see the new grass of spring only here, the surroundings more uniformly white in winter's last shroud of snow. Yes, perhaps, as times and seasons, they are changing. 8902

8903 USA: UTAH: Summit Co. spring headwaters of Noblett Creek, N 40.54541 W 111.08025 2371 m, 12-May-2008 C. R. Nelson # 8903 & class, INHUT. 57 354NOBSP 8

First 25 samples; much fontinalis
photos: site 1 spring falls. 8903

8904 USA: UTAH: Summit Co. Noblett Creek, 200m downstream from spring head, site 2, N 40.54612 W 111.08395 2348 m, 12-May-2008 C. R. Nelson # 8904 & class, INHUT. 57 354NOB2 4 First 25 samples inside meander and 4 First 25 outside meander;
photos: site 2 meander. people, Ryan Nielsen flips. Use this gps reading for trail photos.
Chironomidae; Zapada; Capnia nana; Boreus. 8904

8905 USA: UTAH: Summit Co. Nobletts Parking spot, N 40.54290 W 111.09501 2292 m, 12-May-2008 C. R. Nelson # 8905 & class, INHUT. 57 354NOBTRK photos: people, truck, trailhead. 8905

8906 USA: UTAH: Summit Co. Jeremy Ranch, Soper home, N 40.76464 W 111.56469 2292 m, 12-May-2008 C. R. Nelson # 8906 & class, INHUT. 57 Discussion of "Refuge" by Terry Tempest Williams, the author. photos: moose with magpie on its back. 8906

8907 USA: UTAH: Summit Co. Summerhays Cabin above Oakley, mouth of Beaver Canyon?, near Smith-Morehouse Creek, N 40.78416 W 111.10209 2280 m, 13-May-2008 C. R. Nelson # 8907 & class, INHUT. 57 cabin of Sean Summerhays' family, spent the night. 354SEANTRK N 40.78627 W 111.10831 elev. 2219 m. moose dung, for my Dad's story 8907

8908 USA: UTAH: Utah Co., Provo River, below Deer Creek Dam, between dam and Vivian Park, N 40.35573 W 111.57346 1593 m, 13-May-2008 C. R. Nelson # 8908 & class, INHUT. 57 352VIV floated river in inflatable kayaks. Meghan McGrath shared our kayak. 8908

8909 USA: UTAH: Utah Co., Mount Timpanogos, Brickerhaven, North Fork near Stewarts Falls, N 40.38633 W 111.60397 2035 m, 13-14 May 2008 C. R. Nelson # 8909 & class, INHUT. 57 354STEWFA discussion of community ecology 8909

8910 USA: UTAH: Utah Co., Mount Timpanogos, Stewarts Falls, N 40.38633 W 111.60397 2035 m, 14-May-2008 C. R. Nelson # 8910 & class, INHUT. 57 354STEWFA data class gathered 8 First 25 samples. photos: John Bennion shot many pictures of students working using my camera. Exercise showing students fossils from the Bridal Veil Falls Formation - Pennsylvanian. Physical parameters: Ari Menon. Vegetation transects Shannon Soper. 8910

8911 USA: UTAH: Utah Co., Mount Timpanogos, Little North Fork Creek, about 300m downstream from Stewart Falls, meadow near Brickerhaven, N 40.38674 W 111.60863 2025 m, 14-May-2008 C. R. Nelson # 8911 & class, INHUT. 57 354STEWDIS photos: people

by John Bennion with my camera. Students took 8 First 25 samples. Vegetation transects Shannon Soper. Physical parameters Ari Menon. 8911

8912 USA: UTAH: Utah Co., Mount Timpanogos, Little North Fork Creek, below Timp Lodge, above Sundance, N 40.38951 W 111.58708 1919 m, 14-May-2008 C. R. Nelson # 8912 & class, INHUT. 57 354TIMPLOD 8 First 25 samples. Physical parameters Ari Menon. Vegetation transect Shannon Soper. Photos: vegetation Travis Beckett, photos: *Taenionema pallidum* 1 f (first thought it was *Perlomyia*) and *Paraleuctra occidentalis* 2f. 8912

8913 USA: UTAH: Box Elder Co. I-15 Brigham City rest area, N 41.46729 W 112.05296 1294 m, 16-May-2008 C. R. Nelson # 8913 & class, INHUT. 57 talk of shorelines, talk of Bushnell Hospital and Intermountain School. meadow larks, starling, robin, swallows cliff? 8913

8914 USA: UTAH: Rich Co. Bear Lake Overlook, Hwy 89, N 41.92103 W 111.45662 2307 m, 16-May-2008 C. R. Nelson # 8914 & class, INHUT. 57 talk of Bear Lake and Bear River, talk of endemism in fish, Bear Lake Whitefish, Bonneville Whitefish, Bonneville Cisco, Bear Lake Sculpin, Bear Lake Cut throat trout. photos: group of INHUT. Bear Lake. Continued to Bear River channel on Montpelier road, then on to Oneida Narrows. 8914

8915 USA: IDAHO: Franklin Co. Oneida Narrows Reservoir, Bear River, north of Preston, maple Grove BLM Campground, N 42.28495 W 111.73100 1458 m, 16-17 May 2008 C. R. Nelson # 8915 & class, INHUT. 57 set up camp. photos 17 May 2008, calm lake at sunrise. boat fishermen were catching small yellow perch using bottom bouncers. 17 May 2008, Riley Nelson, a lecture on time, trilobites, and floods.

In the morning calm I heard the honking call of canada geese in staccato. I heard the sharp calls and their echos bouncing off the lake and exploring each of the small canyons as the birds flew down canyon in pairs at telephone pole height. Where are they going? Have they a nesting site in the valley in their mind? Where am I going? My thoughts are broken, or at least refocused as a carp torpedoed out of the water for two-thirds its length and silently slips back down. Pelicans slid by.

Oneida Narrows Reservoir, Idaho. 17 May 2008. 11:00 am, John Bennion: An image of the moment, an image from the past, ideas of the reservoir.

Moments: Where are the geese going? They fly in pairs over the lake, low enough to see their reflections. The echos of their voices bounce to me from each V of each canyon and the triangles of the ridges.

Past: The lilacs of spring flood my mind. I love the purple ones for their show, perhaps I love

the white ones more for thier fragrance. Both remind me of my mother.

Reservoir: The flat water of Oneida Narrows Reservoir serves me today as the sounding board for the voices of geese, cranes, ducks, and crows. The rushing waters now still, except for leaps of golden carp from Asia rest a time behind the berm of man's creation. The waters wait for a turn to spin the turbines to give me power to push through night's dark envelope. The power to grind, to build, to grow. Continuing on, the waters wind to reach the fields of Tremonton, Bear River City, and Corinne. I remember the courses of waterdown the rows of sugar beets and onions. As I hoed beets as a youth I formed ideas of stewardship to last a lifetime. 8915

8916 USA: IDAHO: Franklin Co. Oneida Narrows Reservoir, Bear River, about 1.5 mi S of Hwy 34, about 1.5 mi N of hot springs, N 42.32250 W 111.71243 1516 m, 16-May-2008 C. R. Nelson # 8916 & class, INHUT. 57 354ONFOSS gps: 354ONFOSS at paper shales. 354ONF2 at black shales: N 42.32100 W 111.71316, elev. 1527 m

Ari Menon, Brian Cannon, and I searched for fossils in Cambrian rock above Proerozoic quartzites finding site of sponges outlined in paper by Church, Rigby, Gunther, and Gunther. *Protospongia hicksi*. We searched black shales and found trilobites about 50 m above the road. Further up canyon (100 m) I found other fossils in a grainy limestone. 8916

8917 USA: IDAHO: Franklin Co. Bear River, Oneida Narrows, Red Point Campground, N 42.23446 W 111.75927 1449 m, 17-May-2008 C. R. Nelson # 8917 & class, INHUT. 57 354ONRED stream sampling below reservoir, armored bottom, much filamentous algae. took 8 First 25 samples, physical parameters. photos of people, with my camera by John Bennion, Tristan Call, and Katy Savage. northern leopard frog, *Cottus bairdi*, black spot parasites. 8917

8918 USA: IDAHO: Franklin Co. Bear River Massacre Monument, Hwy 91, N 42.14082 W 111.91129 1370 m, 17-May-2008 C. R. Nelson # 8918 & class, INHUT. 57 Patty Timbimboo Madsen: I could hunt until I ran out of bullets. I can survive. I know that water is life. Boats made out of toolies. I am not a savage. You call me indian. Not indian, Columbus. Not Shoshoni. They call us that. Who am I? I am nua, nema, "the people", Nua is who I am, an aboriginal person of this land. You have titles of the land, but this is my land, my homeland. 1867 I hope one day we will dance again, the warm dance. Bruce Perry and Mike Devine, tribal leaders. Pine nuts, pine nut gravy. Bruce Perry, quote Connor, solve problem once and for all. Patty: song about a fish, penguin, pen gay. 8918

8919 USA: IDAHO: Bannock Co. Red Rock Pass, Hwy 91, North of Swan Lake, N 42.35453 W 112.04902 1489 m, 17-May-2008 C. R. Nelson # 8919 & class, INHUT. 57 354REDR photos: group, scenery, panorama at 50 mm. 8919

8920 USA: UTAH: Box Elder Co. Dock Flat, S of mantua, N 41.46167 W 111.94511 1775 m, 17-18 May 2008 C. R. Nelson # 8920 & class, INHUT. 57 photos: morning near Box Elder Creek. Edge. 8920

8921 USA: UTAH: Box Elder Co. Brigham City, N 41.51515 W 112.01924 1334 m, 18-May-2008 C. R. Nelson # 8921 & class, INHUT. 57 3rd 15th Ward Church. 8921

8922 USA: UTAH: Box Elder Co. Woods Creek Cabin, South of Corinne, N 41.51707 W 112.13976 1286 m, 18-19 May 2008 C. R. Nelson # 8922 & class, INHUT. 57 photos: sunset 18 May 2008. sunrise: 19 May 2008. Tod Young talking on the lake. He presented me with our great grandfather's shotgun, that of Jens Peter Larsen. 8922

8923 USA: UTAH: Box Elder Co. Golden Spike National Historic Site, N 41.61689 W 112.55087 1482 m, 20-May-2008 C. R. Nelson # 8923 & class, INHUT. 57 355GOLD photos: trains, Jupiter and 119. 8923

8924 USA: UTAH: Box Elder Co. ATK Thiokol, 24 miles West of Brigham City, N 41.65912 W 112.44061 1339 m, 20-May-2008 C. R. Nelson # 8924 & class, INHUT. 57 355ATK photos: rocket motors. Rocket Garden. 8924

8925 USA: UTAH: Box Elder Co. Little Mountain, 14 miles W of Brigham City, west side near wide cave, N 41.60290 W 112.26200 1309 m, 19-20 May 2008 C. R. Nelson # 8925 & class, INHUT. 57 355LITCAMP Ari, Travis, and Ryan hiked to limestone ridges. cooked fried potatoes, and sausage. both meat and non meat. stories in the cave. 355CORAL N 41.61217 W 112.25788 elev. 1335 m.

Painted Rock Pictographs

N 41.62102 W 112.26637 elev. 1310 m. photos: rattlesnake. 8925

8926 USA: UTAH: Box Elder Co. Bear River Migratory Bird Refuge, Bear River, O Line Canal to headquarters, N 41.46534 W 112.21658 1282 m, 20-May-2008 C. R. Nelson # 8926 & class, INHUT. 57 Oline Canal photos: canoe trip

GPS headquarters: N 41.48013 W 112.26689, elevation 1282 m. photos: carp and pelicans 8926

8927 USA: UTAH: Davis Co. Antelope Island State Park, Bridger Bay Campground, N 41.04041 W 112.25954 1286 m, 20-21 May 2008 C. R. Nelson # 8927 & class, INHUT. 57 rained out! 8927

8928 USA: UTAH: Utah Co., Provo, Bennion home, N 40.29245 W 111.64887 1484 m, 21-May-2008 C. R. Nelson # 8928 & class, INHUT. 57 Larry Echohawk, BYU law professor, Pawnee heritage. BIA: trusteeship flows from 389 treaties, supreme law of the land, same status as with "France", congress can abrogate. 8928

8929 USA: UTAH: Utah Co., Provo, BYU, JFSB, N 40.24855 W 111.65072 1420 m, 22-May-2008 C. R. Nelson # 8929 & class, INHUT. 57 Riley: science, What do you do? Extinctions. yoga. Dr. Jeff Durrant, public land use, Geography 306, public lands. Nation Landscape Conservation System. NLCS, within BLM. 1964 wilderness act, no BLM; 1976 FLPMA (BLM) retention of public land. make a resource management plan early 1980s "multiple use" tied wilderness to BLM end by 1991. in Utah: 3.2 million acres WSA. Utah Wilderness Commission, SUWA 5.7 million acres. BLM Reinventory, about 5.7 but less. SUWA, 9-10 million acres. Roads and Wilderness.

John Bennion: form in an essay. Mosaic, collage, chapters. Personal essay, turmoil and terror. Record things along the way. No one's right along the way should be impinged. What happens when we get head to head with different values?

What are the options? Visiting a lamb and worrying the sheep. Karl Jensen. had other values and was upset. Brian Cannon, worries the stodgy librarian. Writing exercise, John Bennion. What do you do? 1. What is the nature of nature? 2. What are you going to do about it? 3. Who gets to decide in a conflict of values? 4. What methods will you use to resolve these conflicts of values? 5. What are the real costs of conflict? 6. What is ownership? 7. What are good things about others in the group? Write. 8929

8930 USA: UTAH: Salt Lake Co. Salt Lake City, downtown, conference of North American Benthological Society, N 40.76849 W 111.89809 1306 m, 26-29 May 2008 C. R. Nelson # 8930 & students 57 photos: people, 29 May 2008. 8930

8931 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building, N 40.24625 W 111.64984 1420 m, 30 May 2008, C. R. Nelson# 8931 & A. J. Nelson. 57 photos: bill bug, Curculionidae. Photo session of Bactrocera from Karen Froerer, Hawaii: 7/13/2007, North trap run, Methyl eugenol trap. E3. 8931

8932 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m, 30-31 May 2008, C. R. Nelson# 8932 & family 57 photos: kite flying. hiked with Brandy. Saw a merlin flying.

Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, Andrea Nelson, Amy Nelson, Ben Parker, Christi Parker, Logan Parker, Daniel Parker, TamaraParker, David Cook, Meagan Cook, Solomon Cook. 8932

8933 USA: UTAH: Utah Co., Provo, 500 Foothill Drive, Nelson home N 40.29343 W 111.64922, 1495 m, 03-Jun-2008 C. R. Nelson # 8933 & class, INHUT. 57 photos: people of INHUT, Integrated Natural History of Utah. Dessert party, closing of field portion of the course. 8933

8934 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m, 6 June 2008, C. R. Nelson# 8934 & family & friends 57 Riley Nelson, Kaye Nelson, Paul F. Ashton, and Sherry Wheeler. photos: nymphs of cicadas dug while fixing water lines. 8934

8935 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River near Timpooneke Guard Station, site 4, N 40.43226 W 111.63741 2213 m, 10-Jun-2008 C. R. Nelson # 8935 & S. Walker & E. Bankhead. 57 photos: people. photos: orange cup fungus
photos: moose near Salamander Flats 8935

8936 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River near Timpooneke Trailhead, N 40.43034 W 111.63863 2260 m, 10-Jun-2008 C. R. Nelson # 8936 & S. Walker & E. Bankhead. 57 355TSR photos: people. Empididae: Rhamphomyia
8936

8937 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River near Timpooneke Trail, below Giant Staircase lower meadow, site 5, N 40.42458 W 111.63899 2291 m, 10-Jun-2008 C. R. Nelson# 8937 & S. Walker & E. Bankhead. 57 emptied malaise trap 8937

8938 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River, meadow below Scout Falls, N 40.42251 W 111.64007 2300 m, 10-Jun-2008 C. R. Nelson# 8938 & S. Walker & E. Bankhead. 57 emptied malaise trap 8938

8939 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River near Timpooneke Trail W of Scout Falls, below Giant Staircase, site 6, N 40.41829 W 111.64149 2453 m, 10-Jun-2008 C. R. Nelson# 8939 & S. Walker & E. Bankhead. 57 set up malaise trap; photos: people; photos: Nymphalidae, morning cloak butterflies mating. Leuctridae; Uenoidae: Oligophlebodes; Clinocera. 8939

8940 USA: UTAH: Utah Co., Provo, 500 Foothill Drive, Nelson home N 40.29343 W 111.64922, 1495 m, 13-Jun-2008 C. R. Nelson # 8940 57 \ photos: small skunk at our outside cat food. around 11:00 pm. 8940

8941 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building, N 40.24625 W 111.64984 1420 m, 21 June 2008, C. R. Nelson# 8941 & J. K. Nelson. 57 beetle, Elateridae? 8941

8942 USA: UTAH: Salt Lake Co. Salt Lake City International Airport, N W x m, 22 June 2008, C. R. Nelson# 8942 & J. K. Nelson. 57 Kaye drove Joss Wertz and me to the airport from Provo. We got up at 5:30 am to get to our flight at 9:30 am. Traveling with Joss Wertz. b 8942

8943 USA: CALIFORNIA: Los Angeles Co. Los Angeles International Airport, Tom Bradley International Terminal, N W x m, 22 June 2008, C. R. Nelson# 8943 57 Arrived in Los Angeles at 10:45 am, running clock time from Utah. 11:45 am, Met Will Bouchard at Korean Airlines counters. left for Korea at 12:30 pm local time, 1:30 pm Utah time. Traveling with Will Bouchard and Joss Wertz. 8943

8944 SOUTH KOREA: Incheon International Airport, N W x m, 23 June 2008, C. R. Nelson# 8944 57 Hugged North American coast crossed Bering Straits, hugged East Asian (Russian) coast south to Vladivostok then latitude of Seoul, Korea. Arrived in Incheon at 5:00 pm local time on 23 June 2008. running clock reads 2:00 am Utah time. Leave Korea for Mongolia, 6:30 pm Korea time, 3:30 pm Utah time. Traveling with Will Bouchard and Joss Wertz. 8944

8945 MONGOLIA: Tov Aimag, Chinggis Khan International Airport, Ulaan Baatar, N W x m, 23 June 2008, C. R. Nelson# 8945 57 arrive from Korea 8:05 pm Mongolia time, time zone change (itinerary says 9:05 pm) running time, Utah time reads 6:05 am. Wait for baggage until 10:00 pm local time, all did not arrive. Arrive at Seoul Hotel in Ulaan Baatar after midnight. 12:30 am 24 June 2008, comfortable rooms, single \$35 double \$50 slept easily, awoke 24 June 5:00 am, 7:00 pm Utah time. Not enough sleep. I'll change my watch, GPS, and camera to local time, keep computer on Utah time. Traveling with Will Bouchard and Joss Wertz. 8945

8946 MONGOLIA: Tov Aimag, Ulaan Baatar, Seoul Hotel, N 47.91632 E 106.90166 1383 m, 24 June 2008, C. R. Nelson# 8946 & W. Bouchard, J. Wertz 57 360UBHOTEL as usual, using WGS84 datum. +8:00 hour offset from Greenwich Time. 14 hours ahead of current Utah time. 8946

8947 MONGOLIA: Tov Aimag, Ulaan Baatar, Choijin Lama Temple Grounds, N 47.915051 E 106.918311 1293 m, 25 June 2008, C. R. Nelson# 8947 & W. Bouchard, J. Wertz 57 photos: temple grounds and some buildings with contrast of the architecture of the new Blue Sky? building building being constructed. GPS from Google Earth. 8947

8948 MONGOLIA: Tov Aimag, Ulaan Baatar, Peace Street, N 47.91632 E 106.90166 1383 m, 27 June 2008, C. R. Nelson# 8948 & W. Bouchard, J. Wertz 57 360HOTEL small beetle in hotel room, 8948

8949 MONGOLIA: Tov Aimag, Erdene Soum, Gorkhi Terelj National Park, Terelj River, just above Terelj, Gorkhi Terelj National Park, Terelj River, just above Terelj, N 47.99158 E 107.46717 1516 m, 28 June 2008, C. R. Nelson# 8949 & W. Bouchard, J. Wertz, Oyuna. 57 356TER1 Nemouridae, Chloroperlidae Alloperla, Leuctridae Leuctra photos? odd wings? Perlomyia? Capniidae Isocapnia? photos broken tails?, bad wings. Perlodidae Skwala? (probably Diura nanseni, det CRN from notes not specimen, 7 March 2017). photos; Arcynopteryx? photos; Cerambycidae photos. 8949

8950 MONGOLIA: Tov Aimag, Erdene Soum, Gorkhi Terelj National Park, temporary stream North of Terelj Davaa, Gorkhi Pass?, N 47.94993 E 107.45390 1617 m, 28 June 2008, C. R. Nelson# 8950 & W. Bouchard, J. Wertz, Oyuna. 57 356TER2 Syrphidae, Cerambycidae. lunch stop. 8950

8951 MONGOLIA: Tov Aimag, Nalaikh Soum?, Gorkhi Terelj National Park, Turtle Rock, Melkhi Khad, N 47.90610 E 107.42639 1540 m, 28 June 2008, C. R. Nelson# 8951 & W. Bouchard, J. Wertz, Oyuna. 57 photos: rock, sky photos: lichen, orange Chrysomelidae 8951

8952 MONGOLIA: Tov Aimag, Gorkhi Terelj National Park, Tuul Gol at mouth Gorkhi Valley, N 47.82110 E 107.35422 1384 m, 28 June 2008, C. R. Nelson# 8952 & W. Bouchard, J. Wertz, Oyuna. 57 356TUUL Empididae, Chironomidae, Chloropidae, Isoperla, Alloperla, Nemouridae 8952

8953 MONGOLIA: flight from Ulaan Baatar to Khovd, N xx E xx xx m, 1 July 2008, C. R. Nelson# 8953 & W. Bouchard, J. Wertz, Oyuna. 57 Seat of South side of westbound plane; photos from air. 2 snowy peaks 356PK; further west of 2 snowy peaks 356PK2 about 30 mi South, Telmen Lake to north, nearby. photos: "Sand" river vertical (N to S). photos: Khar Nuur Lake, 100 mi SSW snowy peaks. 356SAND2 Sand River horizontal (E to W), west of Khar Nuur, village on river. 356PKSOUTH white, snowy peaks due south beyond Khar Us Nuur. 356HARUS. photos 356LAKE shallow murky Marsh. 356HOVD Khovd City. Get GPS readings from computer. 8953

8954 MONGOLIA: Khovd Aimag, Buyant Gol, West of Khovd, 1 km upstream from Hwy A0305, N 48.01030 E 91.61830 1463 m, 1 July 2008, C. R. Nelson# 8954 & Mongolian Aquatic Insect Survey crew. 57 356BUYANT MAIS 200807101 MAIS 2008070101 8954

8955 MONGOLIA: Khovd Aimag, Khovd City, N 48.00 E 91.64 1395 m, 1 July 2008, C. R. Nelson# 8955 & Mongolian Aquatic Insect Survey crew. 57 google earth conversation on

cooperation give advanced warning for workshops in future. how contact: arrange through Sosoburam. Sleep Dund Gol, Buyant, Chono Kharaikh 2 spots, then check Hongor Olin at Brigade crossing, two streams. Gave Khandaa 1000000 tugrug while at gas station in Khovd. Meeting with Institute of Meteorology and Hydrology Khovd region director Davaadorj 8955

8956 MONGOLIA: Khovd Aimag, Khatuu Khotol Davaa, 8 km North of Khovd, N 48.07655 E 91.60723 1557 m, 1 July 2008, C. R. Nelson# 8956 & Mongolian Aquatic Insect Survey crew. 57 356 & 357 photos: ovoo, Khovd, people.

Ulidiidae black bands

Tenebrionidae 8956

8957 MONGOLIA: Khovd Aimag, Khovd Soum, near small Khovd village, N 48.13976 E 91.46923 1602 m, 1 July 2008, C. R. Nelson# 8957 & Mongolian Aquatic Insect Survey crew. 57 photos: views of snow capped mountains and adobe brick making. 8957

8958 MONGOLIA: Khovd Aimag, Khovd Soum, Dund Gol, 3 km above small Khovd village soum center, N 48.11816 E 91.32929 1758 m, 1 July 2008, C. R. Nelson# 8958 & Mongolian Aquatic Insect Survey crew. 57 359 MAIS 2008070102

Unpacking and reorganization site. Camp GPS 359

stream is 360DUND N 48.12138 W 91.33141, elev. 1751 m. Baetidae, Diptera sweepings, Ephydriidae, Culicidae-many! Chloropidae, Muscidae, Sphaeroceridae? MAIS 2008070102 8958

8959 MONGOLIA: Khovd Aimag, Buyant Gol, West of Khovd, 1 km upstream from Hwy A0305, N 48.01030 E 91.61830 1463 m, 2 July 2008, C. R. Nelson# 8959 & Mongolian Aquatic Insect Survey crew. 57 356BUYANT MAIS 2008070201

20 yellow pans, many taken by locals.

stayed night of 2-3 July 2008. Biomonitoring, photos site.

photos: kites, black eared. Mayflies Ephemeroptera, Curculionidae MAIS 2008070201 8959

8960 MONGOLIA: Khovd Aimag, Dorgon Soum, Chono Kharaikh Gol (Jumping Wolf River), East of Dorgon, 1 km below dam site, N 48.33136 E 92.81702 1145 m, 2 July 2008, C. R. Nelson# 8960 & Mongolian Aquatic Insect Survey crew. 57 360CH MAIS 2008070202

20 yellow pans,

Biomonitoring; No Mayflies!

Stichopogon, photos: Isoperla adult females; Perlidae females.

Diptera sweepings, fly sweeps; Coenagrionidae MAIS 2008070202 8960

8961 MONGOLIA: Khovd Aimag, road between Dorgon and Khovd, mostly near Dorgon, N xx E xx xx m, 2 July 2008, C. R. Nelson# 8961 & Mongolian Aquatic Insect Survey crew. 57 photos dust storm; Jargalant Mountain to the south; spring near Khovd 8961

8962 MONGOLIA: Khovd Aimag, Khatuu Khotol Davaa, 8 km North of Khovd, N 48.07655 E 91.60723 1557 m, 3 July 2008, C. R. Nelson# 8962 & Mongolian Aquatic Insect Survey crew. 57 356 & 357 same spot as CRN 8956 Asilidae, Satyridae, bee, Acrididae, crystal, Cerambycidae: Eudorcadion sp. 8962

8963 MONGOLIA: Khovd Aimag, Erdenetburen Soum, Shurag Gol, at road A0305, 11 km South of Erdenetburen, N 48.32093 E 91.30888 1474 m, 3 July 2008, C. R. Nelson# 8963 & Mongolian Aquatic Insect Survey crew. 57 MAIS 2008070301

two yellow pans

RBP Monitoring

Diptera, riparian sweeps Ephemerellidae MAIS 2008070301 8963

8964 MONGOLIA: Khovd Aimag, Erdenetburen Soum, Hongor Olin Gol, jct Hongor Gol, N 48.32093 E 91.30888 1474 m, 3 July 2008, C. R. Nelson# 8964 & Mongolian Aquatic Insect Survey crew. 57 360HONG MAIS 2008070302

collected and cleaned in evening. River rose overnight.

photos: stela, man stones, writing: 360 HONman N 48.43007 E 90.96403 elev. 1861 m. photos: Oestridae, Raphioptera. Tipulidae, Perlidae skin, Perlodidae Skwala? short winged male.

photos: Blephariceridae adults (got 1 larva many pupae), Empididae, Clinocera with prey! nice shot.

photos: Perlodidae Arcynopteryx female and male, shot at Omno Gol on 5 July 2008 #8969) MAIS 2008070302 8964

8965 MONGOLIA: Khovd Aimag, xx Soum, Bayan Enger (Rich Slope), Hongor Gol Valley, Tuuri Ruins N 48.38643 E 90.82162 1999 m, 4 July 2008, C. R. Nelson# 8965 & Mongolian Aquatic Insect Survey crew. 57 360BAY Russians at archaeology site and photos of stelae. 8965

8966 MONGOLIA: Bayan Olgiy Aimag, Tolbo Soum, Buraat Gol, 7 km East of Tolbo, xx km East of Ulaan Khotol, (khotol means small hill), N 48.42305 E 90.38785 2310 m, 4 July

2008, C. R. Nelson# 8966 & Mongolian Aquatic Insect Survey crew. 57 360OULA MAIS 2008070401

Perlodidae nymphs; Nemouridae nymphs; photos: Dixidae. Empididae, Saldidae, Trichoptera, Apataniidae, Tipulidae larvae Arctotipula. Photos: "Limonia" adults. MAIS 2008070401 8966

8967 MONGOLIA: Bayan Olgiy Aimag, Tolbo Soum, Tolbo Nuur (lake), southeast side, 14 km NW of Tolbo, N 48.52034 E 90.16808 2072 m, 4 July 2008, C. R. Nelson# 8967 & Mongolian Aquatic Insect Survey crew. 57 MAIS 2008070402

yellow pans washed away.

photos: Molannidae, Molannodes tinctus, Leptoceridae, Ceraclea? Mystacides; Saldidae; Chironomidae, Stratiomyidae.

many Ceratopogonidae!

Photo, again later: Mystacides at Omno Gol CRN#8969. MAIS 2008070402 8967

8968 MONGOLIA: Bayan Olgiy Aimag, Tolbo Soum, Marsh of Omno Gol, southwest of mantakh, N 48.66139 E 89.93858 2155 m, 4 July 2008, C. R. Nelson# 8968 & Mongolian Aquatic Insect Survey crew. 57 360manDAKH photos: Nemestrinidae, long beak. 8968

8969 MONGOLIA: Bayan Olgiy Aimag, Tolbo Soum, Omno Gol, near mantakh, N 48.64831 E 89.88409 2066 m, 4 July 2008, C. R. Nelson# 8969 & Mongolian Aquatic Insect Survey crew. 57 360OMNO MAIS 2008070403

yellow pans; photos river up and down; stayed night 4-5 July 2008. photos: Ameletidae, Ephemerellidae several; Perlodidae nymphs, , Asilidae, small Asilini male (female died) taken out of order at camp CRN #8974, Sogoog Gol.

Mixed flies; Leuctridae 1 nymph (FIND IT IN THE SAMPLE!) Chloroperlidae nymphs, one adult with Suvdaa; "Perlodidae" female, found dead. Strange tiny beetle larva? look for it in the sample.

photos in camp of Arcynopteryx f & m from CRN#8964; photos in camp of Mystacides from CRN#8967 MAIS 2008070403 8969

8970 MONGOLIA: Bayan Olgiy Aimag, Olgiy Soum, Khovd Gol above Olgiy, N 48.97842 E 89.94995 1750 m, 5 July 2008, C. R. Nelson# 8970 & Mongolian Aquatic Insect Survey crew. 57 360KHOVDGOL MAIS 08070501

yellow pans; wet: Ephemerellidae several species; Caenidae; Baetidae; Heptageniidae;

Corixidae, amazingly tiny adults, Perlodidae, Ephemeridae.

photos at CRN 8971: adults: Chloroperlidae, Perlodidae, Empididae, Glossosomatidae.

Photos: Perlidae? Agnetina? shot at Harganat Gol, MAIS 08070501. Check to see that this is true. MAIS 08070501 8970

8971 MONGOLIA: Bayan Olgiy Aimag, Sagsay Soum, Sagsay Gol, bridge 11 km NW Sagsay, N 48.84328 E 89.53623 1798 m, 5 July 2008, C. R. Nelson# 8971 & Mongolian Aquatic Insect Survey crew. 57 360SAGSAY MAIS 2008070502

Odometer reading 72 at camp.

very nice collecting!

yellow pans.

camp night of 5-6 July 2008. beautiful willows, photos: 2 axed larch trees. photos: Isoperla. Suwallia, Sweltsa?, Nemouridae 1f, Rhagionidae, Trichoptera many. MAIS 2008070502 8971

8972 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Harganat Gol on route A15, at Usttolgoy, N 48.83461 E 89.19676 2055 m, 6 July 2008, C. R. Nelson# 8972 & Mongolian Aquatic Insect Survey crew. 57 360HARG MAIS 2008070601

yellow pans. Diptera sweeps. sweep on spiny yellow shrub (get genus name!), benthics. Simuliidae, Stratiomyidae, photos: Bombyliidae out of order at CRN 8974. Tachinidae, Perlodidae, Ephemerellidae, Baetidae, photos: Mutilidae out of order at CRN #8974. Acrididae, Tettigoniidae. MAIS 2008070601 8972

8973 MONGOLIA: Bayan Olgiy Aimag, Ulaankhus Soum, Khovd River at Ulaankhus bridge, N 49.04180 E 89.41676 1780 m, 6 July 2008, C. R. Nelson# 8973 & Mongolian Aquatic Insect Survey crew. 57 361HHOULAA MAIS 2008070602

yellow pans. Diptera sweeps. photos: "Sweltsa", Hydropsyche, Goeridae, Glossosoma, Tipulidae Dicranomyia, Nephrotoma erebus, Stratiomyidae Nemotelus. Diptera sweepings. MAIS 2008070602 8973

8974 MONGOLIA: Bayan Olgiy Aimag, Ulaankhus Soum, Sogoog Gol, 3 km E of Soogog Bag N 49.12999 E 89.37314 1798 m, 7 July 2008, C. R. Nelson# 8974 & Mongolian Aquatic Insect Survey crew. 58 361SOGO MAIS 2008070603

Diptera sweeps. stream clear & slow; Potamogeton sand & gravel. open plains, Marsh, camped night of 6-7 July 2008. Diptera sweeping, Stratiomyidae, Tipulidae, Dixidae, Muscidae, Ephydriidae; Benthics: Dytiscidae Helophorus adults and larva,

Ephemerellidae?, Tricorythidae, Caenidae, Heptageniidae, Ephemeridae, Chironomidae many. Photos of asilid CRN 8969 taken out of order here, also bombyliid of CRN 8972 and mutillid CRN 8972; limnephilid out of sequence CRN 8980. MAIS 2008070603 8974

8975 MONGOLIA: Bayan Olgiy Aimag, Ulaankhus Soum, Sogoog Gol, 3 km East of Khokh Khotol, open flat, N 49.23798 E 88.90710 2104 m, 7 July 2008, C. R. Nelson# 8975 & Mongolian Aquatic Insect Survey crew. 58 361KHOK MAIS 2008070701

Yellow pans, Diptera sweeps. camped night of 7-8 July 2008. Took bath at 8:00 am on 8 July, air temperature 10°C, water temperature 7°C, shocking. Asilidae, Calliphoridae. MAIS 2008070701 8975

8976 MONGOLIA: Bayan Olgiy Aimag, Ulaankhus Soum, Sogoog Gol, 3.5 km East of Khokh Khotol, hidden valley rapids, N 49.23285 E 88.90569 2090 m, 7 July 2008, C. R. Nelson# 8976 & Mongolian Aquatic Insect Survey crew. 58 361KHOKRAP MAIS 2008070702

Yellow pans, Diptera sweeps. nice camp because truck problems, camped night of 7-8 July 2008.

photos: scenery

met Oregon photographer of surface archaeology of Altai:

gtepfer.com gtepfer@efn.org; wife: Esther Jacobson: ejacobs@uoregon.ed. 12,000 BC start to 0? photos larva: Blephariceridae adults abundant, pupae, few larvae. photos:

Deuterophlebiidae larva pupae.

Tipulidae, Diptera sweepings, Taenionema adults and nymphs; Ephemerellidae; Chironomidae, Glossosomatidae; Brachycentridae; Simuliidae.

Photos: Limnephilidae 2 large and smaller. MAIS 2008070702 8976

8977 MONGOLIA: Bayan Olgiy Aimag, Ulaankhus Soum, Khar Yamaat Gol, (Yamaatiin?) at road crossing 14 km NE of Jalpak, N 49.38055 E 88.68401 2306 m, 8 July 2008, C. R. Nelson# 8977 & Mongolian Aquatic Insect Survey crew. 58 361KHARYAAM MAIS 2008070801

Yellow pans, Diptera sweeps. photos: Perlodidae 2 spp.

Nemouridae, Chloroperlidae adults & nymphs, Carabidae, Tipulidae, Trichoptera adults, Empididae, Ephemerellidae, Heptageniidae, Siphonuridae, Ephydriidae. MAIS 2008070801 8977

8978 MONGOLIA: Bayan Olgiy Aimag, Ulaankhus Soum, Tsagaan Ereg Uul Davaa, view to Tavan Bogd, N 49.36140 E 88.60389 2575 m, 8 July 2008, C. R. Nelson# 8978 & Mongolian Aquatic Insect Survey crew. 58 361ALT photo: group, Ninje, Nyamaa. Our first look at the Tavan Bogd or related Altai Mountains. 8978

8979 MONGOLIA: Bayan Olgiy Aimag, Ulaankhus Soum, Khokh Ereg Military Base, N 49.30987 E 88.35549 2413 m, 8 July 2008, C. R. Nelson# 8979 & Mongolian Aquatic Insect Survey crew. 58 361EREG permits and passports checked.
361EREG2 N49.30989 E 88.35545 elev. 2415 m. test of exact same spot as 361EREG 8979

8980 MONGOLIA: Bayan Olgiy Aimag, Ulaankhus Soum, Ulatai Gol, 2 km East of Khokh Ereg Military Base, N 49.31867 E 88.36613 2391 m, 8 July 2008, C. R. Nelson# 8980 & Mongolian Aquatic Insect Survey crew. 58 361ERECAM MAIS 2008070802

Yellow pans, Diptera sweeps.

Camped night at high elevation, rain, hail, snow, 8-9 July 2008. Photo: Capniidae 2 spp., Perlodidae Arcynopterx abundant, Nemouridae {microscope photo voucher of Julie Fazio of Nemoura arctica, curated by CR Nelson, 5 March 2013}, Chloroperlidae, Saldidae, Empididae Clinocera, Cantharidae, Trichoptera.

Scarabaeidae, Baetidae, Ephemerellidae, Heptageniidae, Taeniopterygidae, Chironomidae. Photos: Limnephilidae CRN 8974 out of sequence. MAIS 2008070802 8980

8981 MONGOLIA: Bayan Olgiy Aimag, Ulaankhus Soum, lake on Ulatai Gol, 2 km East of Khokh Ereg Military Base, N 49.31761 E 88.37029 2382 m, 8 July 2008, C. R. Nelson# 8981 & Mongolian Aquatic Insect Survey crew. 58 from John Morse MAIS 2008070803

Camped night nearby at high elevation, rain, hail, snow, 8-9 July 2008. photos: bar headed geese MAIS 2008070803 8981

8982 MONGOLIA: Bayan Olgiy Aimag, Ulaankhus Soum, Ikh Oigur Gol, 12 km South of Khokh Ereg Military Base, N 49.23060 E 88.44591 2427 m, 9 July 2008, C. R. Nelson# 8982 & Mongolian Aquatic Insect Survey crew. 58 361IKHOIG MAIS 2008070901

First 100 Biomonitoring. Ephemerellidae, Baetidae, Simuliidae, Heptageniidae, Chironomidae, Perlodidae.

Ephydriidae, Dolichopodidae, Muscidae, Bombyliidae. No adult stoneflies seen. MAIS 2008070901 8982

8983 MONGOLIA: Bayan Olgiy Aimag, Ulaankhus? Soum, Hagiyn Davaa Pass, N 49.18224 E 88.52471 2685 m, 9 July 2008, C. R. Nelson# 8983 & Mongolian Aquatic Insect Survey crew. 58 361HAG lunch stop.

photos: view to white mountains (snow capped 3 peaks tall) to NNW and white mountains to SE. 8983

8984 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Altai Tavan Bogd National Park, Tsagaan Gol, Tavan Bogd Road's End Camp, 20 km west of Zagastnuur Bag, N 49.09159 E 88.10411 2381 m, 9 July 2008, C. R. Nelson# 8984 & Mongolian Aquatic Insect Survey crew. 58 361TAVEND MAIS 2008070902

set up camp. Camped night of 9-10 July 2008. Chironomidae: Diamesinae. One Capniidae, Capnia from Virginija. malaise trapped Nemouridae. MAIS 2008070902 8984

8985 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Altai Tavan Bogd National Park, Sul Uulim Gol, tributary of Tsagaan Gol, N 49.10450 E 88.04854 2795 m, 10 July 2008, C. R. Nelson# 8985 & Mongolian Aquatic Insect Survey crew. 58 370T1001 MAIS 2008071001
Diptera sweepings. malaise trap. We didn't have enough time at this excellent collecting spot.

Our Mongolian animal wranglers (for horses and camel) were:

Unterdag (Gana), Alta (missing tooth and front gold capped tooth), Gambaageral (young, quiet).

First stream on horse trip to the edge of Potanin Glacier. Blephariceridae adults abundant, larvae, pupae; Deuterophlebiidae; Nemouridae, abundant; Capniidae; Papilionidae Parnassius. MAIS 2008071001 8985

8986 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Altai Tavan Bogd National Park, unnamed tributary of Sul Uulim Gol, tributary of Tsagaan Gol, N 49.12007 E 88.01157 2912 m, 10 July 2008, C. R. Nelson# 8986 & Mongolian Aquatic Insect Survey crew. 58 3821002 MAIS 2008071002

Diptera sweepings. malaise trap. We revisited this site on the way down for intensive sampling on 11 July 2008. We counted it as the same as yesterday. This was the second stream on the horse trip to the edge of Potanin Glacier. Nemouridae, Empididae resemble Cyrtopogon. MAIS 2008071002

8986

8987 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Altai Tavan Bogd National Park, Tavan Bogd ascent base camp, IMH Glacier Camp, unnamed creek tributary of Potanin Gol of Tsagaan Gol, N 49.15035 E 87.94238 3099 m, 10 July 2008, C. R. Nelson# 8987 & Mongolian Aquatic Insect Survey crew. 58 390BASECAM MAIS 2008071003

Diptera sweepings. Yellow pans. Camped night of 10-11 July 2008. Best stonefly (and all!) collecting starts about 200 m below the ger of the Institute of Meteorology and Hydrology team. Stream changes character. More algae upstream. Photos: scenery, lateral moraine, pebbles from edge. major peaks of Tavan Bogd, from left to right: Olgiy (Cradle) rugged dominant in view. Nairandal (Friendship) pointed or part snowy, confusion among locals; the top is triple border of Mongolia, China, and Russia. Burged (eagle) right border of left

glacier. Khuiten (Cold) all snowy, highest peak in Mongolia, left flank of right glacier. Malchin (Herder) mostly rock, rounded with snowy north rim, prominent right border of right glacier. Nemouridae, Capniidae, little else. MAIS 2008071003 8987

8988 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Altai Tavan Bogd National Park, Tavan Bogd Glacier complex, Potaniin Glacier, outflow, head Tsagaan Gol, (also called Potitini Gol by some), whitewater outflow from mountain glacier, N 49.11753 E 87.96780 2796 m, 11 July 2008, C. R. Nelson# 8988 & Mongolian Aquatic Insect Survey crew. 58 google earth photos: glacier and land forms. pebbles from outflow. photos: cat tracks, 4 inch diameter on the outwash plain. 8988

8989 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Altai Tavan Bogd National Park, Tsagaan Gol, Tavan Bogd Road's End Camp, 20 km west of Zagaastnuur Bag, N 49.09203 E 88.10408 2424 m, 11 July 2008, C. R. Nelson# 8989 & Mongolian Aquatic Insect Survey crew. 58 411END stayed overnight 11-12 July 2008, Naadam Camp. morning 12 July 2008: photos, sheep butchering. I logged two tracks on my GPS, one up and one down the mountain. photos: riding bactrian camel. 8989

8990 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Altai Tavan Bogd National Park, Tavan Bogd Road's End Camp, springs above Tsagaan Gol, 20 km west of Zagaastnuur Bag, N 49.09754 E 88.10383 2538 m, 12 July 2008, C. R. Nelson# 8990 & Mongolian Aquatic Insect Survey crew. 58 411TSASEEP MAIS 2008071101

I collected here successfully from 6-9 pm with air temperature 13C and water temperature 4C. Site photos taken with small camera. same water 411SEEP N 49.09739 E 88.10381 elev. 2518 m. Nemouridae, Capniidae, Mycetophilidae, Empididae Hilara abundant, Chloropidae, Ephydriidae, Perlodidae, Syrphidae, Sciaridae, Scatopsidae?, Muscidae, Anthomyiidae, Scathophagidae. MAIS 2008071101 8990

8991 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, winter grounds on Tsagaan Gol, northside of Shivit Mountain, N 49.11677 E 88.18839 2394 m, 13 July 2008, C. R. Nelson# 8991 & Mongolian Aquatic Insect Survey crew. 58 411SHIVIT photos: morning on Tsagaan Gol. Jeep bearing repair stop. 8991

8992 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Tsagaan Gol crossing 1 km west of Zagastnuur Bag, N 49.09320 E 88.50469 2226 m, 13 July 2008, C. R. Nelson# 8992 & Mongolian Aquatic Insect Survey crew. 58 411ZAGCROS MAIS 2008071301

411ZAG (nearer town)

N 49.09361 E 88.50478 elev. 2227 m. Perlodidae Isoperla; Perlodidae Skwala?; Brachycentridae; Tipulidae; Asilidae; Dolichopodidae; Ephydriidae; Choloropidae; Chironomidae MAIS 2008071301 8992

8993 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Bagakhatuugiin Lake, junction Ikh Khatuugiin Gol, N 49.04586 E 88.50939 2385 m, 13 July 2008, C. R. Nelson# 8993 & Mongolian Aquatic Insect Survey crew. 58 411KHAT MAIS 2008071302

lunch stop photos: Tipulidae, Blephariceridae, Limnephilidae, Baetidae, Brachycentridae Brachycentrus?. Ephemerellidae, Siphonuridae, Dolichopodidae.

Check photo vouchers for an Isoperla? I labeled some as being from here but didn't mention them in the initial list. MAIS 2008071302 8993

8994 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Ikh Khagiin Lake, by North-South road on west side N 49.00299 E 88.53275 2313 m, 13 July 2008, C. R. Nelson# 8994 & Mongolian Aquatic Insect Survey crew. 58 411KHAG MAIS 2008071303 (MISLABELED IN FIELD VIAL)

photos: lake photos: Chironomidae MAIS 2008071303 8994

8995 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, unnamed tributary of Mogoitiin Gol, where canyons open to moraine plain, 13 km ESE of Asgat Peak, N 48.75576 E 88.60196 2145 m, 13 July 2008, C. R. Nelson# 8995 & Mongolian Aquatic Insect Survey crew. 58 411LITSNA MAIS 2008071304

photos: sunset, rock with holes. 411LITSNUP N 48.75948 E 88.59684 elev. 2199 m. We camped the night of 13-14 July where the tributary parallels the Mogoitiin Gol (CRN 8996) and sends two small braids to it. Also 411SNA04 (camp?) N 48.75564 E 88.60432 elev. 2159 m. Tipulidae, Blephariceridae, Nemouridae not common, Empididae. MAIS 2008071304 8995

8996 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Mogoitiin Gol near its parallels with unnamed tributary, 13 km ESE of Asgat Peak, N 48.76028 E 88.60029 2176 m, 13 July 2008, C. R. Nelson# 8996 & Mongolian Aquatic Insect Survey crew. 58 411SNAKE MAIS 2008071305

Most collecting on 14 July 2008. Beautiful spot, many mosquitoes, repelled by DEET. Ptychopteridae; Nemouridae; Blephariceridae; Deuterophlebiidae; Mycetophilidae; Sciaridae; Empididae rich. MAIS 2008071305
8996

8997 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Mogoitiin Khotol Davaa, pass, N 48.71275 E 88.44524 2622 m, 14 July 2008, C. R. Nelson# 8997 & Mongolian Aquatic Insect Survey crew. 58 411MDAVAA photos: view to SW over ridge of lakes above Khoton Nuur (Lake). Kazakh sold multivitamin drinks after faking jeep problems. 8997

8998 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Urt Khuiten Gol, 6 km SW of Asgat Peak, N 48.72628 E 88.40073 2439 m, 14 July 2008, C. R. Nelson# 8998 & Mongolian Aquatic Insect Survey crew. 58 411URTK MAIS 2008071401

photos: Silphidae larva adults; Tipulidae Arctotipula adult pupa; Acrididae boxing gloves; Empididae Clinocerinae; Dolichopodidae skater; Tipulidae Simplecta?; Saldidae. Perlodidae; Ephydriidae; Muscidae; Anthomyiidae. MAIS 2008071401 8998

8999 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Khoton Lake, 15 km NW of Syrgal, N 48.66718 E 88.29908 2090 m, 14 July 2008, C. R. Nelson# 8999 & Mongolian Aquatic Insect Survey crew. 58 411KHOTON MAIS 2008071402

photos: sunset over nestled peaks. magnificent! photos: Perlodidae Masses; Tipulidae, Vestiplex matings; Nemouridae 2 spp. {Nemoura arctica CR Nelson photo voucher, curated 5 March 2013}; Caenidae subimagos and adults; caddisflies Trichoptera; Opiliones with mites. Chloroperlidae; Asilidae. MAIS 2008071402 8999

9000 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Rashaanii Gol (dark water), bridge 1 km North of junction Tsagaan Us Gol, N 48.75577 E 88.15264 2115 m, 15 July 2008, C. R. Nelson# 9000 & Mongolian Aquatic Insect Survey crew. 58 411RASH MAIS 2008071501

yellow pans; Diptera sweepings. 412RASH, N 48.75570 E 88.15261 elev. 2100 m. same spot as 411RASH Perlodidae Isoperla; Chloroperlidae; Blephariceridae; Chloropidae MAIS 2008071501 9000

9001 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Tsagaan Us Gol 0.5 km upstream from junction Rashaanii Gol, N 48.75197 E 88.14987 2098 m, 15 July 2008, C. R. Nelson# 9001 & Mongolian Aquatic Insect Survey crew. 58 412TSAUS, main upstream site MAIS 2008071502

yellow pans; photos: scenery. 412TSJCT junction Tsagaan Us Gol and Rashaanii Gol N 48.74999 E 88.15447 elev. 2092 m. 411BRIDTSA bridge on Tsagaan Us Gol, truck unable to cross. The apex of our trip. Did not collect here. N 48.77111 E 88.12624 elev. 2119. steppe grass Cerambycidae Patolsia hungarica. Perlodidae Arcynopteryx adults & nymph no photo. Photos: Tipulidae Odonatisca MAIS 2008071502 9001

9002 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Ikh Turgenii Gol 6 km SSW of Syrgal, N 48.54381 E 88.41416 2147 m, 15 July 2008, C. R. Nelson# 9002 & Mongolian Aquatic Insect Survey crew. 58 413IKTUR MAIS 2008071503

yellow pans; camped night of 15-16 July collected morning of 16 July 2008. Bathed in the river. Perlodidae; Coenagrionidae; Dolichopodidae; Ephydriidae; Ephemerellidae; Heptageniidae; Baetidae; Dytiscidae; Tipulidae. MAIS 2008071503 9002

9003 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Khar Ovoo Gol, draining Khelkhee Lake, N 48.62918 E 88.28554 2147 m, 15 July 2008, C. R. Nelson# 9003 & Mongolian Aquatic Insect Survey crew. 58 413WKHOT MAIS 2008071601

yellow pans; photos: Capniidae, Hemerobiidae, Chironomidae Diamesinae. Nemouridae, Empididae, Curculionidae. MAIS 2008071601 9003

9004 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Partizanii Bulag (stream), west side of Khoton Nuur (Lake), N 48.61715 E 88.31533 2160 m, 16 July 2008, C. R. Nelson# 9004 & Mongolian Aquatic Insect Survey crew. 58 413WKHO2 MAIS 2008071602

stream with waterfall upstream called Khazabaisala, Khazakh name. Family photo: last name Zageldoldogiin Amer. Mycetophilidae, Ptychopteridae, Pipunculidae, Limnephilidae, Nemouridae, Muscidae, Tachinidae, Formicidae, Capniidae, Oestridae. MAIS 2008071602 9004

9005 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Syrgali Gol, bridge over outflow between Khoton Nuur and Khurgen Nuur at Syrgal, N 49.59925 E 88.43707 2095 m, 16 July 2008, C. R. Nelson# 9005 & Mongolian Aquatic Insect Survey crew. 58 413SYRGALI MAIS 2008071603

photos: locals fishing for whitefish. 880000 MNT to Khandaa for gas etc. 1380 MNT per liter. 425000 MNT for gas. 308 liters. photos: Perlodidae, Brachycentridae, Leptoceridae Ceraclea, Goeridae, Psychomyiidae, Tipulidae. Chloroperlidae. MAIS 2008071603 9005

9006 MONGOLIA: Bayan Olgiy Aimag, Tsengel Soum, Sumdairag Gol, 12 km due South of Syrgal, N 48.50679 E 88.50977 2129 m, 16 July 2008, C. R. Nelson# 9006 & Mongolian Aquatic Insect Survey crew. 58 4131604 MAIS 2008071604

yellow pans. Camped night of 16-17 July 2008. Asilidae photo of Cyrtopogon taken out of order at CRN 9013 after site photos there. watched people cross a rickety bridge on a motorcycle, Simuliidae, Dixidae,

Cecidomyiidae, Bibionidae, Mycetophilidae, Sciaridae, Tipulidae, Chironomidae, Chloropidae, Asilidae, Therevidae, Tephritidae, Ulidiidae, Deuterophlebiidae, Ephydriidae, Syrphidae, Nemouridae, Capniidae, Perlodidae, Anthomyiidae, Muscidae, Culicidae, Lonchaeidae, Libellulidae, Tachinidae, Lestidae, Miridae, Blephariceridae. MAIS 2008071604 9006

9007 MONGOLIA: Bayan Olgiy Aimag, Ulaankhus Soum, Odgoi/Olgoi Gol, 21 km directly Southeast of Syrgal, N 48.44046 E 88.60201 2436 m, 17 July 2008, C. R. Nelson# 9007 & Mongolian Aquatic Insect Survey crew. 58 414FUNERAL MAIS 2008071701

glacier fed, milky; funeral? NO! Khazakh wedding. raining, big group of Khazakhs gathered at gers for wedding. Capniidae 2 spp.; Saldidae; Trichoptera Rhyacophila; Chironomidae; spiders. MAIS 2008071701 9007

9008 MONGOLIA: Bayan Olgiy Aimag, Sagsay Soum, Godon Gol, 18 km due North of Dayan, N 48.43687 E 88.90085 2245 m, 17 July 2008, C. R. Nelson# 9008 & Mongolian Aquatic Insect Survey crew. 58 414GODON MAIS 2008071702 photos: Leptoceridae, Mystacides, Phryganeidae, Hydropsychidae. Chironomidae, Ephydriidae, Chloropidae, Perlodidae, Nemouridae. MAIS 2008071702 9008

9009 MONGOLIA: Bayan Olgiy Aimag, Sagsay Soum, Yamaatiin Gol, 17 km SW of Dayan Military Base, N 48.16728 E 88.85435 2073 m, 17 July 2008, C. R. Nelson# 9009 & Mongolian Aquatic Insect Survey crew. 58 414YAMax A MAIS 2008071703

yellow pans. Diptera sweeping. Conflict camp. Namkhaidorj rants. Camped night of 17-18 July 2008 after permission from ranger and military post in Dayan Bag (village) Military base. photos: Chloroperlidae Suwallia?; Perlodidae Isoperla; Chloropidae; Tipulidae MAIS 2008071703 9009

9010 MONGOLIA: Bayan Olgiy Aimag, Sagsay Soum, pools attached to Dayan Lake, 2 km North of Dayan Military Base, N 48.27453 E 88.86900 2230 m, 18 July 2008, C. R. Nelson# 9010 & Mongolian Aquatic Insect Survey crew. 58 415DAYAN MAIS 2008071801A gammarus, Hydrophilidae, Siphonuridae, snails, Gerridae, Chrysomelidae. MAIS 2008071801A 9010

9011 MONGOLIA: Bayan Olgiy Aimag, Sagsay Soum, temporary pools near Dayan Lake, 2 km North of Dayan Military Base, N 48.27453 E 88.86900 2230 m, 18 July 2008, C. R. Nelson# 9011 & Mongolian Aquatic Insect Survey crew. 58 415DAYAN MAIS 2008071801B Protected area ranger Akhmad. Military head, Myagmarjav. fairy shrimp; Chironomidae;

Daphnia; Dytiscidae; Lestidae; mites; Culicidae; Chaoboridae pupae. MAIS 2008071801B 9011

9012 MONGOLIA: Bayan Olgiy Aimag, Sagsay Soum, Ikh Khanagashiin Gol, 17 km by road North of Dayan, N 48.39222 E 88.88379 2258 m, 18 July 2008, C. R. Nelson# 9012 & Mongolian Aquatic Insect Survey crew. 58 416LUNCH MAIS 2008071802 Ulidiidae; Ephydriidae; Perlodidae Isoperla dark adults & nymphs; Trichoptera; Syrphidae; Dolichopodidae; Chironomidae; Tipulidae; Chloropidae. MAIS 2008071802 9012

9013 MONGOLIA: Bayan Olgiy Aimag, Altai Soum, Khoit Bardam Gol, 13 km NW of Altai, (26 km by road), N 48.34519 E 89.32607 2438 m, 18 July 2008, C. R. Nelson# 9013 & Mongolian Aquatic Insect Survey crew. 58 416PROUD MAIS 2008071802

yellow pans. photos of Asilidae of CRN 9006 taken here, out of sequence, after rainbow site photos. Camped night of 18-19 July 2008. Chloroperlidae May be from Yamaatiin; Blephariceridae; Deuterophlebiidae; Tephritidae; Ephydriidae; Tipulidae; Chloropidae; Culicidae; Simuliidae; Scatopsidae (new record for Mongolia, says Sigitas). MAIS 2008071803 9013

9014 MONGOLIA: Bayan Olgiy Aimag, Altai Soum, Sagsay Gol bridge, 10 km SE of Altai, N 48.24120 E 89.60174 2150 m, 19 July 2008, C. R. Nelson# 9014 & Mongolian Aquatic Insect Survey crew. 58 416SAGSAY MAIS 2008071901

Brachycentridae; Limnephilidae; Saldidae; Perlodidae nymphs; Baetidae; Ephemerellidae; Heptageniidae "Rhithrogena" and Epeorus; Perlodidae, Skwala adult m, Isoperla adults; Chloroperlidae; Bombyliidae; Chloropidae; Dolichopodidae; Simuliidae.

Temporary pool: Ostracoda; Ephydriidae larva; Helophoridae. MAIS 2008071901 9014

9015 MONGOLIA: Bayan Olgiy Aimag, Buyant Soum, Kholtsotiiin Gol bridge, 5 km South of Buyant, N 48.54109 E 89.52039 2040 m, 19 July 2008, C. R. Nelson# 9015 & Mongolian Aquatic Insect Survey crew. 58 416NRBUYA MAIS 2008071902

Perlodidae, Isoperla; Chloroperlidae "Sweltsa"; Chrysopidae; Chrysomelidae, on purple mint; Ephydriidae; Dolichopodidae; Empididae; Bombyliidae; Chironomidae; Collembola; Carabidae; Therevidae; Baetidae; Ephemerellidae.

purple mint, long corolla tube. MAIS 2008071902 9015

9016 MONGOLIA: Bayan Olgiy Aimag, Buyant Soum, Buyant flooding, about 3 km North of Buyant, N 48.60 E 89.60 1930 m, 19 July 2008, C. R. Nelson# 9016 & Mongolian Aquatic Insect Survey crew. 58 google earth approximate photos: stills and video of flooding. 9016

9017 MONGOLIA: Khovd Aimag, Tolbo Soum, Omno Gol, near mantakh, N 48.64831 E 89.88409 2066 m, 19 July 2008, C. R. Nelson# 9017 & Mongolian Aquatic Insect Survey crew. 58 360OMNO MAIS 2008071903

revisited site of 4 July 2008. Camped night of 19-20 July 2008. Diptera sweepings. 416OMNO2 N 48.64852 E 89.88359 elev. 2051m. same spot as 360OMNO Tipulidae; Chloropidae; Ephydriidae; Chironomidae; Dolichopodidae; Empididae. MAIS 2008071903 9017

9018 MONGOLIA: Khovd Aimag, Erdneburen Soum, Hongor Gol, 6 km West of junction Hongor Olin Gol, N 48.41182 E 89.141 1926 m, 20 July 2008, C. R. Nelson# 9018 & Mongolian Aquatic Insect Survey crew. 58 416HONGOR MAIS 2008072001

Sunny day, but creek still running high and muddy from the past two day's heavy rains. Asilidae; Bombyliidae; Dolichopodidae; Perlodidae Isoperla female; Raphidiidae; Membracidae. Collected on spiny yellow flowered shrub, Shar Khargana, it has 12 spp in Mongolia according to Namkhaidorj. MAIS 2008072001 9018

9019 MONGOLIA: Khovd Aimag, Khovd Soum, 21 km NW of Khovd City, davaa (pass), N 48.19592 E 91.44004 1633 m, 20 July 2008, C. R. Nelson# 9019 & Mongolian Aquatic Insect Survey crew. 58 416DAVAA rock throwing contest; wait for truck to climb davaa. Bombyliidae, Villa?; bees 9019

9020 MONGOLIA: Khovd Aimag, Khovd Soum, Buyant Gol, 10 km SW of Khovd City, N 47.94771 E 91.55796 1447 m, 20 July 2008, C. R. Nelson# 9020 & Mongolian Aquatic Insect Survey crew. 58 416BUYSKHO MAIS 2008072002
Camped nights of 20-22 July 2008

yellow pans; Diptera sweepings; river running flood and rising still, we needed to move camp three times on 21 July 2008, including a scary flood crossing of one braid of the Buyant Gol in the back of the Soviet Truck, GAZ 66. BUYSKHO: Buyant South Khovd. Limnephilidae; Psychomyiidae; Libellulidae; Tipulidae; Ephydriidae; Chloropidae; Muscidae; Trichoptera; Empididae. MAIS 2008072002 9020

9021 MONGOLIA: Khovd Aimag, Khovd Soum, Khovd Airport, N 47.96109 E 91.62621 1457 m, 22 July 2008, C. R. Nelson# 9021 & Mongolian Aquatic Insect Survey crew. 58 google earth photos: people. 9021

9022 MONGOLIA: Tov Aimag, Ulaan Baatar, Peace Street, N 47.91632 E 106.90166 1383 m, 24 July 2008, C. R. Nelson# 9022 & Mongolian Aquatic Insect Survey crew. 58

360UBHOTEL as usual, using WGS84 datum. +8:00 hour offset from Greenwich Time. 14 hours ahead of current Utah time.

photos: people at goodbye dinner at Altai Mongolian Grill. End of Mongolian trip in 2008. 9022

9023 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m, 2 August 2008, C. R. Nelson# 9023 & J. K. Nelson & friends 58 overnight party with USU friends: Tracy, Erin, Mikaela Smith; Blair, Cynthia, Carly Parrish; Rexanne, Hank, Brian Pond. photos: hummingbirds 9023

9024 USA: UTAH: Garfield Co. Boulder Mountain, Rim Lake and basalt rim, N 38.07336 W 111.50936 3319 m, 4-7 August 2008, C. R. Nelson# 9024 & scouts 58 449RIM Scout trip. photos: sunrise 5, 6, and 7 August 2008. many lichen and fungus photos on 7 August 2008. I loved to return to the views at the rim: 449EDGE 38.07223° N 111.50667° W elev. 3318 m. Riley Nelson; Jeff Nichols; Jamie Morgan; Brady Fox; Tim Pugmire; scouts: Jamison Pugmire; Raphael Devonas; Samuel Thrupp; Tyler David Barlow; K. C. Wilcox; Adam Baird; Ethan Baird; Brandon Corbin; Brett Corbin; Christopher Bennion; Chad Naylor; Brigham McKay. Nematocera, Tipulidae?; Asilidae Cyrtopogon, Laphria; Empididae?. 9024

9025 USA: UTAH: Garfield Co. Boulder Mountain, Crescent Lake, N 38.07523 W 111.48520 3315 m, 5 August 2008, C. R. Nelson# 9025 & scouts 58 449CRESC also walked near Rain Lakes: 449RAIN N 38.08178° N 111.49731° W elev. 3308 m. and Spectacle Lake (large drawn down reservoir) N 38.07945° N 111.50859° W elev. 3318 m. photos: Limnephilidae, large speckled adult. 9025

9026 USA: UTAH: Utah Co., Provo, 500 Foothill Drive, Nelson home N 40.29343 W 111.64922, 1495 m, 08-Aug-2008 C. R. Nelson # 9026 58 photos: Chrysomelidae, Exema ? mouse turd beetle on Chrysothamnus (or Ericameria) nauseosus. 9026

9027 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building, N 40.24625 W 111.64984 1420 m, 13 August 2008, C. R. Nelson# 9027 & Megan Dawson. 58 photos: Pscoptera Liposcelis? in rat food for animal Facility, brought to CRN by Megan Dawson 9027

9028 USA: UTAH: Utah Co., Provo, 518 East 4380 North, Dorton Home, N 40.291383 W 111.649637, 1477 m, 18-Aug-2008 C. R. Nelson # 9028 58 google earth brought to CRN by young Ben Dorton. I used this time to give him a copy of Reptiles and Amphibians, Golden Guide by Herbert S. Zim. photos: Arctiidae caterpillar, tiger moth? in prepupal wandering. Seems like the caterpillar I saw regularly on box elder trees in Brigham City when I was growing up. We gave it maple leaves to try to get it to eat, Acer platanoides. Ben returned after a couple days. It hadn't eaten the leaves, but had pupated. 9028

9029 USA: UTAH: Utah Co., Provo, 500 Foothill Drive, Nelson home N 40.29343 W 111.64922, 1495 m, 22-Aug-2008 C. R. Nelson # 9029 58 \ photos: *Datura wrighti*, from seed from Washington Co.; Bignoniaceae, *Campsis radicans* flowers; Vespidae *Polistes dominula* 9029

9030 USA: UTAH: Utah Co., Springville, Wheeler home, 161 East 200 South, N 40.1642 W 111.6078, 1397 m, 22-Aug-2008 C. R. Nelson # 9030 58 \ Tipulidae, *Tipula* (*Tipula*) *paludosa*?, invading turf feeder. 9030

9031 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m, 23 August 2008, C. R. Nelson # 9031 & family 58 photos: people on railroad track hike.
Riley, Kaye, Jason, Brandy, and Andrea Nelson photos: insects on goldenrod 9031

9032 USA: UTAH: Utah Co., Provo, 500 Foothill Drive, Nelson home N 40.29343 W 111.64922, 1495 m, 25-Aug-2008 C. R. Nelson # 9032 & Wilford Baird 58 really collected by Wilford Baird photos: *Varroa destructor* mite, on drone honeybee larva, *Apis mellifera*, from Wilford Baird's hives near my house. 9032

9033 USA: UTAH: Utah Co., Mount Timpanogos, Sundance Ski Area, N 40.39177 W 111.57874, 1495 m, 28-Aug-2008 C. R. Nelson # 9033 & Department 58 449 Department of Biology retreat. Curriculum Committee: ask Stephanie about Bio 398R. Geography classes relevant to Conservation Biology degree. Jobs for Conservation Biologists. 9033

9034 USA: UTAH: Utah Co., Provo River, Canyon Glen Picnic Area, N 40.32940 W 111.62121 1528 m, 04-Sep-2008 C. R. Nelson # 9034 & students 58 451 CANGLEN Mikaela and KC Wilcox, collecting for Timpview High School class Trichoptera; Simuliidae; Cicadellidae 9034

9035 USA: UTAH: Wasatch Co. Bryants Fork Creek, 1 km South of Strawberry Reservoir, N 40.17940 W 111.20730 2363 m, 05-Sep-2008 C. R. Nelson # 9035 & class 58 451 BRYANT collected with Aquatic Ecology lab class 3 First 100 samples.
Planaria, *Polyscelis*; Baetidae; Tipulidae; found no Sialidae or Ptychopteridae 9035

9036 USA: UTAH: Wasatch Co. Bryants Fork Creek, 1 km South of Strawberry Reservoir, N 40.17899 W 111.19917 2334 m, 05-Sep-2008 C. R. Nelson # 9036 & class 58 451 BRYDOWN collected with Aquatic Ecology Lab class. Note that although the GPS read the elevation of this site as higher than CRN9036 that we were downstream. . . 4 First 100 samples; *Paraleptophlebia*, Corixidae; Baetidae; Notonectidae; Haliplidae; found no Sialidae or Ptychopteridae 9036

9037 USA: UTAH: Wasatch Co. Strawberry Reservoir, Strawberry Bay Marina, N 40.17721 W 111.15571 2317 m, 05-Sep-2008 C. R. Nelson # 9037 & class 58 collected with Aquatic Ecology lab class; Riley Nelson, Dennis Shiozawa, Limb Hapairai, (these two didn't visit stream); Sarah Judson; Laura Scott; Adam Mitchell; Joe Webb; Jeff Moore; Xiao Ben Jiang; Warren Casbeer; Oliver Obregon; David Betts Trichoptera, one small colorful caddis adult, Hydroptilidae? Psychomyiidae? 9037

9038 USA: UTAH: Wasatch Co. Strawberry River, Strawberry Reservoir Visitors Center, N 40.23728 W 111.18351 2318 m, 05-Sep-2008 C. R. Nelson # 9038 & class 58 collected with Aquatic Ecology lab class; Riley Nelson, Dennis Shiozawa, Limb Hapairai, (these two didn't visit stream); Sarah Judson; Laura Scott; Adam Mitchell; Joe Webb; Jeff Moore; Xiao Ben Jiang; Warren Casbeer; Oliver Obregon; David Betts photos: kokanee salmon spawning 9038

9039 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.6 mi S of Vivian Park & Hwy 189 N 40.34772 W 111.54775, 1665 m 06-Sep-2008 C. R. Nelson # 9039 & class 58 photos people.

Riley Nelson; Steve Merkley; Kira Shurtz; Karissa Baker; David Marsh; Nadine Lago?; Rachel Qunn; Jeffrey Sorenson; Alvin Zuniga; Lauren Spurgin; Abby Gullerud; Rachel Zuniga; David Morin; Natasha Sirrine; Jordan Stauss; Brennan Wright. First 100s saw: Baetis; Drunella grandis; Hesperoperla pacifica; Nemouridae; Rhyacophilidae; Heptageniidae; Tipulidae 9039

9040 USA: UTAH: Utah Co., Provo, Edgemont, N 40.27195 W 111.65124, 1447 m, 06-Sep-2008 C. R. Nelson # 9040 58 Amy Nelson's house, Tipulidae, Tipula paludosa? 9040

9041 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River near Timpooneke Guard Station, jct Great Western Trail, above site 4, N 40.43048 W 111.63886 2140 m, 09-Sep-2008 C. R. Nelson # 9041 & class 54 302up4 water temp 5 degree C; Aquatic Entomology Class:

Riley Nelson, Eric Billman, Dana Jensen, David Betts, Mary Megan Waites, Jeff Moore, Jonathan Henricksen, Adam Mitchell. Apataniidae; Chloroperlidae; Megarcys? small; Rhyacophila; Psychoglypha 9041

9043 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River, 0.5 miles above South Fork Ranger Station, N 40.4498 W 111.6523 1908 m, 09-Sep-2008 C. R. Nelson # 9043 58 Aquatic Entomology Class: Riley Nelson, Eric Billman, Dana Jensen, David Betts, Mary Megan Waites, Jeff Moore, Jonathan Henricksen, Adam Mitchell. Pictetiella nymphs; Arctopsyche; Megarcys; Drunella grandis; Chloroperlidae 9043

9044 USA: UTAH: Utah Co., Provo, 500 Foothill Drive, Nelson home N 40.29343 W 111.64922, 1495 m, 25-Aug-2008 C. R. Nelson # 9044 58 photos: Tipulidae 9044

9045 USA: UTAH: Utah Co., Provo, Utah Lake Marina, Provo River inlet, N 40.23657 W 111.73672, 1365 m, 12-Sep-2008 C. R. Nelson # 9045 58 452UTLKMax R Aquatic Ecology Laboratory: Dennis Shiozawa; Riley Nelson; Sarah Judson; Oliver Obregon; Warren Casbeer; Laura Scott; Jeff Moore; David Betts; Adam Mitchell; Joe Webb
photos: people and scenery Belostomatidae Lethocerus; Nepidae Ranatra; flatworms; Physa; Corixidae; Mesoveliidae; Chironomidae. 9045

9046 USA: UTAH: Sanpete Co. east side Mount Nebo, Water Hollow Road, 5.5 miles NE of Hwy 132, N 39.75 W 111.58, 2250 m, 13-Sep-2008 C. R. Nelson # 9046 & J. K. Nelson 58 guess google earth Edgemont 10th Ward campout.

Photos: scenery and people saw scrub jay, spotted towhee, common nighthawk, Amelanchier with much fruit, Chokecherry much fruit, gambels oak 9046

9047 USA: UTAH: Utah Co., Right Fork Hobble Creek, Cherry Campground, 7 miles East of Springville, N 40.16835 W 111.4776, 1522 m 16-Sep-2008 C. R. Nelson # 9047 & class 58 452HOB Hesperoperla; Pteronarcella; Zapada; Gerridae; Dixidae; Haliplidae; Leptophlebiidae Paraleptophlebia; Oligophlebodes; Dryopidae; Elmidae; Helicopsychidae; Rhyacophilidae; Ostracoda; Sialidae hooray; Amphizoidae. 9047

9048 USA: UTAH: Box Elder Co. Brigham City, Bear River Migratory Bird Refuge, I-15 and Forest Street, N 41.50816 W 112.07104, 1270 m 19-Sep-2008 C. R. Nelson # 9048 & class 58 452BRIG Aquatic Entomology and Aquatic Ecology Laboratory classes: Riley Nelson; Dennis Shiozawa; Sarah Judson; Eric Billman; Mary Megan Waites; Laura Scott; David Betts; Jeff Moore; Adam Mitchell; Michelle Barney; Xiao Ben Jiang; Joe Webb; Warren Casbeer.

lecture on Lake Bonneville; Brigham City Nelson history; Cambrian history. 9048

9049 USA: UTAH: Box Elder Co. Malad River, Garland, near old sugar factory, Hwy 13, N 41.74147 W 112.14391, 1308 m 19-Sep-2008 C. R. Nelson # 9049 & class 58 452Max L Aquatic Entomology and Aquatic Ecology Laboratory classes: Riley Nelson; Dennis Shiozawa; Sarah Judson; Eric Billman; Mary Megan Waites; Laura Scott; David Betts; Jeff Moore; Adam Mitchell; Michelle Barney; Xiao Ben Jiang; Joe Webb; Warren Casbeer. Sialidae; Coenagrionidae; crayfish; Corixidae 9049

9050 USA: IDAHO: Bannock Co. Red Rock Pass, Hwy 91, North of Swan Lake, N 42.35453 W 112.04902 1489 m, 19-Sep-2008 C. R. Nelson # 9050 & class 58 354REDR photos: pass and people;

Aquatic Entomology and Aquatic Ecology Laboratory classes: Riley Nelson; Dennis

Shiozawa; Sarah Judson; Eric Billman; Mary Megan Waites; Laura Scott; David Betts; Jeff Moore; Adam Mitchell; Michelle Barney; Xiao Ben Jiang; Joe Webb; Warren Casbeer. 9050

9051 USA: IDAHO: Utah Co., Bear River Massacre Overlook, Hwy 91, 5 mi NW of Preston, N 42.15251 W 111.90749 1445 m 19 September 2008, C. R. Nelson# 9051 & class 58

452BRMax S photos: people at new interpretive site for Bear River Massacre.

Aquatic Entomology and Aquatic Ecology Laboratory classes: Riley Nelson; Dennis Shiozawa; Sarah Judson; Eric Billman; Mary Megan Waites; Laura Scott; David Betts; Jeff Moore; Adam Mitchell; Michelle Barney; Xiao Ben Jiang; Joe Webb; Warren Casbeer. 9051

9052 USA: IDAHO: Utah Co., Bear River Massacre Monument, Hwy 91, 5 mi NW of Preston, N 42.14082 W 111.91129 1370 m 19 September 2008, C. R. Nelson# 9052 & class 58
photos: Recreation site advertising: home of the Bear River Massacre, poor taste. Get a picture of the sign from ? David Betts and Eric Billman.

Aquatic Entomology and Aquatic Ecology Laboratory classes: Riley Nelson; Dennis Shiozawa; Sarah Judson; Eric Billman; Mary Megan Waites; Laura Scott; David Betts; Jeff Moore; Adam Mitchell; Michelle Barney; Xiao Ben Jiang; Joe Webb; Warren Casbeer. 9052

9053 USA: IDAHO: Franklin Co. Bear River, Oneida Narrows, Red Point Campground, N 42.23446 W 111.75927 1449 m, 19-Sep-2008 C. R. Nelson # 9053 & class 59 354ONRED

Aquatic Entomology and Aquatic Ecology Laboratory classes: Riley Nelson; Dennis Shiozawa; Sarah Judson; Eric Billman; Mary Megan Waites; Laura Scott; David Betts; Jeff Moore; Adam Mitchell; Michelle Barney; Xiao Ben Jiang; Joe Webb; Warren Casbeer.
same site as CRN8554 Trichoptera at dark; photos: Buprestidae 9053

9054 USA: IDAHO: Franklin Co. Oneida Narrows Reservoir, 1 mile South of inlet of Bear River, N 42.32124 W 111.71355 1516 m, 20-Sep-2008 C. R. Nelson # 9054 & class 59 452TRI
Aquatic Entomology and Aquatic Ecology Laboratory classes: Riley Nelson; Dennis Shiozawa; Sarah Judson; Eric Billman; Mary Megan Waites; Laura Scott; David Betts; Jeff Moore; Adam Mitchell; Michelle Barney; Xiao Ben Jiang; Joe Webb; Warren Casbeer.
photos: group, class. Middle Cambrian Spence Shale, photos in lab: Trilobites in dark smooth rock.

"parallel lobes" fossil in grainier rock, adjacent layer 9054

9054.5 USA: IDAHO: Caribou Co. 2 miles South of Grace, Stoddard Farms Barn, N 42.5476 W 111.7308 1680 m, 20-Sep-2008 C. R. Nelson # 9054.5 & class 59 google earth
Aquatic Entomology and Aquatic Ecology Laboratory classes: Riley Nelson; Dennis Shiozawa; Sarah Judson; Eric Billman; Mary Megan Waites; Laura Scott; David Betts; Jeff Moore; Adam Mitchell; Michelle Barney; Xiao Ben Jiang; Joe Webb; Warren Casbeer.

bought 100 pounds of red potatoes; photo: "Spud Studs" workers: xx Stoddard cousin of

owner; Jordan Brady; xx Jarvis; xx Hubbard; Jake Wright. Identifications by Ryan Christensen, of northern Gem Valley.

9054.5

9054.7 USA: IDAHO: Caribou Co. Soda Springs, Pyramid Springs man made geyser, N 42.65752 W 111.60538 1744 m, 20-Sep-2008 C. R. Nelson # 9054.7 & class 59 google earth Aquatic Entomology and Aquatic Ecology Laboratory classes: Riley Nelson; Dennis Shiozawa; Sarah Judson; Eric Billman; Mary Megan Waites; Laura Scott; David Betts; Jeff Moore; Adam Mitchell; Michelle Barney; Xiao Ben Jiang; Joe Webb; Warren Casbeer. looked at Pyramid springs man made geyser, didn't wait the hour to see it shoot off. Same site as CRN8555 9054.7

9055 USA: IDAHO: Caribou Co. Tin Cup Creek, Hwy 34, 2.5 miles West of Pine Bar Campground, 13.4 miles West of Freedom, N 42.97485 W 111.24831, 1966 m, 20-Sep-2008 C. R. Nelson# 9055 & class 59 259 Aquatic Entomology and Aquatic Ecology Laboratory classes: Riley Nelson; Dennis Shiozawa; Sarah Judson; Eric Billman; Mary Megan Waites; Laura Scott; David Betts; Jeff Moore; Adam Mitchell; Michelle Barney; Xiao Ben Jiang; Joe Webb; Warren Casbeer.

same site as CRN8556 2006 Good collecting! photos: Calopterygidae Calopteryx, Phryganeidae, Limnephilidae, Aeshnidae, Gomphidae, Rhinichthys dace. also: Haliplidae; crayfish; Amphizoidae; Dytiscidae; Ephemerellidae; Saldidae; Hesperoperla; Perlodidae; Pteronarcyidae; Dixidae; Corixidae; Hydrophilidae; Tetrigidae; Cerambycidae Monochamus; Hydropsychidae; Leptophlebiidae; Baetidae; Siphonuridae?; 9055

9055.5 USA: WYOMING: Teton Co. Grand Teton National Park, Glacier viewpoint, Hwy 89, N 43.69115 W 111.67336, 2027 m, 20-Sep-2006 C. R. Nelson# 9055.5 & class 59 260 Aquatic Entomology and Aquatic Ecology Laboratory classes: Riley Nelson; Dennis Shiozawa; Sarah Judson; Eric Billman; Mary Megan Waites; Laura Scott; David Betts; Jeff Moore; Adam Mitchell; Michelle Barney; Xiao Ben Jiang; Joe Webb; Warren Casbeer. photos: stormy mountains; glacier lecture, cut short by rain. same site as CRN8557 2006 9055.5

9056 USA: WYOMING: Teton Co. Snake River, 2 mi W of Flagg Ranch, Camp 2 on Grassy Lake Road, N 44.09675 W 110.68944 2087 m, 21-Sep-2008 C. R. Nelson# 9056 & class 59 454 SNAKE Aquatic Entomology and Aquatic Ecology Laboratory classes: Riley Nelson; Dennis Shiozawa; Sarah Judson; Eric Billman; Mary Megan Waites; Laura Scott; David Betts; Jeff Moore; Adam Mitchell; Michelle Barney; Xiao Ben Jiang; Joe Webb; Warren Casbeer.

same site as CRN8558 2006. Photos: Amphizoidae; Dytiscidae tiny; Gyrinidae Gyrinus; Perlodidae; Glossosomatidae; Leptophlebiidae Paraleptophlebia with tusks. 9056

9057 USA: WYOMING: Teton Co. stream tributary of Snake River, 2 mi W of Flagg Ranch, 200 meters west of Camp 2 on Grassy Lake Road, N 44.09526 W 110.69289 2097 m, 21-Sep-2008 C. R. Nelson# 9057 & class 59 454STR Aquatic Entomology and Aquatic Ecology Laboratory classes: Riley Nelson; Dennis Shiozawa; Sarah Judson; Eric Billman; Mary Megan Waites; Laura Scott; David Betts; Jeff Moore; Adam Mitchell; Michelle Barney; Xiao Ben Jiang; Joe Webb; Warren Casbeer.
Gerridae; Dytiscidae; Corixidae 9057

9058 USA: WYOMING: Teton Co. pond and spring runs of Snake River, 2 mi W of Flagg Ranch, 200 meters East of Camp 2 on Grassy Lake Road, N 44.09742 W 110.68999 2085 m, 21-Sep-2008 C. R. Nelson# 9058 & class 59 454SPR Aquatic Entomology and Aquatic Ecology Laboratory classes: Riley Nelson; Dennis Shiozawa; Sarah Judson; Eric Billman; Mary Megan Waites; Laura Scott; David Betts; Jeff Moore; Adam Mitchell; Michelle Barney; Xiao Ben Jiang; Joe Webb; Warren Casbeer.
gammarus; Gerridae, 2 spp. 9058

9059 USA: WYOMING: Park Co. Yellowstone National Park, Yellowstone Lake, longshore bar view area near Arnica Creek, N 44.47276 W 110.52645, 2373 m, 21-Sep-2008 C. R. Nelson# 9059 & class 59 266 Aquatic Entomology and Aquatic Ecology Laboratory classes: Riley Nelson; Dennis Shiozawa; Sarah Judson; Eric Billman; Mary Megan Waites; Laura Scott; David Betts; Jeff Moore; Adam Mitchell; Michelle Barney; Xiao Ben Jiang; Joe Webb; Warren Casbeer.
same site as CRN8562 2006.
photos: foam on lake photos staghorn lichen 9059

9060 USA: WYOMING: Park Co. Yellowstone National Park, Old Faithful, N 44.45954 W 110.82809 2260 m 21 September 2003, C. R. Nelson# 9060 & class 59 YE21OLDFAI Aquatic Entomology and Aquatic Ecology Laboratory classes: Riley Nelson; Dennis Shiozawa; Sarah Judson; Eric Billman; Mary Megan Waites; Laura Scott; David Betts; Jeff Moore; Adam Mitchell; Michelle Barney; Xiao Ben Jiang; Joe Webb; Warren Casbeer.
same site as CRN7777 2003.
bought microbes book, Seen and Unseen, at visitors center. 9060

9061 USA: WYOMING: Park Co. Yellowstone National Park, Middle Geyser Basin, Grand Prismatic Spring area, tributary Firehole River, N 44.52896 W 110.83623, 2218 m, 21-Sep-2008 C. R. Nelson# 9061 & class 59 267 Aquatic Entomology and Aquatic Ecology Laboratory classes: Riley Nelson; Dennis Shiozawa; Sarah Judson; Eric Billman; Mary Megan Waites; Laura Scott; David Betts; Jeff Moore; Adam Mitchell; Michelle Barney; Xiao Ben Jiang; Joe Webb; Warren Casbeer.
same site as CRN8563 2006.

photos: Jeff Moore and Eric Billman looking at microbial mats and insects; hot stream.

photos: Naucoridae *Ambrysus heidemanni* with Dolichopodidae prey, also exuviae; Dolichopodidae.

saw Dytiscidae: *Bidessus*?, dead dragonflies trapped on hot water. 9061

9062 USA: MONTANA: Madison Co. Madison River below Quake Lake, Hwy 87, near jct Hwy 287, N 44.82663 W 111.48682, 1877 m, 21-Sep-2008 C. R. Nelson# 9062 & class 59 269

Aquatic Entomology and Aquatic Ecology Laboratory classes: Riley Nelson; Dennis Shiozawa; Sarah Judson; Eric Billman; Mary Megan Waites; Laura Scott; David Betts; Jeff Moore; Adam Mitchell; Michelle Barney; Xiao Ben Jiang; Joe Webb; Warren Casbeer.

same site as CRN8565 2006.

Misnumbered in field as 9060, change in lab!

look a white rock from the stream in memory of my dad, Winston P. Nelson, fishing near here. get photo of me, C. Riley Nelson, from David Betts. photos: Deuterophlebiidae larvae and pupae; Blephariceridae larva.

also *Pteronarcys californica*, *Hesperoperla pacifica*, Baetidae, Simuliidae, Ephemerellidae. 9062

9063 USA: UTAH: Utah Co., Warm Springs, Goshen Ponds, near south end of Utah Lake, N 39.96117 W 111.85407 1394 m, 25 September 2008, C. R. Nelson# 9063 & class 59 Riley Nelson, Dave Betts, Sarah Judson, Eric Billman, Adam Mitchell, Mary Megan Waites, Jeff Moore, Dana Jensen. Hydrometridae; Naucoridae *Ambrysus*; Veliidae *Rhagovelia*, *Microvelia*; Gerridae; Mesoveliidae; Belostomatidae *Belostoma lethocerus*; Hydrophilidae; Dytiscidae; Elmidae; Hebridae; Calopterygidae *Hetaerina*; Coneagrionidae; Lestidae; Aeshnidae; Libellulidae 9063

9064 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.6 mi S of Vivian Park & Hwy 189 N 40.34805 W 111.55081 1657 m 26-Sep-2008 C. R. Nelson# 9064 & class 59 454SFSPR downstream from park sampling sites. Riley Nelson, Russ Rader, Sarah Judson, Warren Casbeer, Xiaoben Jiang, Jeff Moore, Adam Mitchell, Laura Scott, Oliver Obregon, David Betts, Joe Webb *Ameletus*; Haliplidae; photos: Dixidae pupa, saw many larvae but didn't photograph; Baetidae; photos: *Anopheles* larva; photos: other Culicidae larva and pupa; Cladocera common; Coenagrionidae. 9064

9065 USA: UTAH: Utah Co., spring tributaries of South Fork Creek, below South Fork Park, 1.6 mi S of Vivian Park & Hwy 189 N 40.34772 W 111.54775, 1665 m 26-Sep-2008 C. R. Nelson# 9065 & class 59 3 First 25 samples: take from rough square foot samples from 3 locations within 200 m of each other number 1 is downstream. Riley Nelson, Russ Rader, Sarah Judson, Warren Casbeer, Xiaoben Jiang, Jeff Moore, Adam Mitchell, Laura Scott, Oliver Obregon, David Betts, Joe Webb. Also another GPS taken: 454SFBR (at footbridge) N

40.34760 W 111.54723 elev. 1666 m. Hesperoperla; Cinygmula; Epeorus; Drunella; Baetis; Simulium; Chloroperlidae; Elmidae 9065

9066 USA: UTAH: Summit Co. Park City, Zoom Restaurant, old Union Pacific Railroad Station, corner main & Heber Streets, N 40.64657 W 111.49709 2076 m 27-Sep-2008 C. R. Nelson # 9066 & J. K. Nelson 59 454ZOOM Restaurant review interviews and photo shoot with Kaye. Steve Solomon, manager; Brian Prusse, chef. 9066

9067 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95340 W 111.26540 1808 m, 02-Oct-2008 C. R. Nelson # 9067 & class 59 454SOLD Riley Nelson; Robert Hansen, friend from Austin, Texas; Sarah Judson; Eric Billman; Jonathan Henrickson; Jeff Moore; Adam Mitchell; Dana Jensen. Isogenoides; Pteronarcella; Dryopidae; Heptageniidae; Athericidae; Tipulidae; Gomphidae; Hydropsychidae; Staphylinidae; Elmidae 9067

9068 USA: UTAH: Utah Co., Diamond Fork River, 0.6 miles west of Hwy 6, N 40.03418 W 111.49477 1521 m, 02-Oct-2008 C. R. Nelson # 9068 & class 59 454DIA Riley Nelson; Robert Hansen, friend from Austin, Texas; Sarah Judson; Eric Billman; Jonathan Henrickson; Jeff Moore; Adam Mitchell; Dana Jensen. Claassenia sabulosa; Pteronarcys californica; Pteronarcella badia; Dryopidae; photos: Pseudacris frog and spotted frog; Glossosomatidae; Brachycentridae; Hydropsychidae; Elmidae; Tipulidae. 9068

9069 USA: UTAH: Utah Co., ponds near Diamond Fork River, 0.6 miles west of Hwy 6, N 40.03405 W 111.49437 1550 m, 02-Oct-2008 C. R. Nelson # 9069 & class 59 454DPOND Riley Nelson; Robert Hansen, friend from Austin, Texas; Sarah Judson; Eric Billman; Jonathan Henrickson; Jeff Moore; Adam Mitchell; Dana Jensen. Dytiscidae; Notonectidae; Corixidae; Aeshnidae; Libellulidae; Stratiomyidae; Tipulidae; Mesoveliidae. Searched for Nepidae: Ranatra, found none, seen earlier in year by Heather Stutz. Spotted frogs. 9069

9070 USA: UTAH: Utah Co., Diamond Fork River, 0.6 miles west of Hwy 6, N 40.03418 W 111.49477 1521 m, 03-Oct-2008 C. R. Nelson # 9070 & class 59 454DIA aquatic ecology lab class. photos all: spotted frogs; Glossosomatidae; Brachycentridae; Pteronarcyidae Pteronarcys californica; Perlidae Claassenia sabulosa; Hirudinea; Platyhelminthes Dugesia. 9070

9071 USA: UTAH: Box Elder Co. Woods Creek Duck Club, 2 miles southwest of Corinne, N 41.51702 W 112.14846 1284 m, 03-Oct-2008 C. R. Nelson # 9071 59 opening day of Duck Season, rainy, spent indoors in cabin with Ned Young speculum feather from a gadwall duck 9071

9072 USA: UTAH: Utah Co., Provo, 500 Foothill Drive, Nelson home N 40.29343 W 111.64922, 1495 m, 05-Oct-2008 C. R. Nelson # 9072 59 photos: Abby Stoddard, age 2 in

the garden with Logan Parker and parents. Sense of Wonder at tomatoes and pumpkins and apples and pears. 9072

9073 USA: UTAH: Utah Co., Mount Timpanogos, Alpine Loop and Cascade Springs Road, N 40.32435 W 111.64495 elev. 1481,m, 10 October 2008, C. R. Nelson # 9073 59 photos: aspens in fall colors 9073

9074 USA: UTAH: Utah Co., Provo River, Provo Canyon, Hwy 189, Canyon View Park, N 40.32435 W 111.64495 elev. 1481,m, 10 October 2008, C. R. Nelson# 9074 & class 59 canview Riley Nelson; Dennis Shiozawa; matt M; Tyler from Bio 100; Joe Webb; Sarah Judson; Warren Casbeer; Jeff Moore (saved life, fell in water, joke); Xiaoben Jiang; Oliver Obregon; Adam Mitchell. Photos: electrofishing and people and river electrofishing caught about 160 trout on 85 m o stream; Pteronarcys; Hesperoperla; Hydropsyche; Baetis. 9074

9075 USA: UTAH: Washington Co. Leeds Creek, 4 miles west of Leeds, N 37.28192 W 113.39485 elev. 1318,m, 17 October 2008, C. R. Nelson# 9075 & class 59 454LEED Riley Nelson; Greg Courtney (seminar visitor from Iowa State University); Mary Meagan Waites; Dana Jensen; Adam Mitchell, David Betts; Eric Billman; Jeff Moore; Shawn Clark. Hydroptilidae; Scirtidae; Elmidae; Psychodidae Maruina; Hesperoperla Perlidae; Brachycentridae Micrasema; Limenphilidae Hesperophylax; Cordulegastridae Cordulegaster; Perlodidae Isoperla; Empididae; Chironomidae; Hydropsychidae; Calopterygidae; Nemouridae; Baetidae; Leptophlebiidae; Heptageniidae 2 spp. 9075

9076 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Preserve, N 37.14548 W 114.02376 elev. 817,m, 17-18 October 2008, C. R. Nelson# 9076 & class 59 454WASH Riley Nelson; Greg Courtney (seminar visitor from Iowa State University); Mary Meagan Waites; Dana Jensen; Adam Mitchell, David Betts; Eric Billman; Jeff Moore; Shawn Clark. photos: scenery and group. Also GPS, 454LYTBUNK (Lytle bunkhouse) 37.14269 114.02209, 792 m. Carabidae bombardier beetles; Tetrigidae; Hydrophilidae; Noctuidae; Calopterygidae 9076

9077 USA: NEW MEXICO: Mohave Co. Little Jamaica Springs, I-15, Littlefield Virgin River Bridge, N 36.89348 W 113.91650 elev. 576,m, 18 October 2008, C. R. Nelson# 9077 & class 59 454JAM Riley Nelson; Greg Courtney (seminar visitor from Iowa State University); Mary Meagan Waites; Dana Jensen; Adam Mitchell, David Betts; Eric Billman; Jeff Moore; Shawn Clark. Petrophila; Meloidae; Stratiomyidae; Libytheidae; Coenagrionidae; Calopterygidae 9077

9078 USA: ARIZONA: Mohave Co. Virgin River at Virgin River Gorge Recreation Area, I-15, N 36.94844 W 113.79813 elev. 645,m, 18 October 2008, C. R. Nelson# 9078 & class 59 454VIRGOR Riley Nelson; Greg Courtney (seminar visitor from Iowa State University); Mary Meagan Waites; Dana Jensen; Adam Mitchell, David Betts; Eric Billman; Jeff Moore; Shawn

Clark.

photos: scenery and people Baetidae; Megaloptera; Heteroceridae; Saldidae; Gomphidae; Leptophlebiidae; Coenagrionidae; beetle larva? 9078

9079 USA: UTAH: Washington Co. Zion National Park, Virgin River Narrows, wet walls north of Temple of Sinawava, N 37.2919 W 112.9470 elev. 1390,m, 18 October 2008, C. R. Nelson# 9079 & class 59 Riley Nelson; Greg Courtney (seminar visitor from Iowa State University); Mary Meagan Waites; Dana Jensen; Adam Mitchell, David Betts; Eric Billman; Jeff Moore; Shawn Clark.

Veliidae; Stratiomyidae; Dixidae; Empididae 9079

9080 USA: UTAH: Washington Co. Zion National Park, Virgin River Narrows, near Mystery Falls, N 37.29858 W 112.94475 elev. 1395,m, 18 October 2008, C. R. Nelson# 9080 & class 59 Riley Nelson; Greg Courtney (seminar visitor from Iowa State University); Mary Meagan Waites; Dana Jensen; Adam Mitchell, David Betts; Eric Billman; Jeff Moore; Shawn Clark.

photos: scenery and people

water temperature 10 degrees C. Hydropsychidae; Isogenoides zionensis; Baetidae; Heptageniidae; Athericidae 9080

9081 USA: UTAH: Washington Co. Zion National Park, Virgin River Narrows, warm springs near Mystery Falls, N 37.29858 W 112.94475 elev. 1395,m, 18 October 2008, C. R. Nelson# 9081 & class 59 Riley Nelson; Greg Courtney (seminar visitor from Iowa State University); Mary Meagan Waites; Dana Jensen; Adam Mitchell, David Betts; Eric Billman; Jeff Moore; Shawn Clark.

water temperature 20 degrees C. Veliidae: Rhagovelia 9081

9082 USA: IOWA: Story Co. West Peterson Pit, Conservation area on 180th Street, Ames, N 42.08703 W 93.59686 elev. 318,m, 25 October 2008, C. R. Nelson# 9082 & G. W. Courtney 59 455PET seminar trip with Greg Courtney Haliplidae; photos: Berosus adult and larva; photos: Caenidae. 9082

9083 USA: IOWA: Story Co. Skunk River at 180th Street Bridge near Templeton Road, Ames, N 42.09269 W 93.58612 elev. 292,m, 25 October 2008, C. R. Nelson# 9083 & G. W. Courtney 59 455SKU seminar trip with Greg Courtney photos all: Pteronarcys; Perlina? Perlidae; Acroneuria? (probably Agnetina or Paragnetina?); Baetiscidae. 9083

9084 USA: IOWA: Story Co. Macfarland Park Pond, Story County Conservation Center at 180th Street, Ames, N 42.09457 W 93.57220 elev. 318,m, 25 October 2008, C. R. Nelson# 9084 & G. W. Courtney 59 455Max C seminar trip with Greg Courtney photos all: Nepidae

Ranatra; Naucoridae Pelocoris; Dytiscidae Dytiscus; Hydrophilidae; Mesoveliidae; Belostomatidae Belostoma; Corydalidae Chauliodes. 9084

9085 USA: IOWA: Floyd Co. Fossil and Prairie Park, west of Rockford and Winnebago Creek, N 43.04888 W 92.97645 elev. 323,m, 26 October 2008, C. R. Nelson# 9085 & G. W.

Courtney 59 456ROCK seminar trip with Greg Courtney

photos: scenery fossils, Devonian: Brachiopods; Coral; crinoids; Bryozoans. 9085

9086 USA: IOWA: Fayette Co. Turkey River, Hwy 18, Clermont, N 42.99711 W 91.65667 elev. 241,m, 26 October 2008, C. R. Nelson# 9086 & G. W. Courtney 59 456TURK seminar

trip with Greg Courtney

photos: scenery and river Perlidae Acroneuria 2 spp.? Paragnetina media; Agnetina; Pteronarcyidae Pteronarcys; Isonychiidae Isonychia; Heptageniidae; Corydalidae Corydalus. 9086

9087 USA: IOWA: Clayton Co. 1 mile south of MacGregor, rock outcrop N 43.00646 W 91.get more elev. 281,m, 26 October 2008, C. R. Nelson# 9087 & G. W. Courtney 59

456PIKE seminar trip with Greg Courtney

photos: scenery and river fossils, Cambrian? 450 - 550 mya: Brachiopoda; Gastropoda; odd jointed thing?; mix and mash for sponge? 9087

9088 USA: IOWA: Clayton Co. Pikes Peak State Park Overlook, Mississippi & Wisconsin River, 2 miles south of McGregor, N 42.99609 W 91.16430 elev. 338,m, 26 October 2008,

C. R. Nelson# 9088 & G. W. Courtney 59 456PIKE2 seminar trip with Greg Courtney

photos: Wisconsin and Mississippi River, coal barge, Greg Courtney. 9088

9089 USA: UTAH: Utah Co., Mount Timpanogos, North Fork Creek, below Sundance Ski Area, 0.7 miles north of Hwy 189, N 40.37066 W 111.56705 1654 m, 30-Oct-2008 C. R.

Nelson # 9089 & class 59 457NFK 4First 25 samples. fresh pan each time; by about 7 students and me too. then 1 First 100 sample. stream 8degC. stream width 2.7-5 meters;

velocity about 1 m/sec. Riley Nelson, Sarah Judson, Eric Billman, David Betts, Adam Mitchell, Dana Jensen, Jeff Moore, John Henrickson. Photos of Mary Meagan Waites as mohawk punker back on campus. photos scenery and people. Hydropsychidae

Arctopsyche; Perlodidae; Taeniopterygidae; Nemouridae Zapada; Blephariceridae Bibiocephala; Chloroperlidae; Tipulidae; Philopotamidae; Elmidae; Hydrophilidae; Chironomidae; Baetidae; Isoperla. 9089

9090 USA: UTAH: Utah Co., Provo, 500 Foothill Drive, Nelson home N 40.29343 W

111.64922, 1495 m, 24-Nov-2008 C. R. Nelson # 9090 59 Psychodidae 9090

9091 USA: UTAH: Utah Co., Provo, 500 Foothill Drive, Nelson home N 40.29343 W 111.64922, 1495 m, 03-Dec-2008 C. R. Nelson # 9091 59 photos: maple samaras from norway maple. 9091

9092 USA: UTAH: Utah Co., Provo, Widtsoe Building, BYU lab N 40.24625 W 111.64984, 1825 m, 11-Dec-2008 C. R. Nelson# 9092 59 photos: dead leaf of honey locust, showing banding pattern. Why do birds often have banded tails? 9092

9093 USA: UTAH: Utah Co., Provo, East Lawn Cemetery, Bonneville Bench, N 40.29786 W 111.64897, 1546 m, 08-Jan-2009 C. R. Nelson# 9093 59 photos: morning light across Utah Valley inversion 9093

9094 USA: UTAH: Utah Co., Provo River, Provo, 2230 North Street, N 40.26383 W 111.66424, 1410 m, 10-Jan-2009 C. R. Nelson# 9094 & class 59 Biology 100 Initial Field trip. First 25 samples. Kyle Westover, Joshua Chandler, Dallin Shaner, Jarett Jacobsen, Cassandra Perry, Tyler Wigren, Robert Blakesley, Ben Blakesley, Lauren Call, Adam Hall, Jershon Lopez, Melanie Sandgren. Teaching assistants: Heather Stutz and Steve Merkley. Hydropsychidae, Baetidae, Perlodidae Skwala, Chironomidae, Limnephilidae Hesperophylax, snails 3 species, Elmidae, Perlodidae Isoperla, Pteronarcyidae Pteronarcys californica. 9094

9095 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 1495 m, 10-Jan-2009 C. R. Nelson# 9095 59 photos: beetles in cereal, Honey Bunches of Oats. Coleoptera Probably Cucujidae Saw tooth grain beetle Oryzaephilus surinamensis (Linnaeus) 9095

9096 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 1495 m, 14-Jan-2009 C. R. Nelson# 9096 59 photos: beetles in cereal, Strawberry Corn Chex Coleoptera Probably Cucujidae Saw tooth grain beetle Oryzaephilus surinamensis (Linnaeus) close up, live. 9096

9097 USA: UTAH: Utah Co., Diamond Fork River, Diamond Campground, N 40.07386 W 111.42312 1514 msl 17-Jan-2009 C. R. Nelson # 9097 & J. K. Nelson 59 457DIAM photos river photos turkeys 9097

9098 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1850 m, 19-Jan-2009 C. R. Nelson# 9098 & family & friends 58 photos scenery; snowmobiling photos people 9098

9099 USA UTAH: Utah Co., Utah Lake, 1 mi W of Lincoln Beach, N 40.14493 W 111.80704 1394 m, 31-Jan-2009 C. R. Nelson # 9099 & J. K. Nelson 59 457linc photos

frozen Utah Lake, Wasatch Mountains. Mount Timpanogos photos house finch in tamarisk
9099

9099.5 USA: UTAH: Utah Co., Provo River, just upstream from Utah Lake Marina, Provo River
inlet, N 40.2380 W 111.7309, 1369 m, 01-Feb-2009 C. R. Nelson # 9099.5 59 photos:
bald eagle 9099.5

9100 USA UTAH: Utah Co., Provo, BYU, Martin Building, Room 231, N 40.24625 W
111.64984 1420 m, 05-Feb-2009 C. R. Nelson # 9100 59 photos: Dr. Daniel Fairbanks
presenting a picture of Charles Darwin that he drew to Duane Jeffery on the occasion of
Dan's inaugural lecture on human evolution at the Duane E. Jeffery Lecture series on
Evolution, Education, and Religion.
photos: Duane Jeffery, Jerald Johnson, and Daniel Fairbanks. 9100

9100.5 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m, 07-Feb-2009 C. R. Nelson # 9100.5 59 photos: fire trucks and
equipment for funeral of Provo Fire chief Bill Blair. 9100.5

9101 USA UTAH: Utah Co., Provo, BYU, Maeser Building, Room 321, N 40.24625 W
111.64984 1420 m, 10-Feb-2009 C. R. Nelson # 9101 & J. K. Nelson 59 photos: Dr. Daniel
Fairbanks sculpting Darwin, some photos used by the Daily Universe newspaper at BYU.
9101

9102 USA UTAH: Utah Co., Provo, BYU, Widtsoe Building, Room 445, N 40.24625 W
111.64984 1420 m, 13-Feb-2009 C. R. Nelson # 9102 59 photos: Dr. Duane Jeffery,
human evolution lecture for Darwin Week. 9102

9102.5 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m, 15-Feb-2009 C. R. Nelson # 9102.5 59 blessing of Jane Elizabeth
Parker in Nelson home. Parents: Tamara and Daniel Parker. 9102.5

9103 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W
111.26763 1850 m, 16-Feb-2009 C. R. Nelson # 9103 & family & friends 59 snowmobiling
with Kaye, Andrea, Amy, Katie Giauque, McKay family: Bruce, Callie, Brigham, Duncan,
Kajsa, and Gavin. Brigham found a turtle fossil. Duncan, Bruce, and I found an assortment
of other fossils and dendrites. We saw five bald eagles and a golden eagle. eagles, turtle
fossil 9103

9104 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South
Fork American Fork River near Timpooneke Guard Station, site 4, N 40.43226 W 111.63741
2213 m, 21-Feb-2009 C. R. Nelson # 9104 & students 59 photos: people and scenery.
snowshoed 2 miles to site from Pine Hollow parking lot.

Present: Riley Nelson, Joss Wertz, Elizabeth Bankhead, Jill Freitas, Heather Stutz, JanNel Grim, Steve Merkley, Becca Buckman. Joe Thiriot, Tristan McKnight, Tiffany Lillrose, Tim Ruggs, Tracy Ruggs, Nivea, guy, girl pair, David Betts, Ashley Wright. Zapada adult, Dixidae larva, Megarcys nymph, Neothremma larvae, Empididae Clinocera, 9104

9105 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, N 40.44749 W 111.68305, 1818 m, 21-Feb-2009 C. R. Nelson # 9105 & students 59 Entomology Club group, part of people from CRN 9104
photos: scenery Capnia gracilaria 2f
Utacapnia logana 1m
Zapada Chironomidae Diamesinae 9105

9106 USA: UTAH: Utah Co., Provo, between Provo High School and 100 North 300 East N 40.24913 W 111.66357, 1389 m, 28-Feb-2009 C. R. Nelson # 9106 & J. K. Nelson 59 457BALLOFF photos: balloon ride. started at: 457BALLOON (between Provo High and Hospital): N 40.23506 W 111.65318 elev. xx.
also with Cannon family 9106

9107 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Grey Cliffs Picnic Area, American Fork River, N 40.44928 W 111.67372, 1831 m, 28-Feb-2009 C. R. Nelson # 9107 & J. K. Nelson 59 457 AF 2 5 photos: scenery, ice saw Capnia nana 1f and Zapada cinctipes several. 9107

9108 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, N 40.44749 W 111.68305, 1818 m, 28-Feb-2009 C. R. Nelson # 9108 & J. K. Nelson 59 photos: scenery, ice photos: Capniidae Capnia gracilaria female; Nemouridae Zapada cinctipes 2 males (photos of both specimens); Chironomidae, big male. 9108

9109 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, American Fork River, canyon mouth bridge, N 40.43282 W 111.74792, 1542 m, 28-Feb-2009 C. R. Nelson # 9109 & J. K. Nelson 59 photos: Capniidae Capnia gracilaria female; Nemouridae Zapada cinctipes 2 males (photos of both specimens); Taeniopterygidae Doddsia occidentalis 1m; Tipulidae Dicranomyia; Anthomyiidae; Tetragnathidae 9109

9110 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 02-Mar-2009 C. R. Nelson # 9110 59 Photos: Asteraceae dandelion, Taraxacum officinale, first flower of spring; photos: Capsella bursa-pastoris, shepherd's purse mustard. 9110

9111 USA: UTAH: Grand Co. Book Cliffs, East Tavaputs Plateau, jct East and Westwater Canyons, Paradise Ranch N 39.27569 W 109.28628 1582 m, 7 March 2009, C. R. Nelson#

9111 & family 59 458trucks photos: staging area for Dr. Hal Black's bear search; Kaye Nelson, Jason Nelson, Brandy Nelson, Andrea Nelson, Amy Nelson, and 140 others.
photos: petroglyphs

GPS at parking spot near large wall panel of inscriptions. 9111

9112 USA: UTAH: Grand Co. Book Cliffs, East Tavaputs Plateau, 3.2 km NNE of jct Westwater and Dark Canyons, N 39.31096 W 109.32367 1889 m, 7 March 2009, C. R. Nelson# 9112 & family 59 458park with Hal Black's bear crew.
photos: people at staging area, ready to walk to Heidi's den for 2009, truck park

Kaye Nelson, Jason Nelson, Brandy Nelson, Andrea Nelson, Amy Nelson 9112

9113 USA: UTAH: Grand Co. Book Cliffs, East Tavaputs Plateau, 2.1 km NNE of jct Westwater and Dark Canyons, N 39.30915 W 109.32017 1910 m, 7 March 2009, C. R. Nelson# 9113 & family 59 459DEN with Hal Black's bear crew.
photos:people & bear cub Emma and mother bear Heidi. Emma Sorensen in special handicapped cart. Heidi's den fro 2009

Kaye Nelson, Jason Nelson, Brandy Nelson, Andrea Nelson, Amy Nelson 9113

9114 USA: UTAH: Grand Co. Book Cliffs, East Tavaputs Plateau, bear den, 5.4 km NNE of jct Westwater and Dark Canyons, N 39.33212 W 109.32217 2050 m, 7 March 2009, C. R. Nelson# 9114 & family 59 458BR2DEN with Hal Black's small bear crew.
photos:people & bear cubs, triplets: Janene female, Josh male, and Larisa female with blaze on chest. named for Janene Auger, Joshua Heward, and Larisa Hardy.

Kaye Nelson, Jason Nelson, Brandy Nelson, Andrea Nelson, Amy Nelson photos: bears 9114

9115 USA: NEW YORK: New York Co., New York City, manhattan, Times Square, N 40.757674 W 73.985989 14 m, 14 March 2009, C. R. Nelson# 9115 & J. K. Nelson 59
Traveling with Heather Whittle and Chelsea Warren. Met up with Kaye's student friend, Dave Schefcik. We also met up with Tim and Sally Tanner, Tim is Jordan Tanner's son. Jordan is Dr. Vasco Tanner's son. Photos: people and lights. Saw play, "Wicked" a prequel to "The Wizard of Oz".

I did not reset my camera clock to Eastern Time for this trip. Thus my photos recorded 3 hours earlier than local time. 3pm on camera is 6 pm New York time. 9115

9116 USA: NEW YORK: New York Co., New York City, manhattan, Empire State Building, N 40.74825 W 73.98566 320 m, 14 March 2009, C. R. Nelson# 9116 & J. K. Nelson 59
photos: views from 86th floor observation deck 9116

9117 USA: NEW YORK: New York Co., New York City, manhattan, Statue of Liberty, in harbor N 40.688607 W 74.044121 1 m, 15 March 2009, C. R. Nelson# 9117 59 photos: statue, gulls, sparrows, pigeons, and common grackles. 9117

9118 USA: NEW YORK: New York Co., New York City, manhattan, Ellis Island, in harbor N 40.698777 W 74.040040 1 m, 15 March 2009, C. R. Nelson# 9118 59 photos: buildings and birds 9118

9119 USA: NEW YORK: New York Co., New York City, manhattan, Ground Zero, site of World Trade Center, N 40.709976 W 74.012549 3 m, 15 March 2009, C. R. Nelson# 9119 59 photos: disaster memorial, building pit, new building seven, at corner of Liberty and Church. 9119

9120 USA: NEW YORK: New York Co., New York City, manhattan, LDS Temple, Lincoln Center, N 40.77316 W 73.971803 22 m, 15 March 2009, C. R. Nelson# 9120 & J. K. Nelson 59 photos: temple on Kaye's camera. 9120

9121 USA: NEW YORK: New York Co., New York City, manhattan, Central Park, the Lake and Strawberry Fields, N 40.775710 W 73.975198 27 m, 15 March 2009, C. R. Nelson# 9121 & J. K. Nelson 59 photos: John Lennon's "Imagine" mosaic. photos and video: Canada goose, mallard ducks 9121

9122 USA: NEW YORK: New York Co., New York City, manhattan, Central Park at 79th Street, American Museum of Natural History, N 40.780843 W 73.972842 27 m, 16 March 2009, C. R. Nelson# 9122 & J. K. Nelson 59 photos: Baryosaurus? and Allosaurus in grand entry on 15 March 2009.

Photos: Biodiversity, fossil vertebrates. on 16 March 2009 9122

9123 USA: NEW YORK: New York Co., New York City, manhattan, Grand Central Station, N 40.752728 W 73.976978 16 m, 16 March 2009, C. R. Nelson# 9123 & J. K. Nelson 59 photos: grand hall 9123

9124 USA: NEW YORK: New York Co., New York City, manhattan, Times Square, N 40.757674 W 73.985989 14 m, 16 March 2009, C. R. Nelson# 9124 & J. K. Nelson 59 photos: crowds and lights 9124

9125 USA: NEW YORK: New York Co., New York City, Manhattan, Rockefeller Center, N 40.758908 W 73.979164 278 m, 17 March 2009, C. R. Nelson# 9125 59 photos: Top of the Rock, Observation Deck, views of city. St. Patrick's Day Parade, Rockefeller Plaza, Rockefeller Center Building 6 is across 5th Avenue from St. Patrick's Cathedral. It has two generations of solar panels on its roof. A security guard told me t\t provides 60% of the electricity for the building. Our hotel, the Marriott Marquis is brown, with a jagged top,

viewing to the southwest. I took many panoramic photos to be stitched together, the lens was on wide angle. 9125

9126 USA: NEW YORK: New York Co., New York City, manhattan, St. Patrick's Cathedral, 5th Avenue, N 40.758578 W 73.977392 21 m, 17 March 2009, C. R. Nelson# 9126 59 photos: St. Patrick's Day Parade 9126

9127 USA: NEW YORK: Queens Co., Long Island, John F. Kennedy Airport, N 40.645403 W 73.784321 2 m, 17 March 2009, C. R. Nelson# 9127 & J. K. Nelson 59 photos: view to manhattan, 9127

9128 USA: NEW YORK: Brooklyn, Verazzano Narrows, and North Jersey Shore, N 40.511647 W 070640 from air, 17 March 2009, C. R. Nelson# 9128 & J. K. Nelson 59 photos: scenery,

later in or near Pennsylvania I took pictures of two cooling towers from a power plant. End of photos for trip. I did not change the clock on my camera for this trip. So all the photos show 3 hours earlier than local time as recorded by the camera. Thus shows 1:15 pm when local New York time is 4:15 pm 9128

9129 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 04-Apr-2009 C. R. Nelson # 9129 60 also backyard scenery video & photos, 5 april 2009 Photos: Living diversity oin my own backyard; Asteraceae dandelion, Taraxacum officinale; Capsella bursa-pastoris, shepherd's purse mustard; earthworms; snail; isopod potato bug; spiders; fungus; periwinkle; centipede Lithobiomorpha; aspen Populus tremuloides damaged by deer and cats; apricot blossoms touched by frost; pear blossom; Veronica blossom; Verbaena; compost; Notch the cat; millipede; lichens; moss; firewood in truck. 9129

9130 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 14-Apr-2009 C. R. Nelson # 9130 60 also backyard scenery video & photos, 5 april 2009 photos: after spring snowstorm: aspen, aMaryllis, Forsythia, gourd, scenery, plum, peach, virginia creeper, apricot, lilac, norway maple, daffodils, home, Chapman home, fence, magpie, mountains, West Mountain, Timpanogos, pine, Angel Montalvo, Clete Hudgens, flowering plum, movies of snow falling from aspens and trees, movies of cats. 9130

9130 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 14-Apr-2009 C. R. Nelson # 9130 60 also backyard scenery video & photos, 5 april 2009 photos: after spring snowstorm: aspen, aMaryllis, Forsythia, gourd, scenery, plum, peach, virginia creeper, apricot, lilac, norway maple, daffodils, home, Chapman home, fence, magpie, mountains, West Mountain, Timpanogos, pine, Angel

Montalvo, Clete Hudgens, flowering plum, movies of snow falling from aspens and trees, movies of cats. 9130

9131 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1850 m, 17-Apr-2009 C. R. Nelson# 9131 & students 60 photos: students "Megarcys" group, T shirt. photos: *Peromyscus* 9131

9132 USA: UTAH: Utah Co., Provo, BYU, near Maeser and Brimhall Buildings N 40.244870 W 111.653288 1397 m, 18-Apr-2009 C. R. Nelson# 9132 60 photos: students "Megarcys" group, T shirt. photos: mallard ducks, dead cedar waxwing, starling, yellow bird?, robin, sparrow?, fungus, Maeser Building, house finch, gray bird, maple buds, elm stump, Brimhall Building, *Metasequoia glyptostroboides*, sparrow, spruce, Joseph Smith Building, Kimball Tower, Benson Building, *Polistes dominula* nest, shrub flowers?, *Cotoneaster*, Widtsoe Building, dandelion, hydrant diversity, Y Mountain. 9132

9133 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 19-Apr-2009 C. R. Nelson # 9133 60 also backyard scenery video & photos, 5 april 2009 photos: yard: downy woodpecker, robin, house finch?, yellow bird, flicker, wasp *Polistes dominula*, honey bee on dandelion. 9133

9134 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 21-Apr-2009 C. R. Nelson # 9134 60 photos: jet condensation trail 9134

9135 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 23-Apr-2009 C. R. Nelson # 9135 60 photos: dermestids on rock squirrel carcass that Amy is "cleaning" 9135

9136 USA UTAH: Utah Co., Provo, BYU, between Widtsoe and Brimhall Buildings, N 40.2452689 W 111.652228 1417 m, 28-Apr-2009 C. R. Nelson # 9136 & class 60 walked and looked at trees and birds; ate male blue spruce cone, spoke of *Metasequoia*, Visited Kaye in newsroom; opened acorns. Riley Nelson, David Betts, Sean Stanton, Keave Molifua, Joanie Harbor, Travis Beckett, Beau Walker, and Ashley Belle Coleman. Coordinates are at *Metasequoia* tree. saw *Coccinellidae* 9136

9137 USA UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.246359 W 111.649528 1418 m, 29-Apr-2009 C. R. Nelson # 9137 60 with Steve Peck and Karen Froerer, in my lab photos: oriental fruit fly, *Tephritidae*, *Bactrocera dorsalis*, hawaiian fruit flies from Hawaii: Puna Area, July 2007, Karen Froerer. Labeled with UV fluorescent spray as part of dispersal study. 9137

9138 USA UTAH: Utah Co., Provo, BYU, Bean Museum, N 40.253583 W 111.647763 1434 m, 29-Apr-2009 C. R. Nelson # 9138 60 photos: people packing and moving Stephen Wood's bark beetle collection to take to the Smithsonian Institution. Wayne mathis, David Furth, Shawn Clark, Michael Whiting, Dan Cavan, Richard Baumann, Tim, Nathan, ?, photos: many holotypes of bark beetles 9138

9139 USA UTAH: Utah Co., Squaw Peak Overlook, Squaw Peak Trail, N 40.301271 W 111.625767 2030 m, 29-Apr-2009 C. R. Nelson # 9139 60 photos: scenery, Provo, with David Furth 9139

9140 USA UTAH: Utah Co., Provo, Y Mountain Trailhead, East of BYU, N 40.243943 W 111.624381 1659 m, 30-Apr-2009 C. R. Nelson # 9140 & class 60 Two nested quadrats (Horn 1993): 1 on south facing slope: N 40.243943 W 624381, elev. 1659 m; 2 on north facing slope: N 40.242873 W 111.624421, elev. 1639 m. (both from google earth). Riley Nelson, David Betts, Paul Frandsen, Beau Walker, Sean Stanton, Ashley Coleman, Joanie Harbor, and Travis Beckett. photos: people, scenery, plants, leafhopper nymph in spider web, Pachypsylla on hackberry buds. 9140

9141 USA UTAH: Utah Co., Provo, BYU, view to Y Mountain Trailhead, N 40.246034 W 111.648682 1418 m, 30-Apr-2009 C. R. Nelson # 9141 & class 60 photos: View to Y Mountain from which we just returned from our Field Biology plant exercise. We worked at the apex of the lowest switchback of the trail, easily seen in the photos 9141

9142 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 03-May-2009 C. R. Nelson # 9142 60 photos: dandelion flowers, seed heads, achenes. mushrooms, *Coprinus* sp. det Tristan McKnight, *Apis mellifera* honey bees on dandelion, white top mustard, *Cardaria draba* (L.), lilacs, *Syringa* sp. , Dad's truck, details; *Capsella bursa-pastoris*, *Poa bulbosa*, Veronica, Andrea Nelson with Lupita the cat; *Hordeum jubatum*, foxtail barley; Malus, apple blossom of Elliot's gold, Timpanogos Gold with bee; *Vinca major*. Guida the cat; oak early leaves; Amy's spider sculpture; Mahonia cultivar. 9142

9143 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 04-May-2009 C. R. Nelson # 9143 60 photos: mushrooms, same as yesterday, cap opening. *Coprinus* sp. det Tristan McKnight 9143

9144 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 05-May-2009 C. R. Nelson # 9144 60 photos: mushrooms, same as yesterday, cap flattened further, *Coprinus* sp. det Tristan McKnight; red tulip 9144

9145 USA UTAH: Utah Co., Provo, Rock Canyon, Bonneville Shoreline Trail, N 40.264832 W 111.628556 1565 m, 05-May-2009 C. R. Nelson # 9145 & class 60 walked and observed.

Estimated size of Tenebrio lab colony population while sitting in a a meadow. 3 liters of bran and 200 ml samples. no photos taken. Riley Nelson, David Betts, Ashley Coleman, Paul Frandsen, Joanie Harbor, Beau Walker, and Travis Beckett. 9145

9146 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 06-May-2009 C. R. Nelson # 9146 60 photos: mushrooms drying, Coprinus sp.; Anisopodidae Sylvicola fenestralis. 9146

9147 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 07-May-2009 C. R. Nelson # 9147 60 photos: Tipulidae, Tipula oleracea? mushrooms in yard tipping. 9147

9148 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.6 mi S of Vivian Park & Hwy 189, N 40.34770 W 111.54757 1640 m 07-May-2009 C. R. Nelson# 9148 & class 60 479SFK First 100s, Diversity Zoo; Diversity samples in 15 minutes. Nice day. Stream sampling videos with BYU Center for Teaching and Learning, Joe Peabody, Scott, and cameraman #2. Field Biology class: Riley Nelson, David Betts, Sarah Judson, Paul Frandsen, Rachel Woodfield, Ashley Coleman, Travis Beckett, Beau Walker, and Joanie Harbor. photos: Drunella doddsi with leg regeneration det SW Judson. Drunella grandis? det SWJ. Rhyacophila, Baetis, Ephemerella, Cinygmula det SWJ, Isoperla det SWJ, Megarcys, Hesperoperla, and much more. 9148

9149 USA: UTAH: Davis Co. causeway to Antelope Island N 41.083 W 112.204 1281 m, 8 May 2009, C. R. Nelson# 9149 & class 60 photos: scenery
With field biology class 9149

9150 USA: UTAH: Davis Co. Antelope Island, Buffalo Point, N 41.03310 W 112.26331 1446 m, 8 May 2009, C. R. Nelson# 9150 & class 60 302buffalo photos: scenery and sunset, moon and city. Field Biology class 9150

9151 USA: UTAH: Davis Co. Antelope Island, Garr Ranch, N 40.92427 W 112.16808 1290 m, 9 May 2009, C. R. Nelson# 9151 & class 60 Field Biology class at BioBlitz organized by Crystal Carpenter of the state park. I was videotaped by Reece Stein, as I explored bison dung and photographed flies on it. Riley Nelson, David Betts, Elizabeth Bankhead, Paul Frandsen, Beau Walker, Joanie Harbor, Christine Frandsen, Sarah & Mike Judson. photos: sunrise scenery, yellow headed blackbird, yellow rumped warbler, slept night of 8-9 May 2009, red winged blackbird, kestrel, cedar waxwing, barn swallow, robin, photos: deer, Heard coyotes and saw tracks. Brewers blackbird, house finch, raven, tipulidae kept. killdeer, willet (yes, not whimbrel), white wing patches. mourning doves, Photos: Calliphoridae, Sepsidae. saw Culicidae, Syrphidae Syrphus?, Chironomidae,

Nymphalidae photos on *Dipsacum*, Cicadellidae, sampled shallow ephemeral ponds for beetles. 9151

9152 USA: UTAH: Davis Co. Antelope Island, Frary Peak Trailhead, N 40.99659 W 112.20380 1369 m, 9 May 2009, C. R. Nelson# 9152 & class 60 Riley Nelson, David Betts, Elizabeth Bankhead, Paul Frandsen, Beau Walker, Joanie Harbor, Christine Frandsen bull snake, Polistes wasp, Tipulidae, Tephritidae, Aciurina galls on *Chrysothamnus nauseosus*. Pronghorn antelope, Turkey vulture, raven 9152

9153 USA: UTAH: Davis Co. Antelope Island, Bridger Bay, N 41.04712 W 112.25266 1279 m, 9 May 2009, C. R. Nelson# 9153 & class 60 Riley Nelson, David Betts, Elizabeth Bankhead, Paul Frandsen, Beau Walker, Joanie Harbor, Christine Frandsen brine shrimp, tiger beetles Cicindelidae, oolitic sand, Dolichopodidae, Ephydriidae, sparse and small, not the main brine flies 9153

9154 USA: UTAH: Davis Co. Antelope Island, Garden Canyon Pond, N 40.951018 W 112.170824 1304 m, 9 May 2009, C. R. Nelson# 9154 & class 60 Riley Nelson, Sarah & Mike Judson. Ted Gurney and Louise Brown photos: people, least chub *Notropis phlegothontis*, Hydrophilidae, Aeshnidae, Dixidae, right handed snails, left handed snails. Sandhill cranes, yellow headed blackbirds, greenwing teal?, ash throated fly catcher with brown tail, willet. 9154

9155 USA: UTAH: Davis Co. Antelope Island, Garden Canyon above orchard, N 40.948046 W 112.184284 1369 m, 9 May 2009, C. R. Nelson# 9155 & class 60 Riley Nelson, Sarah & Mike Judson. Ted Gurney and Louise Brown Limnephilidae, Hydropsychidae, Baetidae, green tiger beetles, American kestrel, starling, "wren" 9155

9156 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 13-May-2009 C. R. Nelson # 9156 60 photos: Tipulidae, *Nephrotoma* male with smoky wings 9156

9157 USA UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.246359 W 111.649528 1418 m, 13-May-2009 C. R. Nelson # 9157 & students 60 helped by Jordan MacDonald and Jorden Marble photos: *Coelacanth*, *Latimeria chalumnae*. taxidermy specimen. White rice. 9157

9158 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 13-May-2009 C. R. Nelson # 9158 60 photos: wheat plants *Triticum* sp., foxtail barley *Hordeum jubatum*, wheat seed. in evening. 9158

9159 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 14-May-2009 C. R. Nelson # 9159 60 photos: brown rice (Kroger

brand); indian corn from Cheryl Loveless; sweet corn from Day's market; Popcorn (Western Family brand); corn flakes (Western Family brand), with blueberries from "USA" Los Angeles? 9159

9160 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180 W 111.65754 1862 m, 14-May-2009 C. R. Nelson # 9160 & class 60 Transect anchored at brown "Closed area" post in meadow on downstream end of "site".

5 x 5 m belt transect, skip 5 m between quadrats. Rooted woody. 1 cm diameter breast height. 10 5x5m quadrats. Point quarter, fixed line random numbers. 10 points = 40 quarters. woodies 1 cm dbh. Took down thermometers. Batteries low but good from both wet and dry. Riley Nelson, David Betts, Travis Beckett, Joanie Harbor, Paul Frandsen, Beau Walker. Photos: people. Paul's GPS at post: N 40.45229 W 111.65752, elev 1938 m. Riley's GPS at post: N 40.44930 W 111.65739 elev. 1836m. Both taken side by side simultaneously, neither with 3D resolution because of narrow canyon and some cloud cover. Attached alcohol bottles to 5 lindgren funnels Photos: *Eucapnopsis brevicauda* 3f; *Paraleuctra occidentalis* 1m 1f; *Capnia confusa* 1f. Saw *Zapada* and *Boisea trivittata* 9160

9161 USA: UTAH: Utah Co., Little Acorn Drive In, mouth Spanish Fork Canyon 15-May-2009 C. R. Nelson # 9161 & J. K. Nelson 60 Videos: coral reef aquarium at a greasy good hamburger joint. 9161

9162 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1850 m, 16-May-2009 C. R. Nelson# 9162 & A. J. Nelson 60 with Andrea Buprestidae; birds: Blue gray gnatcatcher, black throated gray warbler, western tanager, raven, scrub jay, robin, chipping sparrow, rufous sided towhee, lazuli bunting, yellow rumped warbler. 9162

9163 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 17-May-2009 C. R. Nelson # 9163 60 birds: bullocks oriole, black headed grosbeak, western tanager, western kingbird, scrub jay, robin, magpie, barn swallow, house finch, mourning dove. 9163

9163 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 18-May-2009 C. R. Nelson # 9163 60 morning: photos: Buprestidae, *Anthaxia* on dandelion. Evening: using 200 - 400mm lens: photos: scrub jay; robin, house finch, bullocks oriole, black headed grosbeak. 9163

9165 USA UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.246359 W 111.649528 1418 m, 18-May-2009 C. R. Nelson # 9165 & students 60 helped by Jordan MacDonald and

Jorden Marble photos: *Amoeba proteus*, *Paramecium multimicronucleatum*, *Euglena* sp.
All bought from Carolina Supply. 9165

9166 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 18-May-2009 C. R. Nelson # 9166 60 morning: using 200 - 400mm lens: photos: black headed grosbeak. 9166

9167 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180 W 111.65754 1862 m, 19-May-2009 C. R. Nelson # 9167 & class 60 Stream mapping: 50m by 5m gaps. 11 transects baseline on west side of stream. Changed 5 lindgren funnels. Last set CRN#9160, 14 May 2009. 11 segments of 5 mm velocity using a floating stick. photos: people photos: *Eucapnopsis brevicauda* and *Paraleuctra occidentalis* and *Capnia confusa*? 9167

9168 USA: UTAH: Carbon/Duchesne Co. Nine-Mile Canyon N 39.780 W 110.135 1644 m, 23-May-2009 C. R. Nelson # 9168 & others, see field notes 60 Photos: petroglyphs and pictographs. With Gordon and Pamela Oborn. Use the Great Hunt Scene panel as an "average" location. See Spangler and Spangler 2003 for detailed GPS coordinates. Photo series at each spot start and end with "famous" scenes shown in Spangler & Spangler 2003. 9168

9169 USA: TEXAS: Victoria Co., 10 mi SW of Victoria, N 28.72512 W 97.137032 17 m, 22-May-2009 C. R. Nelson # 9169 & others, see field notes 60 Photo session in BYU Widtose Lab using gravel from Texas, Blanco Co., Cypress Creek, Cypress Mill (CRN6859). C. R. Nelson not present when collected by Nikki L. Hanegan. Photos: crayfish, two *Procambarus clarkii*, two sexes? one with large claws one with small. red swamp crayfish. 9169

9170 USA: UTAH: Utah Co., Provo, Y Mountain Trailhead, East of BYU, north facing slope, N 40.242893 W 111.624421 1639 m, 25-May-2009 C. R. Nelson # 9170 60 I laid in an oak grove and read from "Omnivores Dilemma" and wrote a brief essay. Then I photographed the sunset and some deer. Very near site 2 of CRN 9140. Saw many weevils on the gambels oak. 9170

9171 USA: UTAH: Utah Co., Provo, East Lawn Cemetery, 26-May-2009 C. R. Nelson # 9171 & J. K. Nelson 60 photos: flowers and rabbits in the graveyard 9171

9172 USA: UTAH: Utah Co., Provo, near Nelson Home, jct 650 East and Foothill Drive, 26-May-2009 C. R. Nelson # 9172 & class 60 Estimated size of a harvester ant colony, using a Mark and recapture technique using Bailey's modification of the Lincoln index, we

estimated 44 total foragers and then at 16% foragers about 275 total colony size. Photos: people Pogonomyrmex occidentalis 9172

9173 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 28-May-2009 C. R. Nelson # 9173 60 Anisopodidae, Sylvicola fenestralis. 9173

9174 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95741 W 111.26763 1892 m, 28-May-2009 C. R. Nelson# 9174 & class 60 intermittent stream above pond; First 100s, 2 total then forced inside by rain. C. R. Nelson, D. J. Betts, Beau Walker, Ashley B. Coleman, Joanie Harbor, Travis Beckett, and Paul B. Frandsen. 9174

9175 USA: UTAH: Utah Co., Diamond Fork River, 0.6 miles west (north?) of Hwy 6, N 40.03415 W 111.49474 1529 m, 28-May-2009 C. R. Nelson # 9175 & class 60 454DIA Field Biology class: 2 First 100s per person. C. R. Nelson, D. J. Betts, Beau Walker, Ashley B. Coleman, Joanie Harbor, Travis Beckett, and Paul B. Frandsen. Claassenia sabulosa, Isogenoides zionensis, Isoperla adults too, Paraleptophlebia, Baetis, Helicopsyche, Brachycentrus, Hydropsyche, Chironomidae, Elmidae, earthworms, leeches, Heptageniidae, Drunella grandis, Ephemerella, Pteronarcella 9175

9175 USA: CALIFORNIA: Yuba Co. 6.5 miles Northeast of Marysville, Hwy 20, N 39.19794 W 121.52395 47 m, 01-Jun-2009 C. R. Nelson # 9175 & PB Frandsen 60 460Mary with Paul Bryan Frandsen photos: rice fields 9175

9177 USA: CALIFORNIA: Yuba Co. 1 mile Northeast of Marysville, Hwy 20, N 39.17613 W 121.54869 41 m, 01-Jun-2009 C. R. Nelson # 9177 & PB Frandsen 60 460Mary2 with Paul Bryan Frandsen photos: cattle egret? yellow bill in rice fields 9177

9178 USA: CALIFORNIA: Butte Co. 20 km N of Marysville, Hwy 70, N 39.33186 W 121.59743 30 m, 01-Jun-2009 C. R. Nelson # 9178 & PB Frandsen 60 460MaryN with Paul Bryan Frandsen photos: rice fields 9178

9179 USA: CALIFORNIA: Humboldt Co. Willow Creek town, Hwy 299, N 40.93884 W 123.62855 195 m, 01-Jun-2009 C. R. Nelson # 9179 & PB Frandsen 60 460BIG Photos: Bigfoot and Riley Nelson with Paul Bryan Frandsen. Bigfoot carving with us two. 9179

9180 USA: CALIFORNIA: Humboldt Co. East Fork Willow Creek, 5.8 mi West of Willow Creek town, N 40.90802 W 123.70736 466 m, 01-Jun-2009 C. R. Nelson # 9180 & PB Frandsen 60 460EWIL with Paul Bryan Frandsen. Same site as in May 1998 CRN6704. photos Drunella pelosa. Megaloptera, Empididae, Blephariceridae pupa. 9180

9181 USA: CALIFORNIA: Humboldt Co. tributary of Willow Creek, 6.6 miles West of Willow Creek town, N 40.90777 W 123.71855 534 m, 01-Jun-2009 C. R. Nelson # 9181 & PB

Frandsen 60 460salmo1 with Paul Bryan Frandsen. Same site as in May 1998 CRN6703.
photos: Hydropsychidae in net, voucher; alligator lizard, Soyedina female, Blephariceridae
adult Bibiocephala?

Haploperla, Sweltsa, Soliperla, Kathroperla skins, Perlodid skin, Trichoptera 9181

9182 USA: CALIFORNIA: Del Norte Co. Crescent City, south breakwater near Hwy 101, N
41.74533 W 124.17877 0 m, 02-Jun-2009 C. R. Nelson # 9182 & PB Frandsen 60 461CRES
with Paul Bryan Frandsen, N. Diane mathis and Wayne N. mathis. mostly on seaweeds.
Photos: Staphylinidae, Anthomyiidae Fucellia spp., Meintertiellidae? or Machilidae, spider
with prey Fucellia, Scatophagidae with prey Fucellia. 9182

9183 USA: CALIFORNIA: Del Norte Co. Del Norte Coast Redwoods State Park, beach at
Wilson Creek, Hwy 101, N 41.60303 W 124.10043 0 m, 02-Jun-2009 C. R. Nelson # 9183
& PB Frandsen 60 461 with Paul Bryan Frandsen, N. Diane mathis and Wayne N. mathis.
Near youth hostel. photos: Chironomidae Paraclunio? large and small other, Dryomyzidae
Oedoparema glauca, Dolichopodidae, Isopoda, Staphylinidae 9183

9184 USA: CALIFORNIA: Del Norte Co. Middle Fork Smith River, Hwy 199, Panther Flat
Campground, N 41.84356 W 123.93285 150 m, 03-Jun-2009 C. R. Nelson # 9184 & PB
Frandsen 60 463SMITH with Paul Bryan Frandsen, N. Diane mathis and Wayne N. mathis.
And Greg Courtney. photos: Deuterophlebia shasta adults and larva; Blephariceridae;
Perlidae Calineuria californica; Psephenidae; yellow legged frog.
Drunella pelosa; Heptageniidae. 9184

9185 USA: CALIFORNIA: Del Norte Co. Crescent City, beach at end of 3rd Street, N
41.74818 W 124.20538 0 m, 03-Jun-2009 C. R. Nelson # 9185 & PB Frandsen 60
463CRES3 with Paul Bryan Frandsen, N. Diane mathis and Wayne N. mathis. Photos:
lighthouse, rocks, and people. Dolichopodidae; Anthomyiidae; Coelopidae?;
Sphaeroceridae; Ephydriidae. Photos, out of sequence on 4 June in Grass Valley, California
motel room on green sheet algae. 9185

9186 USA: CALIFORNIA: Del Norte Co. Jedediah Smith Redwoods State Park, Clarks Creek,
Fesler Grove on Walker Road, N 41.81313 W 124.10993 57 m, 03-Jun-2009 C. R. Nelson #
9186 & PB Frandsen 60 463FESLER with Paul Bryan Frandsen. Ostrocerca ,Photo:
Isoperla?; Photo: Haploperla, Trichoptera, Tipulidae 9186

9187 USA: CALIFORNIA: Del Norte Co. Crescent City, College of the Redwoods Del Norte
Campus, N W m, 03-Jun-2009 C. R. Nelson # 9187 & PB Frandsen 60 Photo: group.
with Paul Bryan Frandsen.

notes from evening talks: Torsten Dikow, website, Biodiversity Heritage Library, many

pages. cite.biodiversitylibrary.org; lifedesks.org - collaboration software. Chris Thompson
www.diptera.org run now by Thomas Pape. See Steve Marshall book - 500 insects. 9187

9188 USA: CALIFORNIA: Humboldt Co. Prairie Creek Redwoods State Park, visitor's center,
N W 11 m, 04-Jun-2009 C. R. Nelson # 9188 & PB Frandsen 60 with Paul Bryan Frandsen.
also with Brad Sinclair, Steve Marshall, son Stevie Marshall, and Kevin Barber. Empididae,
Anthalia on Rhododendron flowers 9188

9189 USA: CALIFORNIA: Humboldt Co. Redwood National Park, Redwood Creek Trail, 1 mi
NE of Orick, N 41.29915 W 124.03339 17 m, 04-Jun-2009 C. R. Nelson # 9189 & PB
Frandsen 60 with Paul Bryan Frandsen.
also with Brad Sinclair, Steve Marshall, son Stevie Marshall, and Kevin Barber. After Paul
and I left the group we drove to Arcata/Eureka and ate a big late lunch at the Samoa
Cookhouse. It was as good as I remembered with Dave Lauck back in the 1980s. photos:
Tipulidae, Ctenophora sp.; Xylophagidae morning photo voucher with Steve Marshall I took
more pictures of another in a Grass Valley, CA motel room later that evening, out of
sequence; Gastropoda red colors. 9189

9190 USA: CALIFORNIA: Colusa Co. 7 mi West of Williams, Hwy 20, N 39.12704 W
122.28368 66 m, 04-Jun-2009 C. R. Nelson # 9190 & PB Frandsen 60 with Paul Bryan
Frandsen.
photos: wheat fields 9190

9191 USA: CALIFORNIA: Colusa Co. 1 mi West of Williams, Hwy 20, N 39.15249 W
122.18543 26 m, 04-Jun-2009 C. R. Nelson # 9191 & PB Frandsen 60 464WETRICE with
Paul Bryan Frandsen.
photos: flooded and drier rice fields 9191

9192 USA: CALIFORNIA: Placer Co. Bear Creek, Chalet Road, at Alpine Meadows Ski Area,
N 39.16892 W 120.23870 2087 m, 05-Jun-2009 C. R. Nelson # 9192 & PB Frandsen 60
465ALP with Paul Bryan Frandsen. Stayed last night in the Holiday Lodge Motel in Grass
Valley, California. We paid \$71 for a room with two beds. Nice enough, I had hoped to pay
\$50.

adults: photos: Taenionema . Prostoia. Photos: Inocelliidae, Negha sp.. Photos:
Eucapnopsis brevicauda. photos: sawflies, Tenthredinidae green. Mycetophilidae.
immatures: Ameletidae?, Heptageniidae, Taeniopterygidae, Blephariceridae. 9192

9193 USA: CALIFORNIA: Placer Co. Bear Creek, 0.7 mi West of Hwy 89, Alpine Meadows
Ski Area Road, N 39.18534 W 120.20822 1929 m, 05-Jun-2009 C. R. Nelson # 9193 & PB
Frandsen 60 465BEAR with Paul Bryan Frandsen. adults: Photos: Eucapnopsis, Zapada,
Zapada frigida?. or Prostoia?, or malenka?. Photos: Paraleuctra or Perlomyia. Doddsia,

Sweltsa? or Isoperla 1f. Photos: Perlodidae Perlinoidea? aurea?. Photos: Sialis, Photos: Scirtidae adult, Mycetophilidae. Heavy "rock snot" algae made the stream bottom extremely slippery. Not sure if this is didymo or not. (Didymosphenia geminata), a diatom. 9193

9194 USA: NEVADA: Washoe Co. Galena Creek, Hwy 431, Galena Creek Park, N 39.35430 W 119.85696 1914 m, 05-Jun-2009 C. R. Nelson # 9194 & PB Frandsen 60 465GALENA with Paul Bryan Frandsen. We collected near big parking lot near Hwy and road sheds. We saw an easier place to collect at the top of the picnic area as we were leaving. raining and snowing, no adults after beating.

in water: Doroneuria?; Sweltsa; Drunella, Epeorus; Heptageniidae large; Rhyacophila; Amphizoidae; Yoraperla. Saw dark eyed junco. 9194

9195 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 09-Jun-2009 C. R. Nelson # 9195 60 Tipulidae, in house 9195

9196 USA UTAH: Utah Co., Utah Lake, Provo Airport Dike, N 40.21808 W 111.72845 1369 m, 09-Jun-2009 C. R. Nelson # 9196 & class 60 Riley Nelson, David Betts, Paul Frandsen, Beau Walker, Ashley Coleman, Travis Beckett, Joanie Harbor bird watching, saw 37 species 9196

9197 USA UTAH: Utah Co., Squaw Peak Trail Overlook, path 200m south, overlooking Provo and Orem, N 40.29941 W 111.62447 1369 m, 11-Jun-2009 C. R. Nelson # 9197 & class 60 Riley Nelson, David Betts, Paul Frandsen, Beau Walker, Ashley Coleman, Travis Beckett, Joanie Harbor. Last day of class for Field Biology. Essay: Why are there so many kinds of things? and Why can't you find everything everywhere? The hillside has island patches of gambel's oak in a sea of open grasses. The hillside is steep so I sat down for stability, yet I still feel a bit like I would roll far if I didn't concentrate on staying where I am. Why shouldn't I roll? Might that not be good, and fun? I judge it would not be fun. It could hurt so I stay put by digging my heels into the grassy slope. The oaks would hold me here easily, but they would block my view of the valley and the flock of magpies. And I am enjoying seeing those living things. The oaks are being eaten by large numbers of green and black caterpillars, inchworms. Some of these scrubby oaks have most of their leaves eaten away, others haven't been touched. Why are some things found in one place and not another? I chose my seat on the hillside so I wouldn't slip and yet at the same time I wanted a view. We often do something for more than one reason and sometimes the reasons can be in conflict. Tradeoffs are part of much I want to do. Can it be the same with the multitude of things we see around us. What does the oak want? What makes it safe and happy? When is an oak tree having fun? they certainly please my eyes and gladden my heart. But are they happy? From my perch I see the oaks and at least four species of grass. Do the four grass species

know they are four species? Does grass know? Do plants know? What do I know? There are so many kinds of things. I saw sego lilies and mountain dandelions, yellow sweetclover, and geraniums, a turkey vulture's shadow cast over me as it glided wherever it went. I see rows of houses in the valley. I see the packets of new shingles sitting on my own house's roof. They are tanbark brown yet as I look around the valley not everyone chose tanbark brown. Some are green and others black. Some are tar and others tin. The leaves of the oak differ from those of the grass. The douglas fir's differ as well. Why do they differ? Are leaves shingles of trees? They overlap in a similar fashion. Even the grasses leaves overlap as they clasp and climb their stems. Why are there so many kinds of things There are so many and they aren't spread like frosting on a birthday cake but are dropped in globs on the landscape. In the valley the cottonwoods are lining the Provo River and its tributaries. The cottonwood must like, or need the water. The oaks sit like chocolate, green chocolate, chips on the brown grassy cookie. So water availability might explain the variety. Each takes advantage of the level of water to which it is accustomed. So I have at least a working answer to my first and second questions: so many kinds for so many opportunities; patches of trees or grass because opportunities are not spread evenly. I slid from the grass into the trees when the rain began falling. I judged a drier spot to be in the trees so I adapted by moving. Plants can't do that as fast as I so they sit in patches on the time scale I observe. But do they move to protection?

why study biology? to understand life and my relation to other living things.

What are pressing issues? diversity and distribution.

photos: Empididae photo voucher 9197

9198 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 11-Jun-2009 C. R. Nelson # 9198 60 photos rainbow and trees 9198

9199 USA UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 12-Jun-2009 C. R. Nelson # 9199 60 photos moldy bread 9199

9200 USA UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.246359 W 111.649528 1418 m, 12-Jun-2009 C. R. Nelson # 9200 60 helped by Justin Bagley

Source of fish: aquarium supply contacts photos: fish

5 bichir species:

2 gar species

Ask Justin Bagley 9200

9201 USA UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.246359 W 111.649528 1418 m, 15-Jun-2009 C. R. Nelson # 9201 60 helped by Jorden Marble. Obtained from Carolina Biological Supply Company photos: Leech, *Hirudo medicinalis* 9201

9202 USA UTAH: Garfield Co. Bryce Canyon National Park, Sunset Point, N 37.62263 W 112.16608 2434 m, 18-Jun-2009 C. R. Nelson # 9202 & family 60 photos: sunset Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, Andrea Nelson, and Amy Nelson photos: Say's phoebe in camp 9202

9203 USA UTAH: Garfield Co. Bryce Canyon National Park, Sunset Point, N 37.62263 W 112.16608 2434 m, 19-Jun-2009 C. R. Nelson # 9203 & family 60 photos: sunrise Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, Andrea Nelson, and Amy Nelson photos: composite flowers on the rim; morning photos then evening: white tailed prairie dogs 9203

9204 USA UTAH: Garfield Co. Bryce Canyon National Park, Navajo Loop, N 37.62263 W 112.16608 2434 m, 19-Jun-2009 C. R. Nelson # 9204 & family 60 photos: scenery and people. Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, Andrea Nelson, and Amy Nelson 9204

9205 USA UTAH: Garfield Co. Bryce Canyon National Park, Silent City near Navajo Loop, N 37.61727 W 112.16627 2306 m, 19-Jun-2009 C. R. Nelson # 9205 & family 60 466BRYSLLEE photos: scenery and people. Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, Andrea Nelson, and Amy Nelson photos: vultures 9205

9206 USA UTAH: Garfield Co. Bryce Canyon National Park, Queens Garden, N 37.62222 W 112.15890 2279 m, 19-Jun-2009 C. R. Nelson # 9206 & family 60 466BRYQUEE photos: scenery and people. Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, Andrea Nelson, and Amy Nelson. I also took some pictures at Zion National Park on 20 June 2009 at the Temple of Sinawava and Weeping Rock, nice stuff of family and scenery including the Great White Throne, forgot to enter it in my field notebook. photos: people, Asilidae Cyrtopogon with Hymenoptera prey 9206

9207 USA UTAH: Tooele Co. I-15 Rest Area, 9 mi East of Wendover, N 40.74055 W 113.85203 1268 m, 22-Jun-2009 C. R. Nelson # 9207 60 467WEN photos: scenery, salt flats island mountains, one panorama series 50 mm lens setting. 7:15am start provo; 938 at 9207, 12 minute stop 9207

9208 USA NEVADA: Elko Co. Pilot Peak, I-15, milepost 401 N 40.81649 W 114.18203 1422 m, 22-Jun-2009 C. R. Nelson # 9208 60 467PIL photos: scenery 9208

9209 USA: NEVADA: Elko Co. I-15 Halleck exit, Hwy 229, view to Ruby Mountains, N 40.95365 W 115.46233, 1609 m, 22-Jun-2009 C. R. Nelson # 9209 61 467HAL 0.5 mile

South of exit;

photos: scenery, one panoram 50 mm lens, lone with 24 mm lens.

1221 PDT in Winnemucca, NV ? Steak and Eggs, left Winnemucca, NV 1:00 pm 9209

9210 USA: CALIFORNIA: Nevada Co., Sagehen Creek, Sagehen Creek Field Station, N

39.43190 W 120.24357, 1940 m, 23-Jun-2009 C. R. Nelson # 9210 61 469SAGE

Empididae; photos of piute sculpin and trout underwater in the Fish House 9210

9211 USA: CALIFORNIA: Nevada Co., Prosser Creek, Hwy 89, 4.4 mi N of I-80 and Truckee,

N 39.39655 W 120.18710, 1732 m, 24-Jun-2009 C. R. Nelson # 9211 61 468PROSSER

photos: scenery of famous collecting spot of Needham and Usinger. Collected with Riley

Nelson, Bill Stark, Audrey Harrison, and Kelly Nye. Neothremma ? in 95% ethanol;

Pycnopsyche? 9211

9212 USA: CALIFORNIA: Placer Co., Martis Creek, Hwy 267, near Brockway Summit, N

39.27000 W 120.08557, 2037 m, 24-Jun-2009 C. R. Nelson # 9212 61 468PROSSER

photos: scenery of famous collecting spot of Needham and Usinger. Collected with Riley

Nelson, Bill Stark, Audrey Harrison, and Kelly Nye. from Mississippi photos Podmosta in

field; orchid, parasitic red plant, Delphinium?, Wyethia?, shack. Isoperla with Stark 9212

9213 USA: NEVADA: Washoe Co. Incline Village, Lake Tahoe, N 39.252 W 119.961 xx m,

24-Jun-2009 C. R. Nelson # 9213 & Mississippi 61 photos of Kelly Nye with butterfly

cookie. 9213

9214 USA: NEVADA: Washoe Co. viewpoint area, Lake Tahoe, N of Marlette Lake N

39.20904 W 119.92960 1908 m, 24-Jun-2009 C. R. Nelson # 9214 & Mississippi 61

468TAHOE photos: scenery 9214

9215 USA: NEVADA: Washoe Co. stream between Marlette Lake and Lake Tahoe, Hwy 28,

parking area, N 39.16805 W 119.92608 1963 m, 24-Jun-2009 C. R. Nelson # 9215 &

Mississippi 61 468MOSEL photos: Moselia, Paraleuctra, Psychodidae, Sweltsa,

Ptychopteridae, Mycetophilidae, Isoperla, Soyedina, sugar pine cones, saw more red

parasitic flowers. 9215

9216 USA: NEVADA: Washoe Co. Incline Village Overlook, N 39.26258 W 119.93025 2307

m, 24-Jun-2009 C. R. Nelson # 9216 & Mississippi 61 468inover photos: scenery, Lake

Tahoe wide view. 9216

9217 USA: NEVADA: Washoe Co. Galena Creek, Hwy 431, Galena Creek Park, N 39.35375

W 119.85890 1914 m, 05-Jun-2009 C. R. Nelson # 9217 & Mississippi. 61

Blephariceridae, Psychodidae Maruina, Doroneuria to Andy Sheldon, Sweltsa adults,

Isoperla adults. 9217

9218 USA: CALIFORNIA: Nevada Co., Sagehen Creek, Sagehen Creek Field Station, N 39.43190 W 120.24357, 1940 m, 25-Jun-2009 C. R. Nelson # 9218 61 469SAGE Mileage at end of trip: 1267 miles x .27/mile = \$342.09 (motorpool charges) photos: Sweltsa, Alloperla, Pteronarcys, Paraleuctra, Podmosta. Ptychopteridae, Tipulidae, Empididae, Oedemeridae, Cerambycidae. 9218

9219 RUSSIA: Siberia? skies over land near bay Zal Kresta, Bering Sea, N 66.26637 W 17972273, xx m, 30-Jun-2009 C. R. Nelson # 9219 61 469BERING photos from Korean Airlines jet. Chukchi Sea? east of Bering Straits. With Sarah Judson and Paul Frandsen. 9219

9220 RUSSIA: Siberia? islands and peninsula, Sea of Okhotsk, East of Kamchatka N 59.05764 E 154.61404, xx m, 30-Jun-2009 C. R. Nelson # 9220 61 469GULF photos from Korean Airlines jet. Okhotsk, scenery 9220

9221 MONGOLIA: Tov Aimag Ulaan Baatar, downtown, N 47.92413 E 106.90704, 1309 m, 1-2 July 2009 C. R. Nelson # 9221 61 470UBHOTEL Diplomat Hotel 9221

9222 MONGOLIA: Tov Aimag flight from Ulaan Baatar to Khovd, N x E x, x m, 03-Jul-2009 C. R. Nelson # 9222 61 If a MAIS site, then almost all the GPS readings in the coordinates section for the rest of the trip were taken by John Morse. My GPS readings are written to the side and entered in the notes section of each computer record 9222

9224 MONGOLIA Khovd Aimag Duut Soum davaa at sunset ~40 SW of Khovd N 47. 66758 E 91.29510 2905 m 04-Jul-2009 CR Nelson # 9224 61 471 SUNS People: cook helper Sundariya,

Drivers:

Batsuk, Davaa, Bymba, Amaraa, Tulga No MAIS # 9224

9225 MONGOLIA Khovd Aimag Duut Soum Burgedtein Gol 11 km S Buyant Gol N47.53183E091.28320, 2519 m 04-Jul-2009 CR Nelson # 9225 SW Judson, PB Frandsen & MAIS 61 471 20x5 yellow pans T, [Local inhabitants reported that stream was dry until 2 July 2009], late night camp 1, Photos start DSC 7865, end photo DSC 7933
GPS 471- N 47.53183 E 91.28324 elev 2519
end photos with ibex skull Capniidae, Nemouridae, Tipulidae, Bibionidae, Empididae
MAIS2009070401 9225

9225.5 MONGOLIA Khovd Aimag Duut Soum tributary of Burgedtein Gol, 11 km S Buyant Gol N47.53169 E091.28284 2521 m 4 July 209 CR Nelson # 9225.5 SW Judson, PB Frandsen & MAIS 61 471 small stream lateral to prior site MAIS2009070402 9225.5

9226 MONGOLIA Bayan-Olgii Aimag Deluun Soum Burgedtein Gol 3.5 km S Buyant Gol N 47.58121 E 91.17047 2049 m 04-Jul-2009 CR Nelson # 9226 SW Judson, PB Frandsen & MAIS 61 472 BURGLOW Photos of scenery and people, end DSC 7941 471BURGLOW N47.58139 E91.17019 elev 2041

20 x 5 yellow pan T Chloroperlidae, Perlodidae-Isoperla, Arcynopteryx, Blephariceridae, Deuterophlebiidae, Heptageniidae MAIS2009070403 9226

9227 MONGOLIA Bayan-Olgii Aimag Deluun Soum Buyant Gol 46 km SE Deluun N 47.60915 E 91.13574 1947 m 04-Jul-2009 CR Nelson # 9227 SW Judson, PB Frandsen & MAIS 61 472 BUYA Photos- Isoperla (female)

472BUYA N 47.60918 E 91.13573 elev 1947
sweepings Isoperla, Tipulidae MAIS2009070404 9227

9228 MONGOLIA Bayan-Olgii Aimag Deluun Soum Chigertei Gol 7 km W Deluun N 47.84396 E 90.64262 2165 m 4-5 July 2009 CR Nelson # 9228 SW Judson, PB Frandsen & MAIS 61 472 CIT Photos- Heptageniidae, Baetidae, Spider, Ranunculus, scenery; Video- people, scenery, yaks

472CHIT N 47.84389 E 90.64262 elev 2171
main camp 2 Heptageniidae, Baetidae, Spider, Asilidae MAIS2009070405 9228

9229 MONGOLIA Bayan-Olgii Aimag Deluun Soum Deluun town N 47.86709 E 90.70110 2157 m 05-Jul-2009 CR Nelson # 9229 & S. W. Judson, P. B. Frandsen, & MAIS Team 61 472 Deluun Photos of people
start photos No MAIS # 9229

9230 MONGOLIA Bayan-Olgii Aimag Deluun Soum Gantsmodi Gol, 33 km S Deluun N 47.62447 E 90.67194 2241 m 05-Jul-2009 CR Nelson # 9230 & S. W. Judson, P. B. Frandsen, & MAIS Team 61 472 Bleph Photos- Dicranomyia, Diura, Isoperla, Neumoridae nymphs and adults

472BLEPH N 47.62455 E 90.67070 elev. 2254m Dicranomyia, Diura, Isoperla, Nemouridae nymphs and adults, Blephariceridae adults abundant larvae and pupae, Deuterophlebiidae, Ephemerellidae MAIS2009070501 9230

9231 MONGOLIA Bayan-Olgii Aimag Deluun Soum Gantsmodi Gol 27 km S Deluun N 47.66395 E 90.71841 2196 m 5-6 July 2009 CR Nelson # 9231 & S. W. Judson, P. B. Frandsen, & MAIS Team 61 472CAMP Photos-Arcynopteryx, Diura, Chloroperlidae, Hydropsychidae-Arctopsyche, 20x5 yellow pans T

472CAMP N 47.66389 E 90.71843 elev 2179m
camp night 5-6 July 2009.

20 x 5 yellow pans

photos: Kazakh cemetery and birds photos: Arcynopteryx abundant; Diura male then female with eggs, ; Chloroperlidae, Trichoptera, Hydropsychidae-Arctopsyche, Taeniopterygidae.

One sample of Arcynopteryx, 80 per 2 square feet, equals 40 per square foot.

MAIS2009070502 9231

9232 MONGOLIA Bayan-Olgii Aimag Bulgan Soum Ulaagchiny Davaa SSE of Deluun N 47.50499 E 90.85914 3074 m 06-Jul-2009 CR Nelson # 9232 61 472ULAACHI Photos of scenery and people with the cowhead No MAIS # 9232

9233 MONGOLIA Bayan-Olgii Aimag Bulgan Soum headwaters of "Ulaagchiny Davaa" Gol ~48 km SSE Deluun N 47.34665 E 90.96017 2538 m 06-Jul-2009 CR Nelson # 9233 61 472ULAAFT Tipulidae, Hydrophilidae No MAIS # 9233

9234 MONGOLIA Bayan Olgii Aimag Bulgan Soum ,ÄúUlaagchiny Davaa Gol,,Äù ~50 km SSE Deluun N 47.45456 E 90.92342, 2631 m 06-Jul-2009 CR Nelson # 9234 & S. W. Judson, P. B. Frandsen, & MAIS Team 61 472ULALUNC 472ULALUNC N 47.45478 E 90.92349 elev 2650m

lunch stop below Ulaachiny Davaa. We called this stream by the davaa name because we couldn't find a name for it on any maps. Perlodidae, Nemouridae, Tipulidae, Saldidae, mixed flies MAIS2009070601 9234

9235 MONGOLIA Bayan Olgii Aimag Bulgan Soum Confluence of ,ÄúDood Asgat Uul Gol,,Äù and ,ÄúUlaagchiny Davaa Gol,,Äù ~30 km N Bulgan N 47.34660 E 90.96013 2519 m 06-Jul-2009 CR Nelson # 9235 & S. W. Judson, P. B. Frandsen, & MAIS Team 61 472ULAAFT Photos-Perlodidae-3 kinds, Neumoridae 472ULAAFT N 47.34665 E 90.96017 elev 2538m

after lunch

Perlodidae 3 kinds, mating pair;then Nemouridae 1, then 2, then 3, then 4 PV 4) finished with picture of a cow pie

Empididae, Sponge

photos Edelweiss flowers MAIS2009070602 9235

9236 MONGOLIA Bayan Olgii Aimag Bulgan Soum ,ÄúUlaagchiny Davaa Gol,,Äù ~30 km N Bulgan N 47.25228 E 91.03558 2371 m 06-Jul-2009 CR Nelson # 9236 & S. W. Judson, P. B. Frandsen, & MAIS Team 61 472GORGE Photos-scenery and people. waterfalls 472GORGE N47.25232 E 91.03539 elev 2403

gorge of "our" river.

Excellent photograph of Oyuna jumping across the river. many other water photographs saw Dipper, Perlodidae, Isoperla, Rhaphidiidae MAIS2009070603 9236

9237 MONGOLIA Bayan-Olgii Aimag Bulgan Soum Bulgan Gol, ~20 km N Bulgan N 47.08868 E 91.02686 2056 m 6-7 July 2009 CR Nelson # 9237 S. W. Judson, P. B. Frandsen, & MAIS Team 61 472BULGAN Photos-Tipulidae, Arctotipula larva, Neumoridae- on site, Chloroperlidae, Isoperla-2 spp, Perlodidae-2 spp (Arcynopteryx and smaller female), Epeorus, Ephemerellidae, Baetidae-2 spp, moth-iridescent green, Empididae.

472BULGAN N 47.08864 E 91.02679 elev 2073m

bath in camp; 20 x 5 T yellow pans.

Wayne Mathis and Jon Gelhaus also sampled a nearby ditch and assigned it to MAIS2009070701 many photos and photo vouchers; Nemouridae on site, Chloroperlidae, Isoperla 2 spp, Perlodidae 2 spp Arcynopteryx and smaller female, Asilidae, Epeorus, Ephemerellidae, Baetidae, moth-iridescent green, Empididae MAIS2009070604 9237

9237.5 MONGOLIA Bayan-Olgii Aimag Bulgan Soum Irrigation ditch near bridge, ~20 km N Bulgan N 47.08364 E 91.03882 2046 m 07-Jul-2009 9237.5 J Gelhaus, W Mathis 61 MAIS2009070701 9237.5

9238 MONGOLIA Bayan-Olgii Aimag Bulgan Soum Bulgan Gol, ~33 km NNW Bulgan N 47.14513 E 90.88934 2179 m 07-Jul-2009 CR Nelson # 9238 SW Judson, PB Frandsen, and S. W. Judson, P. B. Frandsen, & MAIS Team 61 473BULCROS video of Jeeps crossing both ways, crossed again on 8 July 2009, many more Arcynopteryx 473BULCROS N 47.14533 E 90.88961 elev. 2169 m Perlodidae: Arcynopteryx, Isoperla MAIS2009070702 9238

9239 MONGOLIA Bayan-Olgii Aimag Bulgan Soum Khar Nuur (Black Lake), ~50 km NNW Bulgan N 47.24133 E 90.75316 2563 m 07-Jul-2009 CR Nelson # 9239 S. W. Judson, P. B. Frandsen, & MAIS Team 61 473LAKE Photos-Nemouridae adults, Perlodidae adults Tipulidae 473Lake N 47.24118 E 90.75215 elev. 2560m Nemouridae adults, Perlodidae adults, Tipulidae several species, Saldidae MAIS2009070703 9239

9240 MONGOLIA Bayan-Olgii Aimag Bulgan Soum Northeast outfall river of Khar Nuur (Black Lake), ~50 km NNW Bulgan N 47.24368 E 90.75253 2560 m 07-Jul-2009 CR Nelson # 9240 S. W. Judson, P. B. Frandsen, & MAIS Team 61 473OUT 473OUT N 47.24267 E 90.75336 elev. 2563m Heptageniidae, Haliplidae, gammaridae? MAIS2009070704 9240

9241 MONGOLIA Bayan-Olgii Aimag Bulgan Soum Turgan Gol, ~40 km NNW Bulgan N 47.18333 E 90.77660 2492 m 7-8 July 2009 CR Nelson # 9241 S. W. Judson, P. B. Frandsen, & MAIS Team 61 473THINK Ger of Family- 473GER N 47.18333, E 90.77655 elev. 2491; Address of family: Bayan Olgii Aimag, Bulgan Soum, Bulgan Brigad, Herder Shukirleg. Shukirleg family.

Rock where I wrote essay 473THINK N 47.24267 E 90.75336 elev. 2563m
camped night of 7-8 July 2009 photos, in tray: Simuliidae; Tipulidae Arctotipula;
Brachycentridae; Limnephilidae; Leptoceridae; Psychomyiidae? or Philopotamidae?;
Perlodidae Arcynopteryx; Dytiscidae; Baetidae squat and slender; MAIS2009070705 9241

9242 MONGOLIA Bayan-Olgii Aimag Bulgan Soum haystacks and winter buildings, 26 km N
of Bulgan N 47.13062 E 90.91432 2161 m 08-Jul-2009 CR Nelson # 9242 SW Judson, PB
Frandsen, and S. W. Judson, P. B. Frandsen, & MAIS Team 61 473HAY Photos of Hay, Paul
Frandsen caught fast ants camel dung No MAIS # 9242

9243 MONGOLIA Bayan-Olgii Aimag Bulgan Soum Bulgan Gol, roadside pools, and drying
mud flats near ~28 km N Bulgan N 47.11549 E 90.94127 2122 m 08-Jul-2009 CR Nelson #
9243 S. W. Judson, P. B. Frandsen, & MAIS Team 61 473EPHY 473EPHY N 47.11558 E
90.94144 elev. 2124m
photos of Bobo? with mosquito Culicidae reaction and scorpion tatoo. Arcynopteryx,
Isoperla, Ephrydridae, Chloroperlidae, Stratiomyiidae, Tipulidae, Empididae-Hilara
MAIS2009070801 9243

9244 MONGOLIA Bayan-Olgii Aimag Bulgan Soum ,ÄúElstiin Davaa Gol,Äù ~15 km N
Bulgan N 47.03794 E 91.02931 2016 m 8-9 July 2009 CR Nelson # 9244 S. W. Judson, P. B.
Frandsen, & MAIS Team 61 474FENCE many photo vouchers, man stone, camped night of
8-9 July
474FENCE N 47.03827 E 91.02846 elev. 2015m
The man stone and distance shots of camp were between the site numbers, take your pick
on which to use for those shots Chrysomelidae, Chloroperlidae, Isoperla, Micropezidae,
Therevidae, Otitidae, Arcynopteryx MAIS2009070802 9244

9245 MONGOLIA Bayan-Olgii Aimag Bulgan Soum Bulgan Gol ~15 km N Bulgan N
47.03954 E 91.03448 2010 m 8-9 July 2009 CR Nelson # 9245 S. W. Judson, P. B. Frandsen,
& MAIS Team 61 474BULZ Photos- Nemouridae-2 spp, Chloroperlidae-2 spp, Isoperla-2
spp, bones in tree
474BULZ N 47.03709 E 91.03480 elev. 2027m
camped night of 8-9 July 2009; photos: birthday party for Jon Gelhaus (8 July) and Wayne
Mathis (his date is 10 July)
The man stone and distance shots of camp were between the site numbers, take your pick
on which to use for those shots Nemouridae-2 spp, Chloroperlidae-2 spp, Isoperla-2 spp,
Arcynopteryx, Empididae, Trichoptera, Micropezidae MAIS2009070803 9245

9246 MONGOLIA Bayan-Olgii Aimag Bulgan Soum Bulgan Gol ~20 km S Bulgan N 46.78006
E 91.30396 1801 m 09-Jul-2009 CR Nelson # 9246 S. W. Judson, P. B. Frandsen, & MAIS

Team 61 474FUEL 474FUEL N 46.78007 E 91.30378 elev. 1811m Perlidae 3 sizes
MAIS20009070901 9246

9247 MONGOLIA Bayan-Olgii Aimag Bulgan Soum Bulgan Gol ~25 km SE Bulgan at
confluence Tsonkol Gol, N 46.77005 E 91.32336 1792 m 9-10 July 2009 CR Nelson # 9247
S. W. Judson, P. B. Frandsen, & MAIS Team 61 474BULCON Numbering on vials collected by
Riley is MAIS2009070903, needs to be corrected CORRECTED FIELD LABELS 17 Aug 2009
by P. B. Frandsen.

474BULCON N46.77007 E 91.32352 elev. 1786m Asilidae-Stenopogon, Isoperla,
Tabanidae, mantispidae, Chrysomelidae, Alloperla, Triznaka
Photos- Asilidae, Isoperla green, mantispidae, Chrysomellidae with long legs,
MAIS2009070902 9247

9248 MONGOLIA Bayan-Olgii Aimag Bulgan Soum Tsonkhol Gol/Turgen Gol ~25 km SE
Bulgan N 46.76950 E 91.32759 1788 m 9-10 July 2009 CR Nelson # 9248 S. W. Judson, P. B.
Frandsen, & MAIS Team 61 474TURCROS numbers on vials and actual book wrong, written
as MAIS2009070902

474TURCROS N 46.76945 E 91.32761 elev. 1789m

Two names of gol on maps. Locals called it Tsonkol Gol, use that! Perlodidae-Arcynopteryx,
Isoperla, Alloperla?, centipede, Scarabaeidae, Carabidae, Tipulidae MAIS2009070903
9248

9249 MONGOLIA Bayan-Olgii Aimag Bulgan Soum confluence Bulgan and Tsonkhol Gols N
46.76714 E 91.32695 1792 m 10-Jul-2009 CR Nelson # 9249 SW Judson, PB Frandsen,
and S. W. Judson, P. B. Frandsen, & MAIS Team 61 474BTCONF Photos-mixing waters
No MAIS # 9249

9250 MONGOLIA Bayan-Olgii Aimag Bulgan Soum Springs by Bulgan Gol ~25 km SE Bulgan
N 46.77181 E 91.31750 1797 m 10-Jul-2009 CR Nelson # 9250 S. W. Judson, P. B.
Frandsen, & MAIS Team 61 spring streams entering Bulgan Gol above confluence with
Tsonkhol Gol Nemouridae, Chloroperlidae, Isoperla? MAIS2009071001 9250

9251 MONGOLIA Bayan-Olgii/Khovd Aimag Bulgan/Bulgan Soum Stream confluence of
Deed Nariin Gol with Bulgan Gol, ~55 km N Bulgan N46.55312 E091.38850 1509 m 10-Jul-
2009 CR Nelson # 9251 S. W. Judson, P. B. Frandsen, & MAIS Team 61 No GPS from CRN?
stream Asilidae 4-5 spp MAIS2009071002 9251

9252 MONGOLIA KKhovd Aimag Bulgan Soum Bulgan Gol. 55 km N of Bulgan N 46.55312 E
91.38850 1509 m 10-Jul-2009 CR Nelson # 9252 S. W. Judson, P. B. Frandsen, & MAIS

Team 61 Same GPS as other site, but sampled river Chloroperlidae MAIS2009071002b 9252

9255 MONGOLIA Khovd Aimag Bulgan Soum Bulgan Gol ~5 km N Bulgan N 46.13457 E 91.54169 1200 m 10-12 July 2009 CR Nelson # 9255 S. W. Judson, P. B. Frandsen, & MAIS Team 61 474Naadam Photos-Perlidae, Coccinelidae, Chrysomelidae, Dasypogon, Syrphidae

474NADAAM N 46.13457 E 91.54169 elev. 1231m

long camp Perlidae, Otitidae, Calopterygidae, Coccinelidae, Chrysomelidae, Leptogaster, Asilini, Dasypogon?, Syrphidae MAIS2009071003 9255

9256 MONGOLIA Khovd Aimag Bulgan Soum Springfed stream and oxbow of Bulgan Gol ~5 km N Bulgan N 46.13823 E 91.54096 1210 m 11-12 July 2009 CR Nelson # 9256 S. W. Judson, P. B. Frandsen, & MAIS Team 61 oxbow, GPS not taken by CRN Coenagrionidae MAIS2009071101 9256

9257 MONGOLIA Khovd Aimag Bulgan Soum Tsookhor Nuur (salt) ~10 km S Bulgan N 46.03004 E 91.62901 1155 m 12-Jul-2009 CR Nelson # 9257 S. W. Judson, P. B. Frandsen, & MAIS Team 61 474SALT Photos-Otitidae, Sciomyzidae-(photographed out of order of 9255 at 9259 then therevidae of 9259), red "aroid" plant, scenery, Stratiomyidae-Nemotelus, Tabanidae

474SALT N 46.03167 E 91.62868 elev. 1190m Otitidae, Sciomyzidae, Ephydriidae, Tipulidae, Chrysomelidae MAIS2009071201 9257

9258 MONGOLIA KKhovd Aimag Uyench Soum Uyench town N 46.05384 E 92.03249 1406 m 12-Jul-2009 CR Nelson # 9258 SW Judson, PB Frandsen, and S. W. Judson, P. B. Frandsen, & MAIS Team 61 Photos-nurse and doctor who bandaged my arm after bump in the van in Bulgan, families on motorocycles.

Pronounced Wench or Uiench by different people.

GPS not taken by CRN, from Paul Frandsen No MAIS # 9258

9259 MONGOLIA Khovd Aimag Uyench Soum UyENCHiin Gol ~8km N Uyench N 46.12450 E 92.05411 1475 m 12-Jul-2009 CR Nelson # 9259 S. W. Judson, P. B. Frandsen, & MAIS Team 61 Photos-Perlidae adults and nymphs, Pentatomidae, Curculionidae, Chrysomelidae, Tipulidae, Coccinelidae, Therevidae-gold; camp 12-13 July, sacrament meeting at dusk

camped 12-13 July 2009

474UYENCHG N 46.12435 E 92.05210 elev. 1475 m Perlidae adults and nymphs, Pentatomidae, Curculionidae, Chrysomelidae, Tipulidae, Coccinelidae, Therevidae-gold, silver MAIS2009071202 9259

9260 MONGOLIA Khovd Aimag Uyenich Soum Urd Jargalant Gol at Uyenchiin Gol ~25 km N
Uyenich N 46.26055 E 92.07277 1683 m 13-Jul-2009 CR Nelson # 9260 S. W. Judson, P. B.
Frandsen, & MAIS Team 61 474UYTRIB Photos-Cerambycidae-black and white
474UYTRIB N 46.26055 E 92.07277 elev. 1683m Chloroperlidae, Tipulidae, Cerambycidae,
Stratiomyidae, Glossosomatidae, mantispidae, potter wasp MAIS2009071301 9260

9261 MONGOLIA Khovd Aimag Uyenich Soum Uyenchiin Gol at Urd Jargalant Gol ~25 km N
Uyenich N 46.26107 E 92.07269 1677 m 13-Jul-2009 CR Nelson # 9261 S. W. Judson, P. B.
Frandsen, & MAIS Team 61 474UYTRIB at junction
474UYTRIB N 46.26086 E 92.07333 elev. 1687m Chloroperlidae, Perlodidae-Isoperla,
Rhagionidae, Hydropsychidae, spotted caddis, Glossosomatidae, Micropezidae,
Mycetophilidae MAIS2009071302 9261

9262 MONGOLIA Khovd Aimag Uyenich Soum Uyenchiin Gol ~40 km N Uyenich N46.38285
E92.13062 1939 m 13-14 July 2009 CR Nelson # 9262 S. W. Judson, P. B. Frandsen, &
MAIS Team 61 475UYESPR walked to prominence on left hand side 475TOP N46.38504 E
92.12712 elev 2159 m, wrote a poem
475UYESPR N 46.38257 E 92.13067 elev. 1960m
camp 13-14 July 2009 Chloroperlidae adults and 2 nymph species, Ameletidae, Perlodidae-
Isoperla, Ephemerillidae, Baetidae, Dytiscidae, Hydrophilidae-2 spp, Tipulidae-
Yamatotipula, MAIS2009071303 9262

9263 MONGOLIA Khovd Aimag Uyenich Soum spring ovoo trib of Uyenchiin Gol on E side
~40 km N Uyenich N 46.38249 E 92.13145 1939 m 13-14 July 2009 CR Nelson # 9263 S. W.
Judson, P. B. Frandsen, & MAIS Team 61 475SPOVOO Photo-sunset on red lichen granite
475SPOVOO N 46.38250 E 92.13136 elev. 1961m

Worked on translating Migrating Birds song:

head of Uyenich: Migrating birds sound/call like my olvers song. Migrating bids lik my lovers
eyelashes fly. wing beats like his/her wing beats like my overs eyelashes. Flaying alway
across the endless plain (steppe). Se me a son, my love, until the birds return again to me.
The beat of wings the flutter of her (his) eyes. Gliding over the endless steppes of our lives.
Migrating birds melodies of my lover's voice. Migrating birds wings beat in rhythm with my
lovers eyes. Flying together over the endless steppe. My lov my lov, sing a song. So many
attempts, now:

Migrating birds sing like my darling's voice.

Their wings beat like the flutter of your eyes.

Flying over the steppe so far away

Memories of our love and other days.

Sing to me, of our love. Of our love, sing to me. Until the time (missing a line) I can return to

thee.

Sing to me, of our love. Of our love, sing to me. Sing to me, migrating birds. Until like birds I can return to you. Chironomidae, Siphonuridae, Dytiscidae, Hydrophilidae-2 spp, Stratiomyidae MAIS2009071304 9263

9264 MONGOLIA KKhovd Aimag Most Soum Ikh Ulaan Davaa N46.59064 E92.14730 2890 m 14-Jul-2009 CR Nelson # 9264 S. W. Judson, P. B. Frandsen, & MAIS Team 61
475NRIKULA Group photo, Ovoo offerings, scenery
475NRIKULA N46.59020 E92.15063 elev. 2831 m
No MAIS # 9264

9265 MONGOLIA Khovd Aimag Most Soum Bodonchiin Gol ~8 km E Ikh Ulaan Davaa N 46.62011 E 92.23067 2544 m 14-Jul-2009 CR Nelson # 9265 S. W. Judson, P. B. Frandsen, & MAIS Team 61 475BODON Heavily grazed
475BODON N 46.62011 E 92.23074 elev. 2546 m Ephydriidae, Perlodidae-Arcynopteryx, Tipulidae, Empididae, Dolichopodidae MAIS2009071401 9265

9266 MONGOLIA Khovd Aimag Monkhhkharykhan Soum Bayan Sangiin Gol ~18 km SSE Monkhhkhayrkhan N 46.90953 E 91.93488 2339 m 14-15 July 2009 CR Nelson # 9266 S. W. Judson, P. B. Frandsen, & MAIS Team 61 Photos-scenery, Otitidae, Chironomidae, Chloropidae, stream loaded with sticky green algae, herdsman said this stream wasn't flowing two weeks ago. It is now a big stream 20 m wide about a km from Bortiin Gol CRN 9266. above Bort Bag Camp 14-15 July 2009
called Boorog Nuur Gol by John Morse initially (back in USA: check better map for a name of this gol, a tributary of Bortin Gol above Bortin Village. Use Bayan Sangiin) Chloroperlidae, Chironomidae, Ephydriidae, Otitidae, I pressed a flower here, common at many sites, I think it is a gentain, lavender in color. MAIS2009071402 9266

9267 MONGOLIA Khovd Aimag Monkhhkhayrkhan Soum Bortin Gol ~14 km SSE Monkhhkhayrkhan N 46.92136 E 91.91077 2311 m 15-Jul-2009 CR Nelson # 9267 S. W. Judson, P. B. Frandsen, & MAIS Team 61 476BORT Photos-Perlodidae, Chloroperlidae, Apataniidae Apatania americana, scenery
475BORT N46.92131 E 91.91076 elev 2311 m Perlodidae-Arcynopteryx, Chloroperlidae, Apataniidae-Apatania americana, Empididae, Tipulidae, Chironomidae MAIS2009071501 9267

9268 MONGOLIA KKhovd Aimag Monkhhkhayrkhan Soum Davaa above Bortiin Nuur N 46.97704 E 91.75078 2979 m 15-Jul-2009 CR Nelson # 9268 SW Judson, PB Frandsen, and

S. W. Judson, P. B. Frandsen, & MAIS Team 61 476MKK Photos-scenery, high mountains in white; Peak 4112 210 degrees from davaa, find the name of Peak 4112meters

off road davaa? Where are we? No MAIS # 9268

9269 MONGOLIA Khovd Aimag Monkhhayrkhan Soum Right ForkBortin Gol above small unnamed lake and below Shuukhai Nuur ~18 km SW Monkhhayrkhan N 46.92127 E 91.74464 2724 m 15-16 July 2009 CR Nelson # 9269 S. W. Judson, P. B. Frandsen, & MAIS Team 61 478CAMPMK Photos, scenery and people

Camp, cold, night 15-16 July 2009

478CAMPMK N 46.92026 E 91.74490 elev. 2725m

478MKCAMP N46.92040 E91.74467, elev 2736m

right fork looking SW up drainage Baetidae, Tipulidae-Arctotipula, Chironomidae

MAIS2009071502 9269

9270 MONGOLIA Khovd Aimag Monkhhayrkhan Soum trib. of Bortin Gol below Khokh Nuur ~19 km SW Monkhhayrkhan N 46.91475 E 91.74711 2708 m 15-16 July 2009 CR Nelson # 9270 S. W. Judson, P. B. Frandsen, & MAIS Team 61 478LEFT03+ Photos-Perlodidae, Opilionida

478LEFT03x N 46.91685 E 91.75012 elev. 2698m

Left, Khokh Nuur Chironomidae, Baetidae, Perlodidae, Opilionida MAIS2009071503 9270

9271 MONGOLIA KKhovd Aimag Monkhhayrkhan Soum Ovoo between forks of upper Bortiin Gol near camp 9269 N 46.92070 E 91.74770 2745 m 16-Jul-2009 CR Nelson # 9271 SW Judson, PB Frandsen, and S. W. Judson, P. B. Frandsen, & MAIS Team 61 478OVOO Photos of the magnificent ovoo with directions to compass on a spot viewing the High Altai. No MAIS # 9271

9272 MONGOLIA Khovd Aimag Monkhhayrkhan Soum Doloan Nuurin Gol ~25 km W Monkhhayrkhan N 47.05344 E 91.52650 2711 m 16-Jul-2009 CR Nelson # 9272 S. W. Judson, P. B. Frandsen, & MAIS Team 61 478SILT2 Photos-Isoperla potanini, Brachycentridae, Nephrotoma erebus, Dicranota, Limnephilidae-Dicosmoecus, Nemouridae, lunch

478SILT2 N 47.05342 E 91.52655 elev. 2711m Isoperla potanini, Brachycentridae, Nephrotoma erebus, Dicranota, Carabidae, Limnephilidae-Dicosmoecus, Nemouridae {Nemoura sp. female, photo voucher, curated C. R. Nelson 5 March 2013} MAIS2009071601 9272

9273 MONGOLIA Khovd Aimag Monkhhayrkhan Soum Dund Tsenkher Gol at bridge S edge of Monkhhayrkhan N 47.05474 E 91.84868 2090 m 16-Jul-2009 CR Nelson # 9273 S. W.

Judson, P. B. Frandsen, & MAIS Team 61 478MONKWTWN Photos-Perlodidae-Arcynopteryx, Empididae-Clinocerinae
478MONKWTWN N 47.05358 E 91.84832 elev. 2105m Perlodidae-Arcynopteryx, Empididae-Clinocerinae MAIS2009071602 9273

9274 MONGOLIA Khovd Aimag Monkhhkhayrkhan Soum Alag Tekhiin Gol ~20 km N
Monkhhkhayrkhan N 47.17388 E 91.85484 1913 m 16-17 July 2009 CR Nelson # 9274 S. W. Judson, P. B. Frandsen, & MAIS Team 61 478ALEKTEK camped night of 16-17 July, Photos-scenery, "sparrows", wagtail
478ALEKTEK N 47.17368 E 91.85725 elev. 1911m Chloroperlidae, Tipulidae
MAIS2009071603 9274

9275 MONGOLIA Khovd Aimag Monkhhkhayrkhan Soum DundTsenkher Gol ~20 km N
Monkhhkhayrkhan N 47.17455 E 91.86262 1901 m 16-17 July 2009 CR Nelson # 9275 S. W. Judson, P. B. Frandsen, & MAIS Team 61 478DUNDTSE Photos-scenery, Nemestrinidae out of order at 9278, old white cliffs with black intrusions, drunks threatened in camp
478DUNDTSE N 47.17418 E 91.85825 elev. 1910m Chloroperlidae, Simuliidae, Nemestrinidae, Syrphidae, Chamaemyiidae, Tipulidae MAIS2009071604 9275

9276 MONGOLIA KKhovd Aimag mankhan Soum Dund Tsenkher Gol N 47.23028 E 91.92175 1832 m 17-Jul-2009 CR Nelson # 9276 S. W. Judson, P. B. Frandsen, & MAIS Team 61 479Toll Photos-ger and ranger station
ger of old park ranger and toll man No MAIS # 9276

9277 MONGOLIA KKhovd Aimag mankhan Soum ditch of Dund Tsenkher Gol 25 km SW of mankhan (also known as Tugrug) N 47.23024 E 92.02737 17-Jul-2009 CR Nelson # 9277 S. W. Judson, P. B. Frandsen, & MAIS Team 61 479LUNCH Photos by Paul Frandsen-Green Scarab flew off. Green Scarab, saw Baetidae, Simuliidae, Brachycentridae No MAIS # 9277

9278 MONGOLIA Khovd Aimag Duut Soum Khojd Tsenkher Gol ~28 km SE Duut N 47.33992 E 91.86317 1762 m 17-18 July 2009 CR Nelson # 9278 S. W. Judson, P. B. Frandsen, & MAIS Team 61 Photos-river site, black eared kite, Periscelididae-from wounds on cottonwood trees, photos at 9284 Perlodidae-Isoperla~10 specimens, Tipulidae, Chloroperlidae Alloperla? 2-3 specimens, Periscelididae, Phoridae at tree wounds.
MAIS2009071701 9278

9279 MONGOLIA KKhovd Aimag mankhan Soum Tsenkherin Caves Khojd Tsenkher Gol N 47.34701 E 91.95554 1692 m 18-Jul-2009 CR Nelson # 9279 S. W. Judson, P. B. Frandsen, & MAIS Team 61 480CAVE Photos-cave, cave art, people, scenery No MAIS # 9279

9280 MONGOLIA KKhovd Aimag mankhan Soum Khojd Tsenkherin Gol N 47.33398 E 91.88358 1729 m 18-Jul-2009 CR Nelson # 9280 S. W. Judson, P. B. Frandsen, & MAIS

Team 61 480COIL Photos-coil broken in one of the Jeeps. We negotiated with the wife in a ger for a used coil at double price \$20,Ä¶ The husband was away and we got on our way without needing to return to mankhan for parts

480HEAT (overheated) N 47.41134 E 91.89594 elev. 2144m

480FANBRO(en) N 47.43565 E 91.89339 elev. 2272m

We then returned to near the cave and turned north on a track over the mountain trough a coanyon toward Tsagaanburgas No MAIS # 9280

9281 MONGOLIA KKhovd Aimag pass between drainage of KKhovd Tsenkher Gol and Tsagaanburgas Gol N 47.44892 E 91.87968 2411 m 18-Jul-2009 CR Nelson # 9281 S. W. Judson, P. B. Frandsen, & MAIS Team 61 480DAVAA photos: view to Jargalant Mountains No MAIS # 9281

9282 MONGOLIA KKhovd Aimag canyon between Khoyd Tsenkher Gol and Tsagaanburgas Gol N 47.48933 E 91.91376 1964 m 18-Jul-2009 CR Nelson # 9282 S. W. Judson, P. B. Frandsen, & MAIS Team 61 481CAMELSK bad route, road down through boulder field, camel skull No MAIS # 9282

9283 MONGOLIA KKhovd Aimag Duut Soum family ger near Tsagaanburgas 5 km S of Tsagaanburgas school N 47.54144 E 91.81538 1990 m 18-Jul-2009 CR Nelson # 9283 S. W. Judson, P. B. Frandsen, & MAIS Team 61 481GERS woman and child, I gave them my family photograph. They gave us some directions to Tsagaanburgas and some aruul (dried curd) No MAIS # 9283

9284 MONGOLIA Khovd Aimag Duut Soum Tsagaan Burgasii Gol ~15 km NE Duut N 47.55936 E 91.76095 1865 m 18-19 July 2009 CR Nelson # 9284 S. W. Judson, P. B. Frandsen, & MAIS Team 61 481TSABCAM Photographed Periscelididae fly out of order from CRN 9278. Camp 18-19 July 2009
481TSABCAM N 47.55946 E 91.76096 elev. 1879m Trichoptera, Stenopogon, Baetidae, Chloroperlidae 1 adult from Suvdaa MAIS2009071801 9284

9285 MONGOLIA Khovd Aimag Duut Soum Nevtiin Rashaan Springs jct Tsagaanburgasii Gol 9 km E of Duut N 47.53136 E 91.70514 2051 m 19-Jul-2009 CR Nelson # 9285 S. W. Judson, P. B. Frandsen, & MAIS Team 61 481NEVT 481NEVT N 47.53136 E 91.70511 elev. 2055m Chironomidae, Trichoptera pupae, Baetidae MAIS2009071901 9285

9286 MONGOLIA Khovd Aimag Duut Soum Tsagaanburgasii Gol at jct Nevtiin Rashaan Springs ~9 km E Duut N 47.53136 E 91.70514 2051 m 19-Jul-2009 CR Nelson # 9286 S. W. Judson, P. B. Frandsen, & MAIS Team 62 481NEVT Photos-Empididae, Ephydriidae-several genera, Tipulidae-Haplolabris, Chironomidae, Dolichopodidae, Saldidae

481NEVT N 47.53136 E 91.70511 elev. 2055m Baetidae, Empididae, Ephydriidae, Tipulidae, Chironomidae, Dolichopodidae, Stratiomyidae, Bombus, Saldidae MAIS2009071901 9286

9287 MONGOLIA Khovd Aimag Duut Soum Unnamed springfed stream ~ 2 km NE Duut N47.53568 E91.63985 2234 m 19-20 July 2009 CR Nelson # 9287 S. W. Judson, P. B. Frandsen, & MAIS Team 62 481TSAUP horrible ceratopogonidae, sweeps, site photos, no stoneflies, camp 19-20 July

471TSAUP N 47.53561 E 91.64001 elev. 2237m Ceratopogonidae, Baetidae, Tipulidae MAIS2009071902 9287

9288 MONGOLIA Khovd Aimag Bulangiin Ovoo on main road near SW corner of Khar US Nuur, ~45 km SE of KKhovd N 47.75214 E 92.03645 1237 m 20-Jul-2009 CR Nelson # 9288 S. W. Judson, P. B. Frandsen, & MAIS Team 62 481BULANG Photos- swallows and firewood No MAIS # 9288

9289 MONGOLIA Khovd Aimag Buyant Soum Khar Us Nuur shore ~40 km SE Khovd Aimag Center N 47.79460 E 92.05582 1163 m 20-Jul-2009 CR Nelson # 9289 S. W. Judson, P. B. Frandsen, & MAIS Team 62 481LAKE 481LAKE N 47.79403 E 92.05457 elev. 1163m Tipulidae, Ephydriidae, Asilidae-2 spp, Coenagrionidae (to Sosko), Tachinidae, Megachilidae-Coelioxys, Stratiomyidae-Nemotelus, Sphecidae MAIS2009072001 9289

9290 MONGOLIA Khovd Aimag Khovd Soum Khovd Gol ~3 km NW Myangad N 48.24562 E 91.90144 1172 m 20-Jul-2009 CR Nelson # 9290 S. W. Judson, P. B. Frandsen, & MAIS Team 62 481KKhovdR Photos-Perlidae at 9291 out of order, Nepidae at 9291 out of order, Tridactylidae out of order at 9291

481KHOVDR N 48.24708 E 91.90015 elev. 1181m
many Culicidae, chose not to camp here.

barren sides of big river after 5m riparian green many Culicidae, Perlidae-Paragnetina, Ephemeridae, Collembola, Empididae, Baetidae, Tridactylidae, Heptageniidae, Caenidae, Ephemerellidae, Nepidae, Hydrophilidae; Corixidae several, including tiny round adults; Gerridae, Ephydriidae.

tern, gull, kite; MAIS2009072002 9290

9291 MONGOLIA Khovd Aimag Khovd Soum Buyant Gol ~20 km NE Khovd Aimag Center N 48.15334 E 91.74301 1269 m 20-21 July 2009 CR Nelson # 9291 S. W. Judson, P. B. Frandsen, & MAIS Team 62 481BUYEAST Photos-scenery, site photos, Ephemeridae, Hydropsychidae

481BUYEAST N 48.15335 E 91.74303 elev. 1269m;

photos from 9290 out of order then followed with Ephemeridae from here.

Camp night 20-21 July 2009. about 2.5 km NE of Khovd City, fewer mosquitoes than 9290 but still many. Tipulidae, Culicidae, Ephemeridae, Hydropsychidae MAIS2009072003 9291

9292 MONGOLIA Khovd Aimag Buyant Soum Buyant Gol ~4 km SW Khovd Aimag Center N 47.97606 E 91.59662 1420 m 21-Jul-2009 CR Nelson # 9292 S. W. Judson, P. B. Frandsen, & MAIS Team 62 481BUYEND end of trip in Khovd. Camped night of 21-22 July 2009 481BUYEND N 47.97590 E 91.59663 elev. 1428m Asilidae-Stichopogon, Ant lion larva MAIS2009072101 9292

9293 MONGOLIA Khovd-Moron airline flight 22-Jul-2009 CR Nelson # 9293 SW Judson, PB Frandsen, & MAIS Team 62 Photos from air-Khar Us Lake, Khar Lake, Dorgon Lake, Bayan Lake, string of lakes No MAIS # 9293

9294 MONGOLIA Moron-Ulaan Baatar Airplane flight 22-Jul-2009 CR Nelson # 9294 SW Judson, PB Frandsen, & MAIS Team 62 Photos-larch forest, green countryside, winding roads and rivers No MAIS # 9294

9295 MONGOLIA Tov Aimag Ulaan Baatar 22-27 July 2009 CR Nelson # 9295 SW Judson, PB Frandsen, & MAIS Team 62 Photos-street scenes No MAIS # 9295

9296 USA CALIFORNIA Orange Co., Los Angeles Basin toward Anaheim from airline flight 27-Jul-2009 CR Nelson # 9296 SW Judson, PB Frandsen 62 Photos-city No MAIS # 9296

9297 USA NEVADA Clark Co., Lake Mead from airline flight 27-Jul-2009 CR Nelson # 9297 SW Judson, PB Frandsen 62 Photos-lake Overton Arm No MAIS # 9297

9298 USA UTAH Millard Co., Fillmore and nearby from airline flight 27-Jul-2009 CR Nelson # 9298 SW Judson, PB Frandsen 62 Photos-scenery No MAIS # 9298

9299 USA UTAH Juab Co., Eureka mines from airline flight 27-Jul-2009 CR Nelson # 9299 SW Judson, PB Frandsen 62 Photos-mines near Eureka No MAIS # 9299

9300 USA UTAH Utah Co., Utah Valley from airline flight 27-Jul-2009 CR Nelson # 9300 SW Judson, PB Frandsen 62 Photos-Utah Lake, Provo, Saratoga Springs, Mount Timpanogos 9300

9301 USA UTAH Utah Co., Provo, Nelson home, 500 East Foothill Dr. 27-Jul-2009 CR Nelson # 9301 62 Tipulidae-Tipula (Tipula) 9301

9223 MONGOLIA Khovd Aimag Khovd Soum Buyant Gol, 4.5 km SW of Khovd, N 47.97554 E 91.59475 1428 m 03-Jul-2009 CR Nelson # 9223 61 471BUYA 20 x 5 yellow pans T means 20 pans 5 meters apart next to and parallel with stream. At trap 10 a perpendicular transect of 5 traps was set, at 5 m intervals (at most later sites this was changed to 5, 10, 10, 10. 471BUYA 47.97571 E 91.59505 elev. 1483 m.

Participant list for whole trip:

Jon Gelhaus, John Morse, Barbara Hayford, Riley Nelson, Sigitas Podenas, Virginija Podeniene, Wayne Mathis, Oyuna, Suvdaa, Sosoburan (Soosko), Boloroo, Sarah Judson, Paul Frandsen, Jessica Wimmer, Chen Young, Sooj (chironomidae), Umba (Trichoptera), Bobo (Coleoptera), Amaraa researcher, Amaraa truck driver, Byamba driver, Davaa driver, Batsukh driver, Tulga driver, Gerlee cook, Doko cook, Sondria cook.

Perlodidae, Ephemeroptera MAIS #2009070101 9223

9302 USA UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.246359 W 111.649528 1418 m, 31-Jul-2009 C. R. Nelson # 9302 62 helped by Jorden Marble. Obtained from Carolina Biological Supply Company photos: zebra fish; white button mushrooms, Portobello mushroom, Dictyostelium discoideum (slime mold) with Enterobacter aerogenes; Physarum polycephalum plasmodium (slime mold); Rhizopus stolonifer; Aspergillus niger; Penicillium notatum. 9302

9200 USA UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.246359 W 111.649528 1418 m, 12-Jun-2009 C. R. Nelson # 9200 60 helped by Justin Bagley

Source of fish: aquarium supply contacts photos: fish

5 bichir species:

2 gar species

Ask Justin Bagley 9200

9303 USA UTAH: Utah Co., Provo, Edgemont North Stake Center, N 40.29343 W 111.64922 1495 m, 04-Aug-2009 C. R. Nelson # 9303 62 photos Young Women leaving for camp, Kaye Nelson, Sarah Peterson. 9303

9304 USA UTAH: Sanpete Co. Camp Mia Shalom, Girls Camp, Wilderness Camp Area, 4 km NE of Electric Lake, N 39.67660 W 111.25846 2797 m, 07-Aug-2009 C. R. Nelson # 9304 62 photos girls, camp, leaders 9304

9305 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95741 W 111.26763 1892 m, 10-Aug-2009 C. R. Nelson# 9305 62 watered lawn saw Diogmites grossus; Pompilidae 9305

9306 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95741 W 111.26763 1892 m, 12-Aug-2009 C. R. Nelson# 9306 & J. R. Nelson 62 watered lawns; unloaded and stacked cedar shake shingles Asilidae Megaphorus 9306

9307 USA: UTAH: Utah Co., Provo River, Heber Creeper trestle to Vivian Park N 40.35611 W 111.57238 1583 m, 12-Aug-2009 C. R. Nelson# 9307 & others, see field notes 62 floated rubber rafts down the Provo River with 38 Mutual kids and leaders from the ward,

Edgemont 10th Ward. Saw three beavers. Baetis emerging. Hydropsyche emerging. Saw three beavers. Baetis emerging. Hydropsyche emerging. 9307

9243.5 MONGOLIA Bayan-Olgii Aimag Bulgan Soum Bulgan town, N 46.888251E 91.050815 1896 m 08-Jul-2009 CR Nelson # 9243.5 S. W. Judson, P. B. Frandsen, & MAIS Team 61 photos: around town.

GPS from estimated location in Google Earth, couldn't see town, simply used 28 km from mud flats No MAIS # 9243.5

9308 USA: UTAH: Box Elder Co. Brigham City Cemetery, N 41.50228 W 112.00924 1373 m, 20-Aug-2009 C. R. Nelson# 9308 & J. K. Nelson 62 photos: graveside services of C. Morgan Hawkes. Hawkes family photos. Morgan died Sunday, 16 August 2009 at age 88. born 1 June 1921. 9308

9309 USA: COLORADO: Mesa Co., Unaweep Seep, Hwy 141, 8 mi NE of Gateway, N 38.76996 W 108.89018 1693 m, 21-Aug-2009 C. R. Nelson# 9309 & J. K. Nelson 62 481 photos: seep, big sandstone? or granite? or most probably quartzite? outcrop. This would be a nice place to collect West Creek, also has easier access at picnic area 2.4 mi S of this Unaweep Seep View Area. 9309

9310 USA: COLORADO: Mesa Co., Dolores River, Hwy 141, 8.3 mi s of Gateway, N 38.58486 W 108.92793 1414 m, 21-Aug-2009 C. R. Nelson# 9310 & J. K. Nelson 62 484 photos: scenery photos: tamarisk dead due to Chrysomelidae beetles 9310

9311 USA: COLORADO: Montrose Co., Hanging Flume, Dolores River, Hwy 141, 30 mi S of Gateway, N 38.39827 W 108.80945 1572 m, 21-Aug-2009 C. R. Nelson# 9311 & J. K. Nelson 62 485 photos: scenery, remains of placer mining flume of 1888 - 1891 9311

9312 USA: COLORADO: Dolores Co., Montezuma Creek, Hwy 141, 3.5 mi NE of Dove Creek, N 37.79677 W 108.94048 2089 m, 21-Aug-2009 C. R. Nelson# 9312 & J. K. Nelson 62 486 photos: sunflowers, beans. Abajo Mountains in background of sunflower field. Assorted phone numbers of bishops and missionaries in Cortez. 9312

9313 USA: COLORADO: Montezuma Co., Mesa Verde National Park, Spruce Tree House, and museum, N 37.18387 W 108.48736 2080 m, 21-Aug-2009 C. R. Nelson# 9313 & J. K. Nelson 62 photos: dwellings, museum gourd. 9313

9314 USA: COLORADO: Montezuma Co., Mesa Verde National Park, Cliff Palace, N 37.16785 W 108.47136 2088 m, 21-Aug-2009 C. R. Nelson# 9314 & J. K. Nelson 62 487CLIFF photos: dwellings, shadows, Kaye.

GPS at trailhead on rim 9314

9315 USA: COLORADO: Montezuma Co., Mesa Verde National Park, view to Abajo Mountains, N 37.29649 W 108.44152 2383 m, 21-Aug-2009 C. R. Nelson# 9315 & J. K. Nelson 62 photos: sunset. I think this was the Montezuma Valley Overlook. I guessed at the GPS reading. 9315

9316 USA: COLORADO: Montezuma Co., Mesa Verde National Park, Long House, N 37.18647 W 108.53635 2131 m, 22-Aug-2009 C. R. Nelson# 9316 & J. K. Nelson 62 487LONG photos: scenery 9316

9317 USA: COLORADO: Montezuma Co., Mesa Verde National Park, Sun Point, view to Cliff Palace, N 37.16500 W 108.47472 2065 m, 22-Aug-2009 C. R. Nelson# 9317 & J. K. Nelson 62 photos: scenery, view to Cliff Palace. 9317

9318 USA: COLORADO: Montezuma Co., Mesa Verde National Park, view to Hemenway House, N 37.15821 W 108.46150 1973 m, 22-Aug-2009 C. R. Nelson# 9318 & J. K. Nelson 62 photos: views to Hemenway House. Skeletons of burned trees, fires of 2000? or 1972? 9318

9319 USA: COLORADO: Montezuma Co., Mesa Verde National Park, Balcony House, N 37.16235 W 108.46497 2088 m, 22-Aug-2009 C. R. Nelson# 9319 & J. K. Nelson 62 487BALC lost lens cap on tall ladder. Next group recovered it for me. Photos: scenery 9319

9320 USA: COLORADO: Montezuma Co., Mesa Verde National Park, Park Point Fire Lookout, N 37.28063 W 108.46149 2600 m, 22-Aug-2009 C. R. Nelson# 9320 & J. K. Nelson 62 487TOP Highest point in the park. Two panoramas 18 mm setting. 6:45pm sun mellowing, dusty skies to the south, couldn't make out Shiprock. magnificent to the north, San Juan Mountains, Lizard Head? area; Sleeping Ute Mountain. 9320

9321 USA: COLORADO: Montezuma Co., Mesa Verde National Park, near tunnel, 0.8 km NW of tunnel, N 37.28944 W 108.43150 2345 m, 22-Aug-2009 C. R. Nelson# 9321 & J. K. Nelson 62 487DEER Kaye driving, narrowly missed a deer, no photos. 9321

9322 USA: UTAH: San Juan Co., Hovenweep National Monument, Ruins Canyon, Hovenweep Castle, Square Tower Group, N 37.38601 W 109.08084 1588 m, 23-Aug-2009 C. R. Nelson# 9322 & J. K. Nelson 62 487HOVEN photos: ruins and scenery, Kaye photos: Coreidae on Juniperus osteosperma, Utah Juniper 9322

9323 USA: UTAH: San Juan Co., Hovenweep National Monument, Cajon Ruins, 6 mi S of visitors center, N 37.29920 W 109.18406 1593 m, 23-Aug-2009 C. R. Nelson# 9323 & J. K. Nelson 62 487CAJON photos: ruins and scenery, Kaye 9323

9324 USA: UTAH: Grand Co., Colorado River, Hwy 128, Hittle Bottom, N 38.76023 W 109.32532 1245 m, 24-Aug-2009 C. R. Nelson# 9324 & J. K. Nelson 62 488HITT photos: put in spot for Adrift Adventures raft trip. Guide Kristen Yee, age about 25 years. photos: scenery 9324

9325 USA: UTAH: Grand Co., Colorado River, Hwy 128, lunch spot for raft trip, 0.5 miles W of Red Cliffs Ranch, N 38.68407 W 109.45821 1224 m, 24-Aug-2009 C. R. Nelson# 9325 & J. K. Nelson 62 488LUNCH lunch; photos: people Heptageniidae; Leptophlebiidae; Baetidae. 9325

9326 USA: UTAH: Grand Co., Colorado River, Hwy 128, take out at Sandy Beach, N 38.66306 W 109.50019 1233 m, 24-Aug-2009 C. R. Nelson# 9326 & J. K. Nelson 62 488END photos: Kaye 9326

9327 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 31-Aug-2009 C. R. Nelson# 9327 62 photos: Scenopinidae, *Scenopinus fenestralis* (Linnaeus); Tipulidae 9327

9328 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 04-Sep-2009 C. R. Nelson# 9328 62 Tipulidae: *Nephrotoma* sp. 9328

9329 USA: UTAH: Utah Co., Provo River, Provo, 2230 North Street bridge, N 40.26408 W 111.66390, 1389 m, 05-Sep-2009 C. R. Nelson# 9329 & students 62 488PRV Biology 100 and Entomology class. First 100 samples, about 15 of them. Lungface filmed, many photographs, most by Allison Ko while I helped. Video by Jacob ? and ?; Linda Freeman fell in the water. About 20 bio 100 students. Isoperla; Baetis; Hesperophylax; leeches, Hirudo?, freshwater sponge; Chironomidae; spiders; Gerridae; sculpin; *Brachycentrus* Trichoptera. 9329

9330 USA: UTAH: Utah Co., spring tributary of Provo River, Provo, 2230 North Street bridge, N 40.26408 W 111.66390, 1389 m, 05-Sep-2009 C. R. Nelson# 9330 & students 62 488PRV Biology 100 and Entomology class. Entomology students: Brittney McDermott, Craig Martin, Tenille Walker, Kaylynn Miller, Rachel Hill, Peter Meyers, Tristan McKnight, Steven Williams, Julie Fazio, Blaine Taylor, Sarah Judson TA. Sidestream same GPS as 9329 Elmidae; gammaridae; Lestidae *Archilestes grandis* to Brittney McDermott; Coenagrionidae; Aeshnidae; Libellulidae: *Sympetrum* and *Libellula pulchella*? 9330

9331 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m, 11-12 September 2009 C. R. Nelson# 9331 & students 62 Ran Mercury vapor light; Entomology class. Entomology students: Ben Buckner, Benjamin Groves, Shalene Hardman, Amber Kiser,

Sarah Labarge, Kara Longhurst, Sarah Marquez, Brittney McDermott, Craig Martin, Megan Neeley, Ryland Rigby, Aaron Sisson, Lauren Starrs, Blaine Taylor, Dan Taylor, Tenille Walker, Kaylynn Miller, Rachel Hill, Peter Meyers, Tristan McKnight, Steven Williams, Julie Fazio, Others, including a few spouses and friends. bees; Sphecidae on rabbitbrush; saw no Asilidae in evening; Alleculidae; monarch butterfly; Limnephilidae Hesperophylax; Gryllidae Oecanthus sp., photos: Solpugida.

morning: Asilidae Diogmites, one male with prey, others females. Rhipiceridae; Bombyliidae, many kinds seen. 9331

9332 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95340 W 111.26540 1808 m, 11-12 Sep 2009 C. R. Nelson # 9332 & students 62 454SOLD ran mercury vapor light; same people as 9331 Cicindelidae; Gomphidae; Perlodidae Isogenoides zionensis; Brachycentridae; Limnephilidae, Hesperophylax; Ephemerellidae; Noctuidae including Catocala sp. Berothidae to Craig Martin. 9332

9333 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883 W 111.26775 1860 m, 11-12 Sep 2009 C. R. Nelson # 9333 & students 62 same people as 9331 mosquito, Culicidae pupae and a few larvae in overflow pond; Gerridae 9333

9334 USA: UTAH: Utah Co., Provo, student apartment N 40.2 W 111.6 1400 m, 13-Sep-2009 C. R. Nelson # 9334 & Craig Taylor 62 given to C. R. Nelson by Craig Thomas of BYU Housing, who had it given to him by a student. C. R. Nelson thus was only the photographer, not the collector. photo Hemiptera Heteroptera Cimicidae, Cimex lectularius, bed bug 9334

9335 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 17-Sep-2009 C. R. Nelson# 9335 62 Tipulidae: Nephrotoma sp.; photos: leopard slug, Limacidae Limax maximus Linnaeus 9335

9336 USA: UTAH: Utah Co., Utah Lake, south end Provo Airport, N 40.20607 W 111.72913, 1298 m, 24-Sep-2009 C. R. Nelson# 9336 62 photos: Collembola; Entomobryidae, less than 2 mm; Planorbidae, Ferrissia freshwater limpets; Mesoveliidae Mesovelina mulsanti? 9336

9337 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.246359 W 111.649528 1418 m, 24-Sep-2009 C. R. Nelson # 9337 62 grown by Jorden Marble. Obtained from Carolina Biological Supply Company? photos: Neurospora crassa, lab colony on agar 9337

9338 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883 W 111.26775 1860 m, 25-26 Sep 2009 C. R. Nelson # 9338 & family & D. Ruiter.

62 Dave Ruiter, of Colorado, and I set uv light traps over night near spring. With Kaye, Andrea, Amy, Heather Hathaway, and Spencer . no caddisflies caught; Bibionidae Bibio sp. female 9338

9339 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95340 W 111.26540 1808 m, 11-12 Sep 2009 C. R. Nelson # 9339 & family & D. Ruiter. 62 454 SOLD Dave Ruiter, of Colorado, and I set uv light traps over night near spring. With Kaye, Andrea, Amy, Heather Hathaway, and Spencer . caught on caddisfly, *Oncocosmoecus*? large brown if genus right, unicolor? 9339

9340 USA: UTAH: Utah/Wasatch Counties Sheep Creek-Indian Creek to Strawberry Reservoir; up to Left Fork White River and out at Soldier Summit N 39 W 111 m, 26-Sep-2009 C. R. Nelson # 9340 62 traveled on back roads and explored the area. Left Fork of White River had beautiful fall colors. earlier in the day Dave Ruiter and I tried to go up Tie Fork but a deep water crossing turned us around 9340

9341 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.246359 W 111.649528 1418 m, 28-29 September 2009 C. R. Nelson # 9341 62 in lab aquarium photos: carp *Cyprinus carpio*; lobster *Homarus americanus*. I also photographed Gryllidae: *Oecanthus* sp. snowy tree cricket pair on my front porch at home in the early morning. 9341

9342 USA: UTAH: Box Elder Co. Woods Creek Duck Club, 2 miles southwest of Corinne, N 41.51702 W 112.14846 1284 m, 03-Oct-2009 C. R. Nelson # 9342 & A. J. Nelson 62 opening day of Duck Season.

Photos: Andrea and Riley Nelson; Ned & Kevin Young: Tod, Kyle, and Rick Young. Cam? (Kevin's friend)

spent night of 2-3 October 2009.

photos: Lestidae, green algae, pelican, sandhill crane; dead ducks: gadwall, blue wing teal, green teal. Saw: sandhill crane, pelican, harrier, kestrel, eared grebe, western grebe, double crested cormorant, snowy egret, great blue heron, white faced ibis, candad goose, mallard, green wing teal, blue wing teal, turkey vulture, ring necked pheasant, virginia rail, american coot, american avocet, greater yellow legs, wilsons snipe, california gull, rock dove, black billed magpe. 31 species. 9342

9343 USA: UTAH: Beaver Co. I-15 5 mi N of Beaver, N 38.37578 W 112.66270 1885 m, 08-Oct-2009 C. R. Nelson # 9343 & students 62 photos: fire, foothills of Tushar Mountains. Dan Taylor, Ryland Rigby, Tennille Walker, Sarah Marquez, Megan Neeley, Kaylynn Miller, Benjamin Grove, Ben Gillam, Brittney McDermott, Sariah Cottrell, Blaine Taylor, Peter Meyers, Shalene Hardman, Rachel Hill. 9343

9344 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Preserve, stream, N 37.14686 W 114.02392 857 m, 8-9 October 2009 C. R. Nelson # 9344 & students 62 490lyt photos: scenery, people.

Dan Taylor, Ryland Rigby, Tennille Walker, Sarah Marquez, Megan Neeley, Kaylynn Miller, Benjamin Grove, Ben Gillam, Brittney McDermott, Sariah Cottrell, Blaine Taylor, Peter Meyers, Shalene Hardman, Rachel Hill. photos: Sphecidae Glenostictia? sleeping. Stenopelmatidae pet; Asilidae Efferia albibarbis, Pompilidae Pepsis, Nicoletiidae in nest of Pogonomyrmex, Tetrigidae, crayfish, Trichoptera, Hydrophilidae, Dytiscidae. Season is late, few flowers, Chrysothamnus, Haplopappus?, Baccharis, Eriogonum. Photos later at Warm Springs: Gelastocoridae Gelastocoris oculatus 9344

9345 USA: UTAH: Washington Co. Beaver Dam Slope, Lytle Preserve, hillside near ranch house, N 37.14161 W 114.02185 847 m, 09-Oct-2009 C. R. Nelson # 9345 & students 62 490lyd photos: scenery, people.

Dan Taylor, Ryland Rigby, Tennille Walker, Sarah Marquez, Megan Neeley, Kaylynn Miller, Benjamin Grove, Ben Gillam, Brittney McDermott, Sariah Cottrell, Blaine Taylor, Peter Meyers, Shalene Hardman, Rachel Hill. on creosote bush, Larrea tridentata, photos: Tettigoniidae Insara, Acrididae Bootettix, Sintoria cazieri, Chrysomelidae golden Pachybrachis, Membracidae. Acrididae gray, Pentatomidae. Samples of wood of Yucca brevifolia, joshua tree and mesquite, Prosopis glandulosa, 9345

9346 USA: UTAH: Washington Co. Beaver Dam Slope, trough of Welcome Spring, 1 mi S of main Lytle Preserve Road, N 37.05937 W 113.91966 1036 m, 09-Oct-2009 C. R. Nelson # 9346 & students 62 490trof Dan Taylor, Ryland Rigby, Tennille Walker, Sarah Marquez, Megan Neeley, Kaylynn Miller, Benjamin Grove, Ben Gillam, Brittney McDermott, Sariah Cottrell, Blaine Taylor, Peter Meyers, Shalene Hardman, Rachel Hill. also stopped briefly at 490pipe: jct Welcome Springs road and Lytle Preserve Road, stopped to sweep desert plum, nothing. N 37.07158 W 113.91885 elev 1121 m. photos: Hadrurus scorpion, horned lizard, goldfish in trough. Thysanura. 9346

9347 USA: NEVADA: Clark Co. Warm Springs area near Apcar Stream, house, 10 mi N of Moapa, N 36.71524 W 114.71657 536 m, 9-10 October 2009 C. R. Nelson # 9347 & students 62 Photos: morning scenery washingtonia palms, Washingtonia filifera, California Fan Palm. Dan Taylor, Ryland Rigby, Tennille Walker, Sarah Marquez, Megan Neeley, Kaylynn Miller, Benjamin Grove, Ben Gillam, Brittney McDermott, Sariah Cottrell, Blaine Taylor, Peter Meyers, Shalene Hardman, Rachel Hill. Tephritidae, Blattellidae, Mantidae. photos: Pseudococcidae on Larrea tridentata with Crematogaster ants. 9347

9348 USA: NEVADA: Clark Co. Muddy River near Apcar Stream, Warm Springs area, 10 mi N of Moapa, N 36.7155 W 114.1146 534 m, 09-Oct-2009 C. R. Nelson # 9348 & students 62 same spot as 9351. ran mercury vapor light, few moths and Trichoptera. Dan Taylor, Ryland Rigby, Tennille Walker, Sarah Marquez, Megan Neeley, Kaylynn Miller, Benjamin Grove, Ben Gillam, Brittney McDermott, Sariah Cottrell, Blaine Taylor, Peter Meyers, Shalene Hardman, Rachel Hill.

Trichoptera Psychomyiidae? Leptoceridae Hydropsychidae; Blattellidae 9348

9349 USA: NEVADA: Clark Co. Cardy Lamb Spring Pool, Warm Springs area, 10 mi N of Moapa, N 36.72561 W 114.72843 552 m, 10-Oct-2009 C. R. Nelson # 9349 & students 62 490car Robert Johnson, Dan Taylor, Ryland Rigby, Tennille Walker, Sarah Marquez, Megan Neeley, Kaylynn Miller, Benjamin Grove, Ben Gillam, Brittney McDermott, Sariah Cottrell, Blaine Taylor, Peter Meyers, Shalene Hardman, Rachel Hill.

photos: Naucoridae Pelocoris biimpressus, Haliplidae Peltodytes, Libellulidae Libellula?, White river springfish, Belostomatidae 9349

9350 USA: NEVADA: Clark Co. North Fork Muddy River, Warm Springs area, 10 mi N of Moapa, N 36.72371 W 114.71841 552 m, 10-Oct-2009 C. R. Nelson # 9350 & students 62 490nf Robert Johnson, Dan Taylor, Ryland Rigby, Tennille Walker, Sarah Marquez, Megan Neeley, Kaylynn Miller, Benjamin Grove, Ben Gillam, Brittney McDermott, Sariah Cottrell, Blaine Taylor, Peter Meyers, Shalene Hardman, Rachel Hill.

photos: Elmidae Microcyloepus?, Naucoridae Ambrysus mormon Limnocoris moapensis, Hydropsychidae; Hydrophilidae, Corydalidae 9350

9351 USA: NEVADA: Clark Co. Muddy River near Apcar Stream, Warm Springs area, 10 mi N of Moapa, N 36.7155 W 114.1146 534 m, 10-Oct-2009 C. R. Nelson # 9351 & students 62 same spot as 9348. no photos. Robert Johnson, Dan Taylor, Ryland Rigby, Tennille Walker, Sarah Marquez, Megan Neeley, Kaylynn Miller, Benjamin Grove, Ben Gillam, Brittney McDermott, Sariah Cottrell, Blaine Taylor, Peter Meyers, Shalene Hardman, Rachel Hill.

Calopterygidae; Crambidae Petrophila; Hydropsychidae; Helicopsychidae; Corydalidae; Leptoceridae; Elmidae Microcyloepus; Coenagrionidae Argia. 9351

9352 USA: NEVADA: Clark Co. Moapa Valley National Wildlife Refuge, Warm Springs area, 10 mi N of Moapa, N 36.7104 W 114.7126 539 m, 10-Oct-2009 C. R. Nelson # 9352 & students 62 fish in a plexiglass sided stream, viewing area at a recovered, restored, section of stream. Dan Taylor, Ryland Rigby, Tennille Walker, Sarah Marquez, Megan Neeley, Kaylynn Miller, Benjamin Grove, Ben Gillam, Brittney McDermott, Sariah Cottrell, Blaine Taylor, Peter Meyers, Shalene Hardman, Rachel Hill.

photos: Moapa dace; white river springfish 9352

9353 USA: UTAH: Utah Co., Big Spring, South Fork Creek above Vivian Park, 3.4 mi SW of Hwy 189 N 40.31377 W 111.54215 1991 m, 18-Oct-2009 C. R. Nelson # 9353 62 490big photos: scenery. Two roads diverged in a yellow wood.

I also photographed people, including Michael Behe of intelligent design fame at a BYU seminar series on the new atheism on 16 October 2009. malenka 1 female 9353

9354 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 21-Oct-2009 C. R. Nelson # 9354 62 more photos dead with monocular microscope by Jorden Marble in Widtsoe Laboratory on 30 October 2009, eyes of spider, pedipalps. photos spider, Agelenidae? vouchered 9354

9355 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883 W 111.26775 1860 m, 24-Oct-2009 C. R. Nelson # 9355 62 blocked squirrel hole in culinary water valve box. saw Calliphoridae, Muscidae, Alucitidae 9355

9356 USA: UTAH: Utah Co., Camelback Overlook, Squaw Peak Trail, N 40.18783 W 111.56730 2390 m, 24-Oct-2009 C. R. Nelson # 9356 62 491camel photo: Provo Bay of Utah Lake. Drove from cabin up Diamond Fork down Right hand Fork Hobbie Creek up Left hand Fork Hobbie Creek up Pole Canyon to the Camelback and over and down the Squaw Peak Trail into Provo Canyon. 9356

9357 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883 W 111.26775 1860 m, 27-Oct-2009 C. R. Nelson # 9357 & P. F. Ashton 62 Adelgidae on planted blue spruce, *Picea pungens*. 9357

9358 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.246359 W 111.649528 1418 m, 29-Oct-2009 C. R. Nelson # 9358 & Clayton White 62 photos: mouse in mouse trap. yellow perch *Perca flavescens* in aquarium 9358

9359 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.246359 W 111.649528 1418 m, 30-Oct-2009 C. R. Nelson # 9359 & Jorden Marble. 62 photos: sugar snap peas and green beans from grocery store, laboratory mice from colony: black male, brown, red eyed female, white female, black haired babies, hairless pink babies. Photos: Diptera Drosophilidae *Drosophila* probably *melanogaster*, escapee in lab. 9359

9360 USA: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883 W 111.26775 1860 m, 31-Oct-2009 C. R. Nelson # 9360 & family 62 photos: Alucitidae, Scarabaeidae Aphodiinae. photos taken on 3 November 2009 in Widtsoe Laboratory 9360

9361 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 02-Nov-2009 C. R. Nelson# 9361 62 photos: house mouse caught by Lupita the cat. Photographed in Widtsoe Laboratory then escaped 9361

9362 USA: TEXAS: Travis Co. Southeast Metro Park, Del Valle along primitive hiking trail, N 30.1933 W 97.6116, 158 m, 05-Nov-2009 G. W. Lasley caught GWL0474, photos in Utah by C. R. Nelson# 9362 62 CRN not present at capture. shipped to CRN by GWL for photography in BYU Laboratory. This location is on the bench above the old homesite of the Pearce family on Onion Creek. photos: Asilidae Heteropogon, probably lautus, 5 specimens. photo voucher 1 preserved in 100% ethanol. photo vouchers 2-4 pinned. One more male pinned. Also photographed in curation box 8 November 2009 9362

9363 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 06-Nov-2009 C. R. Nelson# 9363 62 photo session in Widtsoe Laboratory: Hemerobiidae, Geometridae, Culicidae male (also photographed in curation box 8 November 2009; onion assortment & detail: yellow, purple, white, pearl, green, my garden, garlic, and leek. Most from Days's market. 9363

9364 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.246359 W 111.649528 1418 m, 11-Nov-2009 C. R. Nelson # 9364 62 photos: Madagascar hissing cockroach, Gromphadorhina portentosa. teneral juvenile. 9364

9365 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 12-Nov-2009 C. R. Nelson# 9365 62 photo: house mouse, Mus musculus. Caught by cats Heiva or Lupita in the middle of the night then taken by Amy Nelson. I photographed it early before going to work then Lupita lost it while playing with it. 9365

9366 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.246359 W 111.649528 1418 m, 12-Nov-2009 C. R. Nelson # 9366 63 photos: Madagascar hissing cockroach, Gromphadorhina portentosa. teneral juvenile. nearly adult, with mites crawling on it externally 9366

9367 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 16-Nov-2009 C. R. Nelson# 9367 63 photos: mold on beef stew; wild calico kitten tentatively named Ditto 9367

9368 USA UTAH: Utah Co., Provo, BYU, Martin Building, Room 456, N 40.24625 W 111.64984 1420 m, 19-Nov-2009 C. R. Nelson # 9368 63 photos: Duane Jeffery lecturing,

"Athens and Jerusalem: the LDS experience in paying homage to both." Jerry Johnson, Duane and Ward Rhees, Steve Peck, and Rick Gill. 9368

9369 USA UTAH: Utah Co., Provo, BYU, football stadium N 40.257202 W 111.655173 1414 m, 21-Nov-2009 C. R. Nelson # 9369 & J. R. Nelson 63 photos: BYU versus Air Force football game, crowds, Jason and Riley 9369

9370 USA UTAH: Utah Co., Lehi, Cabela's Outfitters, aquarium, N 40.43721 W 111.88920 1450 m, 27-Nov-2009 C. R. Nelson # 9370 & family 63 photos in aquarium: rainbow trout, brown trout, brook trout, cut throat trout, walleye, northern pike, bluegill sunfish, black crappie 9370

9371 USA: UTAH: Box Elder Co. Woods Creek Duck Club, 2 miles southwest of Corinne, N 41.51702 W 112.14846 1284 m, 28-Nov-2009 C. R. Nelson # 9371 & family 63 stayed over night in the cabin 27-28 November 2009; Riley, Kaye, Jason, Brandy, Andrea, and Amy. Tod Young visited us in the morning. photos: people, ducks, swan, flicker, scenery 9371

9372 USA: UTAH: Box Elder Co. Great Salt Lake, Rozel Point, Spiral Jetty, N 41.43779 W 112.66886 1281 m, 28-Nov-2009 C. R. Nelson # 9372 & family 63 photos: Spiral Jetty art, scenery, salt; Riley, Kaye, Jason, Brandy, Andrea, and Amy. Parked at: 491ROZEL N 41.43686 W 112.66388 elev. 1283 m. photos: brine shrimp in salt. Promachus in salt, Acrididae in salt 9372

9373 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.246359 W 111.649528 1418 m, 10-Dec-2009 C. R. Nelson # 9373 63 photos: trilobite fossil, *Elrathia kingii* from: USA: UTAH: Millard Co., House Range, in BYU Paleontology Museum collection.

photos: yeast, *Saccharomyces cerevisiae*, baker's yeast, from grocery store. 9373

9374 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 12-Dec-2009 C. R. Nelson# 9374 & J. K. Nelson 63 photos: Entomology and Lab students at a party at our house 9374

9375 USA: UTAH: Utah Co., Provo, BYU, M. L. Bean Museum, N 40.25359 W 111.64729, 1437 m, 19-Dec-2009 C. R. Nelson# 9375 & J. K. Nelson 63 photos: Wilmer Tanner at his 100th Birthday Party: David Tanner, Lane Tanner, Jordan Taner, Stan & Stella Welsh, Mary Tanner ----- 9375

9376 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 23-26 December 2009 C. R. Nelson# 9376 & family 63 photos: Christmas and Nelson Party, family groups. Rick and Lana Nelson.

Jerry and Sally Wright, William, Henry, Andrew.

Nick and Christine Nelson, Justin, Jacob, and James.

Chris and Mandy Nelson, Rex, Guy, and Ivy.

Riley and Kaye Nelson, Andrea and Amy. (Jason and Brandy in Arizona)

(Jean and Paul Belfiglio in California)

photos: kidney stone, passed 25 December 2009, 10:15pm photos: birds 9376

9377 USA: UTAH: Utah Co., Provo River, Provo, 2230 North Street bridge, N 40.26418 W 111.66389, 1296 m, 09-Jan-2010 C. R. Nelson# 9377 & students 63 491PR Biology 100 class: Maureen Delaney, Kasey Nelson, Colter Montgomery, James Pringle, Grant Harper, Ammon Dietz, Jessica Cray, Kathryn McLane, Philip Hurst, Camry Arbon, Tiffany Knab, Rachel Leber, Brandon Fine, Cecilia Fischer, Trever Nicoll and TAs: Steve Merkley, Christy Meyers, Kirsten Pierce, Jeffrey Walton. Air temp at 1:00pm 10°C, water temp 3.5°C First 100s: Baetis, Skwala, Hesperophylax, Simulium, Oligochaeta, Physa, leeches, sculpin, Chironomidae, Isoperla, Pteronarcella, Micrasema?, sponge, Asellus, gammarus, Argia. Birds: robin, Canada geese, magpie, cedar waxwings, dipper, black-capped chickadee, California gull, mallard duck, hummingbird female. 9377

9378 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 14-Jan-2010 C. R. Nelson# 9378 63 photos: Sherry Wheeler's cheap cologne and perfume accumulation 9378

9379 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 16-Jan-2010 C. R. Nelson# 9379 63 photos: shirts in closet, fish and turtles; silver dollars, sick, Metynnis (died a few days later); red tailed shark; Pangasius catfish; Texas map turtles; head and taillight tetra. 9379

9380 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 24-Jan-2010 C. R. Nelson# 9380 63 bird feeder: photos spotted towhee; dark eyed junco; house finch; scrub jay; white crowned sparrow, first of year. magpie 9380

9381 USA: UTAH: Utah Co., Provo, BYU Maeser Building N 40.244870 W 111.653288 1397 m, 28-Jan-2010 C. R. Nelson# 9381 63 Photos: Bunyan bug #2 fishhooks;

Notes from INHUT: Brian Cannon about Indians.

Attendance: Kevin Shelby, Riley Nelson, Katie Sorenson, Greg Fuller, Jillian Hale, Kiersten Cole, Laura Bennion, Anna McKean, Courtney Maynes, Haley Soper, Ivy Hazlett, Jonathan Nelson, Annie Pulsipher, Alexis Malmose, Erin Mitchell, Christina Nelson, John Bennion, Chris Hayes.

Bennion quick write: What if you woke up and were the opposite gender?

I feel soft, my hair tickles down my back further than it's tickled before. When I rub my eyes, the soot-stickiness of my hand is somehow different than I remember from any time before. I smooth my night shirt at my sides and I hit a speed bump at my hips where a straight-away was before. I'm different and start looking more than touching. I look around to see who might be looking. Do they sense the differences I'm feeling?

Anne Pulsipher: It was still done, in deed.

Assignment: Categorize "The Diversity of Life"? (Persuasive, Expressive, Informative, Literary). Wilson is worried about extinction. He expresses a love for the varied nature of life and meters his words with questions like, "What happens when physical catastrophe hits life? or How much force does it take to break the crucible of evolution? He is persuading me to care about extinction. Great Salt Lake for next week. What is mantic versus sophic? 9381

9382 USA: UTAH: Utah Co., stream above Schoolhouse Springs, above Alpine, above capped springs N 40.48643 W 111.75604, 1746 m, 30-Jan-2010 C. R. Nelson# 9382 63 491UP photos: people and scenery. Stream temperature 17°C;

Ben Buckner, Craig S. Martin, and Tristan A. McKnight. Capniidae nymphs and adult; Nemouridae nymphs; Tipulidae larvae; photos: Limnephilidae larvae in mica cases; Perlidae Hesperoperla nymphs; Leptophlebiidae; Baetidae; Heptageniidae. 9382

9383 USA: UTAH: Utah Co., stream below Schoolhouse Springs, above Alpine, below water tank N 40.47996 W 111.76169, 1662 m, 30-Jan-2010 C. R. Nelson# 9383 63 491DOWN photos: people and scenery.

Ben Buckner, Craig S. Martin, and Tristan A. McKnight. Capniidae nymphs and adults; Nemouridae nymphs; ; Perlidae Hesperoperla nymphs; Leptophlebiidae; Baetidae. Chloroperlidae; photos: Libellulidae nymph 9383

9384 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, American Fork River, canyon mouth bridge, N 40.43282 W 111.74792, 1542 m, 30-Jan-2010 C. R. Nelson # 9384 & students 63 Ben Buckner, Craig S. Martin, and Tristan A. McKnight. photos: Utacapnia logana PV1 female and PV2 male; Capnia gracilaria; Zapada 9384

9385 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 4 February 2010 C. R. Nelson# 9385 63 Hemerobiidae 9385

9386 USA: UTAH: Utah Co., Orem, church at 1075 South Geneva Road N 40.27771 W 111.72881, 1380 m, 04-Feb-2010 C. R. Nelson# 9386 63 Photos, wedding reception of Poerava Brodien and Limb Kemp mataute Hapairai. 9386

9327.5 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 02-Sep-2009 C. R. Nelson# 9327.5 62 sound recording of crickets, Gryllidae, 5:00 am 9327.5

9387 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 14-Feb-2010 C. R. Nelson# 9387 63 photos: copy of junior high art of C. R. Nelson from 1969 in George Sevy's health class. Chemical elements in the human body and food. 9387

9388 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m, 15-Feb-2010 C. R. Nelson# 9388 & family 63 photos: wood, tools, and scenery. With Kaye, Andrea, and Amy. 9388

9389 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 14-Feb-2010 C. R. Nelson# 9389 63 photos: cover of old The Monkees record album. "Meet the Monkees" 1966. David Jones, Mike Nesmith, Peter Tork, and Micky Dolenz. 9389

9390 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.24625 W 111.64984 1420 m, 19 February 2010, C. R. Nelson # 9390 & students 63 photo help from Jorden Marble and Ryan Widdison

Two types of peas planted. Arabidopsis thaliana planted and placed in cold treatment. photos: Arabidopsis thaliana seeds. Riley and Jorden with Tyrannosaurus rex jaw replica. Ichthyosaurus replica from Mark Belk's office 9390

9391 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 26-Feb-2010 C. R. Nelson# 9391 63 photos: tapeworm in cat scat with mouse parts, probably from Heiva the cat. photos in lab. 9391

9392 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.24625 W 111.64984 1420 m, 26 February 2010, C. R. Nelson # 9392 63 photos: amano shrimp from pet store. Pea seedlings in lab. also tapeworm from 9391 9392

9393 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.24625 W 111.64984 1420 m, 27 February 2010, C. R. Nelson # 9393 63 photos: Gryllidae, Acheta domesticus, house cricket 1 m 1 f. 9393

9394 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.24625 W 111.64984 1420 m, 2 March 2010, C. R. Nelson # 9394 63 photos and video: thesis defense of Sarah Judson. photos by Paul Frandsen, video by Kaye Nelson. Planted Arabidopsis seeds in pot taken out of cold treatment on 2 March 2010. 9394

9395 USA: UTAH: Utah Co., Provo, BYU, Brimhall Building, N 40.24609 W 111.65234 1418 m, 4 March 2010, C. R. Nelson # 9395 63 photos: sculpture of George Brimhall, BYU president 1903-1921. 9395

9396 USA: UTAH: Utah Co., Provo Library, Academy Square N 40.2104 W 111.65765 1392 m, 4 March 2010, C. R. Nelson # 9396 63 photos: children at insect presentation, some taken by Tristan McKnight some by me, Riley Nelson 9396

9397 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.24625 W 111.64984 1420 m, 5 March 2010, C. R. Nelson # 9397 63 Planted snap peas in medium orange pots 9397

9398 USA: UTAH: Utah Co., Provo, BYU, University Parkway, Pizza Pie Cafe N 40.26286 W 111.66812 1410 m, 5 March 2010, C. R. Nelson # 9398 & J. K. Nelson 63 photos at 30th birthday, party for Ben Parker 9398

9399 USA: UTAH: Salt Lake Co. Sandy, Living Planet Aquarium N 40.55931 W 111.87099 1384 m, 6 March 2010, C. R. Nelson # 9399 & family 63 Riley, Kaye, Jason, Brandy, and Andrea. photos: tiger salamander *Ambystomma tigrinum*, rainbow trout *Oncorhynchus mykiss*, tiger trout hybrid brown trutta x brook fontinalis, lake trout *Salvelinus namaycush*, canyon tree frog *Hyla arenicolor*, least chub *Lotichthys phlegothontis*, duckweed *Lemna minor*, bullfrog *Rana catesbiana*, june sucker *Chasmistes liorus*, woundfin *Plagopterus argentissimus*, black bullhead *Ameiurus melas*, grouper *Epinephalus?* sp., moray eels *Muraena?* spp., moon jellies jellyfish *Aurelia aurita*, sea nettles *Chrysaora fuscescens*, whites sea horse *Hippocampus whitei*, pacific giant octopus *Enteroctopus dolfeini*, soft coral, banded pipefish *Doryrhamphus dactyliophorus*, alligator pipefish *Syngnathoides biaculeatus*, saddle? damselfish *Amphiprion ephippium?*, dwarf caiman *Paleosuchus palpebrosus*, side necked turtle *Podocnemis*, angelfish *Pterophyllum scalare*, caecilian rubber eel *Typhlonectes natans*, freshwater stingrays *Potamotrygon leopoldi* and others, *Arapaima gigas* piraracu, red tailed catfish *Phractocephalus hemioliopterus*, arowana *Osteoglossum bicirrhosum*, surubim catfish *Pseudoplatystoma tigrinum?*, Tambaqui pacu *Colossoma macropomum*, electric eel *Electrophorus electricus*, matamata turtle *Chelonia fimbriatus*, *Anostomus anostomus*, black ghost knife fish *Apteronotus albifrons*, cardinal tetra *Paracheirodon axelrodi*, Marbled hatchetfish *Carnegiella strigata*, red bellied piranha *Pygocentrus* or *Serrasalmus nattereri*, giant clam *Tridacna*, *Monodactylus sebae*, clownfish ume tare unicorn fish *Naso* sp., lionfish, *Pterois volitans*, four eyed fish *Anableps anableps*. 9399

9400 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.24625 W 111.64984 1420 m, 8 March 2010, C. R. Nelson # 9400 63 photos: Arabidopsis thaliana in the two leaf seedling stage. 9400

9401 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.24625 W 111.64984 1420 m, 9 March 2010, C. R. Nelson # 9401 63 photos: pea plants, Burpee Guisante, 2 varieties,
Guisante Burpeeana Early, Tall seedlings? Green crinkled seeds
Guisante Snowbird, short seedlings? Yellow seeds
9401

9402 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.24625 W 111.64984 1420 m, 10 March 2010, C. R. Nelson # 9402 63 photos: pea plant seeds
Guisante Burpeeana Early, Tall seedlings? Green crinkled seeds
Guisante Snowbird, short seedlings? Yellow seeds
9402

9403 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.24625 W 111.64984 1420 m, 11 March 2010, C. R. Nelson # 9403 63 rosy periwinkle planted. Vinca my first kiss, Catharanthus roseus
Lot ZA23 Germ 90% To germ dark (think soil) 75-80°F 15 day origin Germany
9403

9404 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m, 13-Mar-2010 C. R. Nelson# 9404 & scouts 63 photos: group of scouts, Riley Nelson, Roger Wilson, Alec Chapman (senior patrol leader), Duncan McKay, Bronson Cornilles, Ben Dorton, Chandler Eyre. 9404

9405 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 15-Mar-2010 C. R. Nelson# 9405 63 photos: house finch and dark eyed juncos 9405

9406 USA: UTAH: Utah Co., Provo, Y Mountain Trail, East of BYU, north facing slope, N 40.242893 W 111.624421 1639 m, 18-Mar-2010 C. R. Nelson # 9406 & class 63 photos people and scenery. Riley Nelson, John Bennion, Brian Cannon, Kiersten Cole, Ivy Hazlett, Greg Fuller, Kevin Shelby, Haley Soper, Annie Pulsipher, Anna McKean, Katie Sorensen, Alexis Malmrose, Christina Nelson, Jonathan Nelson, Cat Curtis, Erin McGuire, Courtenay Maynes.

Not: Brian Hill, Laura Bennion, Chris Hayes (in hospital), Jillian Hale. 9406

9407 USA: UTAH: Carbon Co. Price, College of Eastern Utah Prehistoric Museum, Death Elevated, N 39.60043 W 110.80836 1643 m, 20-Mar-2010 C. R. Nelson # 9407 & J. K.

Nelson 63 491CEUPRIC We visited the museum after the baptism of Mychigan Mead, niece. photos: Utahraptor outside sculpture; Allosaurus and Camptosaurus sculpture; Dimetrodon, Camarasaurus, Allosaurus fragilis; Stegosaurus, Apatosaurus skull; Diplodocus skull; Utahraptor; Gastonia burgei; Brachiosaurus toes; Mammoth, Mammuthus columbi, Columbian Mammoth; Pilling figurines; arrowheads; Utahraptor model. 9407

9408 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 21-Mar-2010 C. R. Nelson# 9408 63 photos: black-capped chickadee and scrub jay 9408

9409 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.24625 W 111.64984 1420 m, 23 March 2010, C. R. Nelson # 9409 & Clayton White 63 photos: museum specimens of peregrine falcons, shaheen, from India, for Clayton White. 9409

9410 USA: UTAH: Utah Co., Provo, BYU, Marriott Center, N 40.25266 W 111.64867 1427 m, 23 March 2010, C. R. Nelson # 9410 63 photos: cedar waxwings 9410

9411 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.24625 W 111.64984 1420 m, 26 March 2010, C. R. Nelson # 9411 63 photos: Kentucky bluegrass, Poa pratensis, blooming. saw henbit blooming, shepherd's purse blooming 9411

9412 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 27-Mar-2010 C. R. Nelson# 9412 63 photos at bird feeder: house finch; dark eyed junco; spotted towhee 9412

9413 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 29-Mar-2010 C. R. Nelson# 9413 63 photos at bird feeder: white crowned sparrow immature; also saw American goldfinch in winter plumage 9413

9414 USA: UTAH: Utah Co., Provo River, Provo, 2230 North Street bridge, N 40.26418 W 111.66389, 1296 m, 30-Mar-2010 C. R. Nelson# 9414 & scouts 63 491PR ward 11 year old scouts: Riley Nelson, Danny Marini leader, Nathan Pond leader, Sam Haydon, Spencer Baird, Ethan Chapman, Jackson Wilcox, and Russell Hollingworth. Evening, after 6:30 pm saw in river: Skwala, Isoperla, Baetis, Hydropsyche, Annelida, sculpin, Limnephilidae. saw: dipper, mallard duck, robin 9414

9415 USA: UTAH: Utah Co., Provo River, Provo, 2230 North Street bridge, N 40.26418 W 111.66389, 1296 m, 02-Apr-2010 C. R. Nelson# 9415 63 491PR sampled aquatic insects for use in a lab with visiting 6th graders in the afternoon. saw: dipper, mallard duck saw: Skwala, Isoperla, Hydropsyche.

photos: branched green algae, 3 April 2010. Russ Rader and I identified it as a *Cladophora*. wasn't crunchy. 9415

9416 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, 1495 m, 04-Apr-2010 C. R. Nelson# 9416 63 photos at bird feeder: American goldfinch male in changing plumage 9416

9417 USA: UTAH: Utah Co., Provo River, Provo, 2230 North Street bridge, N 40.26418 W 111.66389, 1296 m, 04-Apr-2010 C. R. Nelson# 9417 & J. K. Nelson 63 491PR sampled aquatic insects for use in a lab with visiting 6th graders in the afternoon. algae from river and spring run, 3 species photographed at home

1. linear filamentous from spring run, mostly *Ulothrix* some *Spirogyra*.
2. dense branched deep green *Cladophora*.
3. hollow brown gelatinous. *Hydrurus foetidus*.

Ryan Widdison used the dissecting scope and photographed all three (four) on 7 April 2010. Ryan and I worked together on 8 April 2010 to use the Zeiss Compound microscope to photograph at 10x by 5x, 10x, 40x, 63x oil, 100x oil. 9417

9418 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95623 W 111.26763 1829 m, 9-10 April 2010 C. R. Nelson# 9418 & class 63 dinner time: walk to sawmill, talk about dialogue and debate by Erin McGuire. Watched Pee Wee's Big Adventure.

afternoon: talked with Paul, Scott, and Cassie Ashton at the cab in. They were there with many friends.

4 pm van: Riley Nelson, Erin McGuire, Annie Pulsipher, Courtenay Maynes, Lexi Malmrose, Kiersten Cole (left early), Anna McKean (left early), Kevin Shelby, and Katie Sorensen (left early). 5 pm car: Greg Fuller (left early), Haley Soper, Ivy Hazlett, Laura Bennion. 11 pm car: Christina Nelson, Jonathan Nelson. 9418

9419 USA: UTAH: Utah Co., Glass Cliffs, Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95547 W 111.27274 1952 m, 10-Apr-2010 C. R. Nelson# 9419 & class 63 020GLASS photos by several photographers: making and eating meat on a stick. Several people used my camera.

Riley Nelson, Erin McGuire, Christina Nelson, Jonathan Nelson, Courtenay Maynes, Lexi Malmrose, Annie Pulsipher, Kevin Shelby, Haley Soper photos: *Sceloporus graciosus*, sagebrush lizard 9419

9420 USA: UTAH: Utah Co., Wheeler Sawmill, spring and waterfall, Hwy 6, 12 mi East of Thistle, N 39.95883 W 111.26775 1860 m, 10-Apr-2010 C. R. Nelson# 9420 & class 63 photo: group at waterfall

Riley Nelson, Erin McGuire, Christina Nelson, Jonathan Nelson, Courtenay Maynes, Lexi Malmrose, Annie Pulsipher, Kevin Shelby, Haley Soper 9420

9421 FRANCE: Ile de France Province, Paris, Ile de la Cit√©, Notre Dame Cathedral N 48.85314 E 2.34888 34 m, 16-Apr-2010 C. R. Nelson# 9421 & J. K. Nelson 63 morning photo: Seine River and Notre Dame, then afternoon house sparrows in gardens on south side fed by little girl, starling, black robin on television antenna on Notre Dame. upstream end of Ile de la Cit√©. (Time of capture not set yet on camera, 8 hours early . . . (Utah time). Bookseller of the Seine. 9421

9422 FRANCE: Ile de France Province, Paris, Ile de la Cit√©, Sainte Chapelle, N 48.85539 W 2.34490 35 m, 16-Apr-2010 C. R. Nelson# 9422 & J. K. Nelson 63 google earth photo: Sainte Chapelle stained glass 9422

9423 FRANCE: Ile de France Province, Paris, Louvre Museum N 48.86109 W 2.33585 28 m, 16-Apr-2010 C. R. Nelson# 9423 & J. K. Nelson 63 Google Earth photos: Facade and Chateau, pyramid, Kaye, Winged Victory, Mona Lisa and Crowds, artifacts. 9423

9424 FRANCE: Ile de France Province, Paris, Eiffel Tower N 48.85823 E 2.29464 306 m, 17-Apr-2010 C. R. Nelson# 9424 & J. K. Nelson 63 020EIFFELA time corrected on camera. Photos: Eiffel Tower and riding to top, squared of sycamore trees, black robin, views of city, crows. 9424

9425 FRANCE: Ile de France Province, Paris, Quai Branley Museum N 48.86083 E 2.29640 32 m, 17-Apr-2010 C. R. Nelson# 9425 & J. K. Nelson 63 google earth Photos: living wall of museum, wet plantings, statues. 9425

9426 FRANCE: Ile de France Province, Paris, Notre Dame de Paris Cathedral, N 48.85314 E 2.34888 34 m, 18-Apr-2010 C. R. Nelson# 9426 & J. K. Nelson 63 google earth Photos: River and cathedral, bridges, buildings, apartments, views to Pompidou center from LDS church room. 9426

9427 FRANCE: Ile de France Province, Paris, Georges Pompidou Center Area N 48.86062 E 2.35147 64 m, 18-Apr-2010 C. R. Nelson# 9427 & J. K. Nelson 63 020POMP Photos: Mongolian Throat Singers, "Altai Khaikhan" from Uvs. In courtyard (bought a CD from them for \$10 (or 10 euro?) and talked). Views through "art" to MonMarte, Eiffel tower, plated painting-Agam 1968-1969. Acrylic rods and shimmering by Yvaral 1963-64. Other by Jesus Rafael Sota, Big double writing. Picasso-la Casserole email√©e, 1945. People sunning on Courtyard slope. 9427

9429 FRANCE: Ile de France Province, Paris, Place de la Concorde N 48.86594 E 2.32156 25 m, 19-Apr-2010 C. R. Nelson# 9429 & J. K. Nelson 63 022CONCORD Photos: Bronze

and gold fountain--mermaids and mermen with fish, view to arch of Triumph, men laying cobblestones, obelisk. 9429

9430 FRANCE: Ile de France Province, Paris, Musée de L'Orangerie, Jardin des Tuileries N 48.86583 E 2.32847 33 m, 19-Apr-2010 C. R. Nelson# 9430 & J. K. Nelson 63 google earth Photos: Kaye, Monet's Waterlilies--Les Nymphéas, Monet's Goat and quote--Les Nerfs surmenés, Le Village by Soutine 1923, Paysage by Soutine 1922-23, View up to cheese cloth grill, dimming and diffusing the light above the waterlilies; Outside Elm trees? Trimmed into a cube, plant in limestone wall, avenues of chestnuts. 9430

9431 FRANCE: Ile de France Province, Paris, Louvre Museum, Jardin des Tuileries N 48.86109 E 2.33585 35 m, 19-Apr-2010 C. R. Nelson# 9431 & J. K. Nelson 63 google earth Photos: Kaye at Pyramid, L'Entree des animaux dans l'Arche de Noe avant le Déluge by Vos year?, Jesus chassant les vendeurs de temple Jordaens 1645-1650. 9431

9432 FRANCE: Ile de France Province, Paris, Maubert market, Arrondissement 5, Left Bank 20-Apr-2010 C. R. Nelson# 9432 & J. K. Nelson 63 Photos: market day vegetables and fruit--tomatoes, newsstand, street scenes 9432

9433 FRANCE: Ile de France Province, Paris, Versailles Palace Museum and gardens N 48.80461 E 2.12115 123 m 20-Apr-2010 C. R. Nelson# 9433 & J. K. Nelson 63 022VERSAIL Photos: Ceilings, views to outside, roman busts, Marie Antoinette painting with children, ceiling detail--Mars Room, Louis XIV painting and reliefs, Joke: (trotting Einstein and Mark Tain), Hall of Mirrors, Kaye and Riley in Hall of Mirrors, Financial order restored 1622, Birds in Tapestry- l'Oeil de Boeuf Room, Courtyard, Louis XIV bedroom-death room, Sun ray for the Sun King, Black Roman, mixed white bust, Diana the huntress sculpture, Gardens and pools, tattooed and pierced man, Napoleon paintings; sculptures: La Place, Voltaire, Le Clerc? is this LaMarck, sugar, Charlemagne, Descartes, Napoleon; Napoleon painting, Expanded globe, Marie Adelaide de Savoie, Facade and gardens, Sycamore avenues, also some squared worm casings, Kaye Snail, dandelion, Les Vers de Versaille, calliphorid, bugs, Petit Trianon, Star Floor, harp, tears, Gallinule? coot on nest, frogs calling, heron, fake rock arches, Trianon, sheep, horses, crayfish fountain, sculpture sharpening knife, crows. 9433

9434 FRANCE: Ile de France Province, Paris, Musée d'Orsay, Courtyard N 48.86105 E 2.32550 28 m 21-Apr-2010 C. R. Nelson# 9434 & J. K. Nelson 63 google earth Hippopotamus sculpture outside. No photos allowed inside. 9434

9435 FRANCE: Ile de France Province, Paris, Rodin Museum near Hotel des Invalides N 48.85534 E 2.31582 39 m 21-Apr-2010 C. R. Nelson# 9435 & J. K. Nelson 63 google earth Photos: Thinker, Hotel des Invalides, and sculpture, woven floor, Dawn sculpture, les

Moissoneur 1888--Van Gogh, Marines--Menard 1916?, mains d'amants-1904 Rodin, Gardins and groves, Little water fairy 1903 Rodin, Le Pere Tanguy 1887 Van Gogh. 9435

9436 FRANCE: Ile de France Province, Paris, Louvre Museum, N 48.86109 E 2.33585 35 m, 21-Apr-2010 C. R. Nelson# 9436 & J. K. Nelson 63 google earth Photos: Aphrodite, Venus de Milo, Diana the huntress, Baby wrestling a duck, Satyr dance (coconut shell for Monty Python), Inside Pyramid, Outside Fountain. 9436

9437 FRANCE: Ile de France Province, Paris, Notre Dame de Paris Cathedral, Climb to towers N 48.85314 E 2.34888 34 m, 21-Apr-2010 C. R. Nelson# 9437 & J. K. Nelson 63 google earth Photos: Kaye shows blue food, walk upstairs to top, Gargoyles and fossil shells, View to Eiffel Tower, Sacre Coeur, Kaye, Gargoyles and Pompidou Center, Hunchbacks in bell tower, cross windows, Bell and ringing works, woodwork, stone carved prohibitions, lichens, top. 9437

9438 FRANCE: Ile de France Province, Paris, Notre Dame de Paris Cathedral, Point Zero for France N 48.85340 E 2.34879 35 m, 21-Apr-2010 C. R. Nelson# 9438 & J. K. Nelson 63 google earth Photos: Point zero of France, highway system in front of Notre Dame Cathedral, Romanians. 9438

9439 FRANCE: Ile de France Province, Paris, left bank, Rue LaGrange, 5th Arrondissement, Bistro des Tartes N 48.85340 E 2.34879 35 m, 21-Apr-2010 C. R. Nelson# 9439 & J. K. Nelson 63 google earth Photos: Kaye and Riley eating tartes; Kaye eats tartes. 9439

9440 FRANCE: Ile de France Province, Paris, left bank, 5th Arrondissement, 28 Bis Rue Cardinal Lemoine N 48.84782 E 2.35306 35 m, 22-Apr-2010 C. R. Nelson# 9440 & J. K. Nelson 63 google earth Photos: viewing outside our apartment balcony, also, evening, dinner on balcony. GPS reads -11m, google earth reads 35 m 9440

9441 FRANCE: Ile de France Province, Paris, Jardin des Plantes, Left Bank N 48.84157 E 2.35592 37 m, 22-Apr-2010 C. R. Nelson# 9441 & J. K. Nelson 63 google earth Photos: Zoology bulding, Musee Nationale de'Histoire Naturele,Bufon sculpture, starlings, carnataurus, Albertosaurus, Bambiraptor, Unenlagia, Protoceratops, Gilmoreosarus, Pteranodon, Tisintaosaurus, Ichthyornis, Acanthosaurus squid, Kaye and ammonite, foraminifera models-d'Orbiguy, Struthiomimus, Mene fossil fish moon fish, Naseus fossil, birds--tertiary, Pezosiren (manatee with legs), Notharctus primate Wyoming, hyracotherium, whale--Eubalaena australis, blue whale--Balaenoptera musculus,fish--big basking? shark Cetorhinus maximus, antelope and people--grand walk, in the grand gallery of evolution, Alcyonium digitatum in glass, Octopus in glass, cicadas, cockroaches-American, crocodile skull exploded, insect display--drawing, platypus, Kaye between cow and fish, stromatolite,evolution history displays, hawaiian birds, corn and uses, cicada

lampshade, dodo reconstruction, extinction rate, kiwi, elephant bird egg (about a foot), disparus at Rue Geoffres St. Hilaire, Rue Buffon creperie, old Pistachio tree 1700, Kaye and tree, family sharing photo and nature, girls and flowers, house sparrow, Aubrieta deltoidee, red headed bird in arch, buttercups, Ranunculus scleretus, crow, example gardens, pigeon--starling, lilac, poppies--papaver alpinum, dyers wood lsatis tinctoria, mysotis, shadows Nelson, Lamarck statue, Rue Cuvier. 9441

9443 FRANCE: Ile de France Province, Paris, Eiffel Tower, Trocadero N 48.86096 E 2.29030 38 m, 22-Apr-2010 C. R. Nelson# 9443 & J. K. Nelson 63 google earth photos 9443

9444 FRANCE: Ile de France Province, Paris, MonMarte Neighborhood, Sacre Coer, Anvers 23-Apr-2010 C. R. Nelson# 9444 & J. K. Nelson 63 photos 9444

9445 FRANCE: Ile de France Province, Paris, Pigalle, MonMarte, Moulin Rouge N 48.88405 E 2.33243 63 m 23-Apr-2010 C. R. Nelson# 9445 & J. K. Nelson 63 google earth photos 9445

9446 FRANCE: Ile de France Province, Paris, Place de la Bastille N 48.85288 E 2.36945 38 m 23-Apr-2010 C. R. Nelson# 9446 & J. K. Nelson 63 google earth 9446

9447 FRANCE: Ile de France Province, Paris, Ile de la Cite, Notre Dame Cathedral N 48.85471 E 2.34750 36 m, 23-Apr-2010 C. R. Nelson# 9447 & J. K. Nelson 63 google earth photos 9447

9448 FRANCE: Ile de France Province, Paris, Charles De Gaulle Airport N 49.00400 E 2.57110 95 m, 24-Apr-2010 C. R. Nelson# 9448 & J. K. Nelson 63 google earth Photos: Airport architecture and planes (Kaye's Photography) 9448

9449 USA: IDAHO-UTAH Airline Flight Delta 171, Approach to Salt Lake City 24-Apr-2010 C. R. Nelson# 9449 & J. K. Nelson 63 google earth Photos: Bear Lake, mantua and Dry Lake, Baldy and Ben Lomond Peaks, Pine View Reservoir, Hill Air Force Base, Farmington Bay, Great Salt Lake, Magna, Antelope Island. 9449

9450 USA: UTAH: Utah Co., Provo, BYU, Joseph F. Smith Building N 40.24858 W 111.65075 1420 m 28-Apr-2010 C. R. Nelson# 9450 & INHUT. Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Catherine Curtis, Erin McGuire, Amy Roper, Anna McKean, Annie Pulsipher, Kiersten Cole, Lexi Malmrose, Kevin Shelby, Courtney Maynes, Laura Bennion, Christina Nelson, Katie Sorensen, Jonathan Nelson, Chris Hayes, Ivy Hazlett, Greg Fuller, Jillian Hale. 64 google earth Photos: Group (missing Haley Soper); Forgot to change time on Nikon D 300 Camera from Paris Time. Note in XMP files until after 15 May 2010 INHUT 2010042801 9450

9451 USA: UTAH: Utah Co., Provo, BYU, Richards Building N 40.24991 W 111.65351 1406 m 28-Apr-2010 C. R. Nelson# 9451 & INHUT. Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Catherine Curtis, Erin McGuire, Amy Roper, Anna McKean, Annie Pulsipher, Kiersten Cole, Lexi Malmrose, Kevin Shelby, Courtney Maynes, Laura Bennion, Christina Nelson, Katie Sorensen, Jonathan Nelson, Chris Hayes, Ivy Hazlett, Greg Fuller, Jillian Hale. 64 google earth Photos: Gear Preparation INHUT 2010042801 9451

9452 USA: UTAH: Utah Co., Provo, BYU, Joseph F. Smith Building N 40.24858 W 111.65075 1420 m 29-Apr-2010 C. R. Nelson# 9452 & INHUT. Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Catherine Curtis, Erin McGuire, Amy Roper, Anna McKean, Annie Pulsipher, Kiersten Cole, Lexi Malmrose, Kevin Shelby, Courtney Maynes, Laura Bennion, Christina Nelson, Katie Sorensen, Jonathan Nelson, Chris Hayes, Ivy Hazlett, Greg Fuller, Jillian Hale. 64 google earth Photos: Group Photo (including Haley Soper) 9452

9453 USA: UTAH: Utah Co., Lehi N 40.3876 W 111.8549 1387 m 30-Apr-2010 C. R. Nelson# 9453 & INHUT. Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Catherine Curtis, Erin McGuire, Amy Roper, Anna McKean, Annie Pulsipher, Kiersten Cole, Lexi Malmrose, Kevin Shelby, Courtney Maynes, Laura Bennion, Christina Nelson, Katie Sorensen, Jonathan Nelson, Chris Hayes, Ivy Hazlett, Greg Fuller, Jillian Hale. 64 get google Photos: passing through, Kestrel, Pigeon, Starling, Maypre, California gull west of town, red tooled hawk, redwing blackbird, mourning dove, raven, meadow lark, Chicken (Cedar Fort, 16 mi N) brewers blackbird. INHUT 2010043001 9453

9454 USA: UTAH: Utah Co., Fairfield, Camp Floyd N 40.26041 W 112.09274 1477 m 30-Apr-2010 C. R. Nelson# 9454 & INHUT. Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Catherine Curtis, Erin McGuire, Amy Roper, Anna McKean, Annie Pulsipher, Kiersten Cole, Lexi Malmrose, Kevin Shelby, Courtney Maynes, Laura Bennion, Christina Nelson, Katie Sorensen, Jonathan Nelson, Chris Hayes, Ivy Hazlett, Greg Fuller, Jillian Hale. 64 023FAIR Photos: white winged doves and robin, brewers blackbird, robin, house finch, cross stich mystery in stagecoach Inn. Mark Twain and Richard Burton slept here. Bought book about Bear River Massacre. Osprey! Goat. INHUT2010043002 9454

9455 USA: UTAH: Utah Co., Fairfield Cemetery N 40.25232 W 112.09896 1491 m 30-Apr-2010 C. R. Nelson# 9455 & INHUT. Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Catherine Curtis, Erin McGuire, Amy Roper, Anna McKean, Annie Pulsipher, Kiersten Cole, Lexi Malmrose, Kevin Shelby, Courtney Maynes, Laura Bennion, Christina Nelson, Katie Sorensen, Jonathan Nelson, Chris Hayes, Ivy Hazlett, Greg Fuller, Jillian Hale. 64 023FCM

cemetery in greasewood flat, grave of Ralph Pike (beat Howard Spencer with rifle).
Brewers blackbird--paired off, INHUT2010043003 9455

9456 USA: UTAH: Tooele Co. Ophir N 40.36983 W 112.25492 1982 m 30-Apr-2010 C. R. Nelson# 9456 & INHUT 9453. Riley Nelson, John Bennion, Brian Cannon, Catherine Curtis, Erin McGuire, Amy Roper, Anna McKean, Annie Pulsipher, Kiersten Cole, Lexi Malmrose, Kevin Shelby, Courtney Maynes, Laura Bennion, Christina Nelson, Katie Sorensen, Jonathan Nelson, Chris Hayes, Ivy Hazlett, Greg Fuller, Jillian Hale, Haley Soper. 64 023OPHIR Lunch at reconstructed village. Flicker hummingbird flying INHUT2010043004 9456

9457 USA: UTAH: Tooele Co. Ophir, Ophir Hill Mine N 40.20650 W 112.29321 1982 m 30-Apr-2010 C. R. Nelson# 9457 & INHUT 9453. Riley Nelson, John Bennion, Brian Cannon, Catherine Curtis, Erin McGuire, Amy Roper, Anna McKean, Annie Pulsipher, Kiersten Cole, Lexi Malmrose, Kevin Shelby, Courtney Maynes, Laura Bennion, Christina Nelson, Katie Sorensen, Jonathan Nelson, Chris Hayes, Ivy Hazlett, Greg Fuller, Jillian Hale, Haley Soper. 64 Photo: Niel Thorton, guide for. Photos: in mine
Several thousand feet into the mountain
Discussion about Utah mining with Brian Cannon coopelite-- purplish
Iron pyrite-- yellow
galena-- slivery
black capped chickadee INHUT2010043005 9457

9458 USA: UTAH: Tooele Co. Rush Valley, Mid Valley, Pony Express market N 40.37008 W 112.25745 1551 m 30-Apr-2010 C. R. Nelson# 9458 & INHUT 9453. Riley Nelson, John Bennion, Brian Cannon, Catherine Curtis, Erin McGuire, Amy Roper, Anna McKean, Annie Pulsipher, Kiersten Cole, Lexi Malmrose, Kevin Shelby, Courtney Maynes, Laura Bennion, Christina Nelson, Katie Sorensen, Jonathan Nelson, Chris Hayes, Ivy Hazlett, Greg Fuller, Jillian Hale, Haley Soper. 64 023RUSHPON discussion on Saltbush, Deseret chemical Depot, with Brian Cannon
INHUT2010043006 9458

9459 USA: UTAH: Tooele Co. Bennion Ranch, Greenjacket SE of Benmore N 40.01262 W 112.39951 1824 m 30-Apr-2010 C. R. Nelson# 9459 & INHUT 9453. Riley Nelson, John Bennion, Brian Cannon, Catherine Curtis, Erin McGuire, Amy Roper, Anna McKean, Annie Pulsipher, Kiersten Cole, Lexi Malmrose, Kevin Shelby, Courtney Maynes, Laura Bennion, Christina Nelson, Katie Sorensen, Jonathan Nelson, Chris Hayes, Ivy Hazlett, Greg Fuller, Jillian Hale, Haley Soper. 64 024 GREEN set up camp 6:00 PM INHUT2010043007 9459

9460 USA: UTAH: Tooele Co. Bennion Ranch, Greenjacket SE of Benmore N 40.01262 W 112.39951 1824 m 1-2 May 2010 C. R. Nelson# 9460 & INHUT 9453. Riley Nelson, John Bennion, Brian Cannon, Catherine Curtis, Erin McGuire, Amy Roper, Anna McKean, Annie Pulsipher, Kiersten Cole, Lexi Malmrose, Kevin Shelby, Courtney Maynes, Laura Bennion, Christina Nelson, Katie Sorensen, Jonathan Nelson, Chris Hayes, Ivy Hazlett, Greg Fuller, Jillian Hale, Haley Soper. 64 024 GREEN Photos: cattle work, rabbit brush, fence work; Killdeer, curlew. May 2nd--add Brian Hill and Catherine Curtis. Photo: 3 May 2010--group shot at cabins. Early Mornings:

Robins, woodpecker--downy or sapsuckers, magpie, mourning dove, chicken--rooster.

May 2nd--Rufous-sided towhee, turkey vulture. INHUT2010050101 9460

9461 USA: UTAH: Tooele Co. Vernon, LDS Church N 40.09537 W 112.43291 1676 m 02-May-2010 C. R. Nelson# 9461 & INHUT & 9460. Add Libby Shelby. Riley Nelson, John Bennion, Brian Cannon, Catherine Curtis, Erica McGuire, Amy Roper, Anna McKear, Annie Pulsipher, Kiersten Cole, Lexi Malmrose, Kevin Shelby, Courtney Maynes, Laura Bennion, Christina Nelson, Katie Sorensen, Jonathan Nelson, Chris Hayes, Ivy Hazlett, Greg Fuller, Jillian Hale, Haley Soper, Brian Hill, Catherine Curtis. 64 Google Earth Rather Heavy snow last night; HOBO Thermometer to: Chris Hayes and Christina Nelson; Bro. Rigby, Testimonies, young women, turquoise--- A railroad worker who was sidetracked. To dream the impossible dream; this is my quest. High priest group meeting: What will we do to make Vernon and Lofgreen Zion?--Brother Lee (Ray Bradbury look-alike). It is hard to stay on right path. High Counsel Wife--Avoid self awareness groups. Cowboy suit--I apologize if I'm hoarse but I've been working with cattle and horses. And we had good weather. You can blame the snow on me. Ask Him, then remember to thank Him. Them calves was dry. Young Men-- I just wanted to talk to Jesus and ask him questions. Red flower young woman--I'm getting away, slowly but surely. Blue sweater sherry--I'm still trying to get away of last fast and testimony meeting... Liz the visiting teacher in the rain. Them Bennions, they're all a little weird. Sister Eckess and Uncle Cats episode. Sergene: I'm no Bennion, that's Colin's fault (her husband). Scarf cowboy-- Them Bennions are weird and Colin rubbed off on me. My relationship with God isn't much indoors. I see him in the snow on the 1st and second of May, and the green grass. John Bennion--defend my family. I know more Bennions than any of you. And they are weird. Cal was my mentor. And fast and testimony next Sunday school. Tip your fiery darts with arsenic and swine flu. High Priests Group: Zion and Babylon by Elder Christofferson--What does harboring a grudge do to your own soul? INHUT2010050201 9461

9462 USA: UTAH: Tooele Co. Vernon Reservoir 7.5 mi S of Vernon. N 39.997789 W 112.388478 1891 m 02-May-2010 C. R. Nelson# 9462 CR Nelson, Katie Sorenson, Allen Mitchell 64 Hillside, Google Earth On reservoir, Western grebes, eard grebes. Osprey diving.

Three chaining treatments. None- Pinyon/ Juniper forest. 35 years ago hillside grass. 3 years ago skeletons of downed trees. Photos: sunset, cottontail rabbit. INHUT2010050201 9462

9463 USA: UTAH: Tooele Co. Sheeprock Mountains, Harker Canyon Ascent to Dutch Peak N 39.96001 W 112.48031 2618 m 03-May-2010 C. R. Nelson# 9463 & INHUT & 9460. Riley Nelson, John Bennion, Brian Cannon, Catherine Curtis, Erin McGuire, Amy Roper, Anna McKean, Annie Pulsipher, Kiersten Cole, Lexi Malmrose, Kevin Shelby, Courtney Maynes, Laura Bennion, Christina Nelson, Katie Sorensen, Jonathan Nelson, Chris Hayes, Ivy Hazlett, Greg Fuller, Jillian Hale, Haley Soper, Brian Hill, Catherine Curtis. 64 026LUNCH Photos: Scenery and people

Start 025SHAR 9:30 AM N 39.97968 W 112.48019 elev. 2061 m

026SNAKES N 39.96333 N 112.97980 elev. 24998 m Photos wandering garter snakes.

026CACTUS-first opuntia N 39.96663 W 112.48071 elev. 2393 m

026CACTUS2-- more opunia N 39.96218 W 112.48005 elev. 2530 m

02_LUNCH Boreidae photos in camp 9466 Fritillaria

Erythroneum

Cactus

INHUT2010050301 9463

9464 USA: UTAH: Tooele Co. Sheeprock Mountains, Dutch Peak N 39.96001 W 112.48031 2618 m 03-May-2010 C. R. Nelson# 9464 & INHUT & 9460. Riley Nelson, John Bennion, Brian Cannon, Catherine Curtis, Erin McGuire, Amy Roper, Anna McKean, Annie Pulsipher, Kiersten Cole, Lexi Malmrose, Kevin Shelby, Courtney Maynes, Laura Bennion, Christina Nelson, Katie Sorensen, Jonathan Nelson, Chris Hayes, Ivy Hazlett, Greg Fuller, Jillian Hale, Haley Soper, Brian Hill, Catherine Curtis. 64 026DUTCH Photos: Scenery and people, Opuntia cactus at summit

On peak at 2:30 PM two rocks from top

ravens

INHUT2010050302 9464

9465 USA: UTAH: Tooele Co. Sheeprock Mountains, Dutch peak descent, Bennion Creek and Canyon N 39.94918 W 112.46666 2334 m 03-May-2010 C. R. Nelson# 9465 & INHUT 64 026BENUP Photos: Depression Era lecture by Brian Cannon, People and Scenery Aquatic sampling, first 50 sample, width/depth and abiotic, some manure in stream samplers: Riley Nelson, Brian Cannon, Ivy Hazlett, Jonathan Nelson, Anie Pulsipher, Kiersten Cole, Lexi Malmrose.

& INHUT & 9460. Riley Nelson, John Bennion, Brian Cannon, Catherine Curtis, Erin McGuire, Amy Roper, Anna McKean, Annie Pulsipher, Kiersten Cole, Lexi Malmrose, Kevin

Shelby, Courtney Maynes, Laura Bennion, Christina Nelson, Katie Sorensen, Jonathan Nelson, Chris Hayes, Ivy Hazlett, Greg Fuller, Jillian Hale, Haley Soper, Brian Hill, Catherine Curtis. headwaters

chironomidae

amphizoidae!

chloroperlidae

"white winged hawk"

deer INHUT2010050303 9465

9466 USA: UTAH: Tooele Co. Sheeprock Mountains, Bennion Creek, mine camp N 39.95258 W 112.44580 2135 m 03-May-2010 C. R. Nelson# 9466 & INHUT 64 026BENDOWN In camp 5:55 PM; camp for night. Dinner on a cement cabin pad. Talk around the campfire about "Ezekiel's third wife"- covenants and self;

morning 6:30-start 4 May 2010--stream samples 2 20 first 100s. abiotic measures

Photos: chrysididae, Collembola on mud puddle on rock deer

small hawk white underwings with black tips

rufous sided towhee

robin

raven INHUT2010050304 9466

9467 USA: UTAH: Tooele Co. Sheeprock Mountains, divide between Bennion Creek and one branch of Vernon Creek N 39.95842 W 112.41338 2102 m 04-May-2010 C. R. Nelson#

9467 & INHUT 64 google earth approximate! made waypoint 026DIVID google earth

approximate! made waypoint 026DIVID sagebrush lizard

glacier lilies, 2 genera, pressed in black notepad INHUT2010050401 9467

9468 USA: UTAH: Tooele Co. Sheep Rock Mountains, (North Fork), Vernon Creek, Little valley area N 39.96017 W 112.37833 1923 m 04-May-2010 C. R. Nelson# 9468 & INHUT 64 026VERNCR camp

11 first 100 samples, physical and plant data

Ticks on Jonathan Nelson? red tailed hawk

yellow rumped warblers

shrew

Asilidae

Cliff swallow INHUT2010050402 9468

9469 USA: UTAH: Tooele Co. Vernon Creek, just above vernon reservoir N 39.97835 W 112.37941 1947 m 05-May-2010 C. R. Nelson# 9469 & INHUT 64 026VERDOWN first 100 sampling blackheaded grosbeak INHUT2010050501 9469

9470 USA: UTAH: Tooele Co. Vernon Reservoir N 39.98872 W 112.38508 1875 m 05-May-2010 C. R. Nelson# 9470 & INHUT 64 027VERLUNC Photo: brewers blackbird
High water Mark of vernon reservoir: 026VERESUP N 39.98601 W 112.38350 elev. 1925 m eared grebe
western grebe
goldeneye duck
mallard duck
barn swallow
brewers blackbird INHUT2010050502 9470

9471 USA: UTAH: Tooele Co. lookout pass, dog cemetery N 40.11875 W 112.57776 1797 m 05-May-2010 C. R. Nelson# 9471 & INHUT 64 352DOG (2008) flat tire
created 030DOG for this trip's map INHUT2010050503 9471

9472 USA: UTAH: Tooele Co. Skull Valley, Goshute Indian Reservation, North boundary, Hwy 196, N 40.41824 W 112.74881 1453 m 05-May-2010 C. R. Nelson# 9472 & INHUT 64 028GOS photos: valley and dust storms, Margene Bullcreek, people, site of proposed nuclear waste storage. golden eagle INHUT2010050504 9472

9473 USA: UTAH: Tooele Co. Skull Valley, Goshute Indian Reservation, village N 40.39863 W 112.72449 1492 m 05-May-2010 C. R. Nelson# 9473 & INHUT 64 028GOSHQ Photos: people INHUT2010050505 9473

9474 USA: UTAH: Tooele Co. Skull Valley, Iosepa Cemetery N 40.54179 W 112.73336 1384 m 05-May-2010 C. R. Nelson# 9474 & INHUT 64 029LOSEPA Photos: signs, tree, cemetery INHUT2010050506 9474

9475 USA: UTAH: Tooele Co. Skull Valley Mountains, South Willow creek, Cottonwood campground N 40.50143 W 112.55955 1812 m 06-May-2010 C. R. Nelson# 9475 & INHUT 64 30WILLOW Camp, night 5-6 May 2010
Aquatic sampling 5 first 100s INHUT2010050601 9475

9476 USA: UTAH: Tooele Co. Tooele laundromat, N 40.54496 W 112.29668 1481 m 06-May-2010 C. R. Nelson# 9476 & INHUT minus Hill 64 030TOOELE Tony DeMoss in Laundromat, How do you kill a porcupine? Whack him in the face, Tattoos and a shrapnel scar from Vietnam and Iraq California gull INHUT2010050602 9476

9477 USA: UTAH: Summit Co. Uinta Mountains, East Fork Bear River Winter Trail head, 30 mi s of Evanston N 40.91461 W 110.82642 2543 m 07-May-2010 C. R. Nelson# 9477 & INHUT minus Hill and Cannon 64 030GBRPARK Prepare to hike, fixed Laura's pack strap Sandhill cranes between Evanston and trailhead, then again at trailhead

Some saw a moose along the free between Salt Lake and Evanston. INHUT2010050603 9477

9478 USA: UTAH: Summit Co. Uinta Mountains, East Fork Bear River Yurt, about 32 miles South of Evanston N 40.89838 W 110.81071 2578 m 6-7 May 2010 C. R. Nelson# 9478 & INHUT 64 030YURT Photo: River evening, early morning photos

camped overnight, students in yurt
teachers in tent

5:30 am temp -8°C, tried to fist 100s in the morning, too much anchor ice. It was warm during our hike, but snowed and got very cold during the evening. few sparrows
dipper

small white and gray woodpecker

heard mallard duck 5:32 am INHUT2010050701 9478

9479 USA: UTAH: Summit Co. East Fork Bear River, trail bridge .5 miles __ of trail head N 40.90747 W 110.82323 2562 m 07-May-2010 C. R. Nelson# 9479 & INHUT 64 030EFBR
photos: scenery and people

First 100 samples--3 aquatic sampling

Still much anchor ice, hard sampling

bubble video, Jillian Hale's camera dipper

small white/gray woodpecker INHUT2010050702 9479

9480 USA: WYOMING: Uinta Co., Evanston, Hwy 89 N 41.30865 W 110.99165 2053 m 07-May-2010 C. R. Nelson# 9480 & INHUT 64 030EVAN White faced Ibis

Bald Eagle

magpie

Brewers blackbird

California gulls

pintail INHUT2010050703 9480

9481 USA: UTAH Rich Co., Sunrise Overlook, rest area, hwy 89 above bear lake N 41.92115 W 111.45683 2315 m 07-May-2010 C. R. Nelson# 9481 & INHUT 64 030BEAROVR Photos: panoramas, mountain bluebird, redtailed hawk

Don Hunt helped us at visitor's center mountain bluebird

redtailed hawk INHUT2010050704 9481

9482 USA: IDAHO: Franklin Co., Bear River Massacre Site, Hwy 91, N of Preston N 42.14082 W 111.91129 1370 m 07-May-2010 C. R. Nelson# 9482 & INHUT 64 Photos: people and scenery

Talk with Patty Timbimboo Madsen INHUT2010050705 9482

9482.5 USA: IDAHO: Franklin Co., Bear River, Oneida Narrows, Red Point Campground N 42.23442 W 111.75921 1429 m 7-8 May 2010 C. R. Nelson# 9482.5 & INHUT minus HILL and Cannon 64 030ONEIRED 5 first 100s

Photos: Pelicans, some by Courtney Maynes Canada goose

belted kingfisher

cliff swallow

violet green swallow

white pelicans

yellow warbler

crow INHUT2010050801 9482.5

9483 USA: IDAHO: Franklin Co., Bear River, Oneida Narrows, 1 mi S of inlet of Bear River N 42.32124 W 111.71355 1516 m 08-May-2010 C. R. Nelson# 9483 & INHUT 64 452TRI (2008) Photos: Scenery and People

Trilobites in Spence Shale as per Church et al, Protospongia

030 BENCHMA, Benchmark corner near beds N 42.32128 W 111.71310 elev. 1516

Trilobites in Spence Shale INHUT2010050802 9483

9484 USA: IDAHO: Franklin Co., Red Rock Pass, Hwy 91, North of Swan lake N 42.35453 W 112.04902 1489 m 08-May-2010 C. R. Nelson# 9484 & INHUT 64 354REDR (2008) lecture on lake Boneville and deep time. Lunch. Saw birds between Swan lake and Preston: yellow headed blackbird, white faced ibis, white pelicans, Canada geese, gadwall duck, curlew, cliff swallows. INHUT2010050803 9484

9485 USA: IDAHO: Franklin Co., Hwy 91, Hilltop memorial Bear River Massacre overlook, 5 mi N of Preston N 42.35453 W 112.04902 1451 m 08-May-2010 C. R. Nelson# 9485 & INHUT 64 030HILL laughing gulls, franklin? ring billed? INHUT2010050804 9485

9486 USA: UTAH: Box Elder Co. Honeyville, Crystal Springs N 41.66011 W 112.08759 1306 m 08-May-2010 C. R. Nelson# 9486 & INHUT 64 030CRY, created with google earth photos: swimming, belted kingfishers, caspian tern, robin, pheasant, western kingbird, California Gull, Canada goose INHUT2010050804 9486

9487 USA: UTAH: Box Elder Co. Brigham City, 200 N 200 W Third/Fifteenth Ward LDS Church N 41.51517 W 112.1920 1334 m 09-May-2010 C. R. Nelson# 9487 & INHUT 64 google earth Church services--old friends, Mother's Day, Elsie Hawkes, Veniee Sorenson--Sharp-Tasha is daguther, Patty Spencer Ortiz, Duane Phippen, Davies, Aaron Anderson in Penrod home; Marilyn Travis--still leads singing INHUT2010050901 9487

9488 USA: UTAH: Box Elder Co. Brigham City, Box Elder Tabernacle N 41.50541 W 112.01493 1360 m 09-May-2010 C. R. Nelson# 9488 & INHUT 64 google earth photos: interior, Willie Hunsaker and Leonard Hawkes, organ INHUT2010050902 9488

9489 USA: UTAH: Box Elder Co. Brigham City, main Street Arch, Gunther museum N 41.50541 W 112.01493 1360 m 09-May-2010 C. R. Nelson# 9489 & INHUT 64 google earth Photos: Val and Lloyd Gunther in rock and fossil collection. Lloyd is 93 years old and still collecting. INHUT2010050903 9489

9490 USA: UTAH: Box Elder Co. Brigham City Cooperative Grist Mill, 200 North 400 East N 41.514904 W 112.009552 1344 m 09-May-2010 C. R. Nelson# 9490 & INHUT 64 google earth Photos: remains of mill. Some burnt in about 2008. Leonard Hawkes explained history. INHUT2010050904 9490

9491 USA: UTAH: Box Elder Co. Brigham City, 120 North main, restored Thompson-Hansen home, N 41.51333 W 112.01549 1345 m 09-May-2010 C. R. Nelson# 9491 & INHUT 64 google earth photos: class members. Brian Cannon talks about polygamy history. travel to spiral jetty. INHUT2010050905 9491

9492 USA: UTAH: Box Elder Co. Great Salt Lake, Rozel Point, North arm, spiral jetty. N 41.43679 W 112.65621 1320 m 9-10 May 2010 C. R. Nelson# 9492 & INHUT 64 030SPIRAL Nor? Dinner.

9 May-Talk to small group looking south over the Great Salt lake: Lexi Malmrose, Haley Soper, Greg Fuller

Coyotes call at 5:30 am 10 May- Photos: spiral Jetty, people, scenery basalt with lichens, Tipulidee-- Eremotipula? INHUT2010051001 9492

9493 USA: UTAH: Box Elder Co. Golden Spike National Historic Site, visitors center N 41.61737 W 112.55087 1495 m 10-May-2010 C. R. Nelson# 9493 & INHUT 64 google earth Photos: reenactment of the driving of the Golden spike INHUT2010051002 9493

9494 USA: UTAH: Box Elder Co. ATK, (Thiokol) Rocket Garden (display), 24 mi W of Brigham City N 41.651912 W 112.44061 1339 m 10-May-2010 C. R. Nelson# 9494 & INHUT 64 354ATK (2008) Photos: rockets, Riley in Space Shuttle Booster INHUT2010051003 9494

9495 USA: UTAH: Box Elder Co. Little Mountain, Bonneville Bench above gravel pit N 41.58606 W 112.25163 1473 m 10-May-2010 C. R. Nelson# 9495 & INHUT 64 030LITSCOU camped light 10-11 May 2010

Farm: 1891 1st gate, 7810 our gate, shed 0730. Sandhill cranes INHUT2010051004 9495

9496 USA: UTAH: Box Elder Co. Brigham City and Perry N 41.47563 W 112.02506 1319 m
11-May-2010 C. R. Nelson# 9496 & INHUT 64 MADDOX (google earth) shopping at Smiths
Lunch at Maddox Sandhill cranes
INHUT2010051101 9496

9497 USA: UTAH: Box Elder Co. Woods Creek, 2 mi South of Corinne N 41.51707 W
112.13976 1286 m 11-12 May 2010 C. R. Nelson# 9497 & INHUT 64 Cabin cooked chicken
dinner in the wood stove and dutch ovens. Rainy night. Photos: evening and warring birds,
Collembola on waters surface at pond, loot,, "first 100" sample, song? sparrow. kestrel,
Harrier, pelican, cinnamon teal, coot, white crowned night heron, great blue heron, snowy
egret, mallard, Marsh wren, Franklin gull, sandhill cranes, redhead duck, California Gull,
Forester's Tern, Cormorant, magpie, meadow lark, yellow headed blackbird, red winged
blackbird, Canada goose, Northern shoveler, killdeer.
INHUT2010051201 9497

9498 USA: UTAH: Box Elder Co. Bear River, float from Corinne bridge to first touch of Bird
refuge road N 41.54588 W 112.09497 1298 m 12-May-2010 C. R. Nelson# 9498 & INHUT
64 030BRPUTIN Photos: people and scenery, paddled in the hail
Corinne highway bridge 11:48, old iron bridge 12:07, 030LUNCH N 41.52505 W
112.10478 elev. 1282, Reeder Overflow split 030REEDER N 41.51887 W 112.11374
elev. 1287 m, woods creek camflower 030WOODS N 41.50710 W 112.14018 1281 m,
take out, refuge road 030TAKEOUT N 41.48238 W 112.14425 elev. 1283 m meadow
lark, redwinged blackbird, yellow warbler, franklin gull, California gull, Caspian tern,
Pelican Ibis, pheasant, cinnamon teal, Canada goose(called O-line), Cormorant, Western
grebe, coot, mallard.
INHUT2010051202 9498

9499 USA: UTAH: Davis Co., Antelope Island, Bridger Bay Campground N 41.04049 W
112.25701 1296 m 12-14 May 2010 C. R. Nelson# 9499 & INHUT 64 030ANTCAMP Arrived
6:00 PM
Photos: Scenery and cooked fajitas, May 13th Photos: California gulls, meadow lark,
northern shrike, bison and barn swallows.
Warm Day! Now I pray for wind to keep no-sel-ums down. Loggerhead Shrike, Meadow
Lark, California gull, eared grebe, bison, barn swallows, Swan in Great Salt Lake.
INHUT2010051203 9499

9500 USA: UTAH: Davis Co., Antelope Island, Buffalo Point, Sunset N 41.03534 W
112.26670 1411 m 13-May-2010 C. R. Nelson# 9500 & INHUT minus Brian Hill 64
photosnear 030PROVO Photos: Scenery and people, Papilio, dark; jumping Ivy Hazlett,
Hudsonian Godwit on ranch road

GPS readings of lower three benches of Lake Bonneville: 030CICBQ

?Gilbert Bench N 41.03833 W 112.26241 elev. 1289 m; 030STANQ ?Stanbury Bench N 41.03693 W 112.26260 elev. 1335 m, 030PROVO

?Provo Bench N 41.03534 W 112.26670 elev. 1411 m.

INHUT2010051301 9500

9501 USA: UTAH: Davis Co., Antelope Island, Fielding Garr Ranch House N 41.03534 W 112.26670 1289 m 14-May-2010 C. R. Nelson# 9501 & INHUT 64 google earth Wonderful tour by Max Harward, age 81 born 1929. Lived at ranch 1938-1952. Bought two of his historical books.

Photos: Great Horned owl, starling, robin great horned owl, starling, robin, Wilson's Warbler, yellow rumped warbler, lazuli bunting, western tanager, orange crowned warbler, red winged blackbird

9501

9502 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 15-May-2010 C. R. Nelson# 9502 64 google earth Returned Nikon D300 Camera to Utah time MacGillivray's Warbler 9502

9503 USA: UTAH: Wasatch Co., Provo River, Mitigation segment 7 __ m SW of Jordanelle Dam N 40.55848 W 111.43365 1806 m 21-May-2010 C. R. Nelson# 9503 & INHUT 64 031PRO7 4 First 100, Mayfly qual and caddis qual. Photos: Site, people, scenery. Lecture by John Rice of Utah Reclamation Mitigation and Conservation Commission. Eplencncllidagae, Drunella Grandis, Pteronarcyidae, Rhyacophilidae, Hydropsychidae. INHUT2010052101 9503

9504 USA: UTAH: Wasatch Co., Hwy 32, Weber Diversion into the Provo River N 40.60593 W 111.41314 1885 m 21-May-2010 C. R. Nelson# 9504 & INHUT 64 031WEBER from map on GPS Discussion, Rivers and diversions in Utah INHUT2010052102 9504

9505 USA: UTAH: Wasatch Co., Nobletts Creek, below Wolf Creek Pass, 1 mi N of Highway 35 N 40.54688 W 111.08514 2351 m 21-May-2010 C. R. Nelson# 9505 & INHUT 64 031NOBLET 3 First 100s, Mayfly qualitative, Caddis qualitative. Photos: Site, persons, especially Amy Roper. INHUT2010052103 9505

9506 USA: UTAH: Wasatch Co., Pine Valley, Ashton Cabin, 1 mi S of Provo River, Hwy 85, 5 mi E of Woodland N 40.54786 W 111.13725 2209 m 21-22 May 2010 C. R. Nelson# 9506 & INHUT 64 031ASHTON spider 9506

9507 USA: UTAH: Utah Co., Provo River, Hwy 35, 3.3 mi E of Woodland N 40.55853 W 111.17331 2120 m 22-May-2010 C. R. Nelson# 9507 & INHUT 64 031PROWOOD Photos: Scenery, Site, People. 3 First 100s. Ephemeroptera qualitative, Trichoptera qualitative,

plants.

site 90.5, Woodlandchurch 93.8, Jordanelle Slack 100.8 INHUT2010052201 9507

9508 USA: UTAH: Wasatch Co. Provo River, Jordanelle Dam, Tailwaters N 40.59488 W 111.42712 1792 m 22-May-2010 C. R. Nelson# 9508 & INHUT 64 031JORTAIL 3 First 100s, Ephemeroptera qualitative. Photos: Site, people, Scenery. birds INHUT2010052202 9508

9509 USA: UTAH: Wasatch Co. Heber Tabernacle N 40.50851 W 111.41392 1699 m 22-May-2010 C. R. Nelson# 9509 & INHUT 64 031JORTAIL Jessie Embry talked to us of Wasatch County storm. Water diverted to Utah county and beyond... INHUT2010052203 9509

9510 USA: UTAH: Wasatch Co. Provo River, Midway, Near Memorial Hill N 40.52063 W 111.45238 1688 m 22-23 May 2010 C. R. Nelson# 9510 & INHUT 64 031MID CR Nelson & INHUT Camp in Hay field. Photos: River Scenery. Rocks: one a landscape "painting" INHUT2010052204 9510

9511 USA: UTAH: Utah Co., Provo River, Nunn's Park N 40.33571 W 111.61337 1543 m 23-24 May 2010 C. R. Nelson# 9511 & INHUT 64 032NUNNS Camp, River running high. Snowed during night over camp. INHUT2010052301 9511

9512 USA: UTAH: Utah Co., Provo, Mouth of Slate Canyon, LDS Church 1498 East 800 North. N 40.22340 W 111.63187 1397 m 24-25 May 2010 C. R. Nelson# 9512 & INHUT 64 031SLATE Dried out Camp. Flyfishing y Dennis Cutchins, BYU English Professor. INHUT2010052402 9512

9513 USA: UTAH: Utah Co., Rock Canyon, East of Provo N 40.26462 W 111.62970 1564 m 25-May-2010 C. R. Nelson# 9513 & INHUT 64 031ROCKTRH Photos: Scenery. Fountain 032FOUNT N 40.26495 W 111.61576 elev. 1682 m. First bridge 032BR N 40.26484 W 111.61270 elev. 1731 m. First Left Fork 032FLFORK N 40.26896 W 111.60326 elev. 1868 m. End of squaw Peak Hike 032TREND N 40.26481 W 111.63005 elev. 1572 m. scrub jay INHUT2010052501 9513

9514 USA: UTAH: Utah Co., Squaw Peak, East of Provo, Summit N 40.27114 W 111.61694 2396 m 25-May-2010 C. R. Nelson# 9514 & INHUT 64 032SQAW Photos: Scenery and people INHUT2010052502 9514

9515 USA: UTAH: Utah Co., Utah lake Marshes, Airport dike North of Tower. N 40.23073 W 111.73566 1375 m 25-May-2010 C. R. Nelson# 9515 & INHUT 64 032DIKE Robert Carter Eastern Kingbird, Western Kingbird, Western Tanager, coot, ibis, phragmites patch. INHUT2010052503 9515

9516 USA: UTAH: Utah Co., Provo, 500 North-- 1500 West and further, Fort Utah, Provo River Ford. 1375 m 25-May-2010 C. R. Nelson# 9516 & INHUT 64 no GPS quart jar of hickory splinters taken from Geroge Washington Bean barn swallow, Western Tanager, yellow rumped warbler, female. INHUT2010052504 9516

9517 USA: UTAH: Utah Co., Provo River, Provo, Macey's parking lot N 40.25344 W 111.66801 1397 m 25-May-2010 C. R. Nelson# 9517 & INHUT 64 032MACEY Battle of Provo River-- I colonist death, 50 Utes. yellow warbler, barn swallow, Western Tanager, female, robin, California Gull, Fly catcher with buffy yellow INHUT2010052505 9517

9518 USA: UTAH: Utah Co., Provo, North Park (Sowiette Park) 500 West and 500 North N 40.24043 W 111.66744 1390 m 25-May-2010 C. R. Nelson# 9518 & INHUT 64 google earth site of former 2nd Fort Utah, 1850-1852, , then to city plat, became the adobe yard. Original bridge of 1850s on site of Colombbian lane bridge, Ralph Laycock leader, Provo Municipal Band. INHUT2010052506 9518

9519 USA: UTAH: Utah Co., Provo River, Nunn's Park, Hwy 189? N 40.33571 W 111.61337 1543 m 25-26 May 2010 C. R. Nelson# 9519 & INHUT 64 032NUNNS camped night--warm and day. Photos: dipper in the warming river. INHUT2010052601 9519

9520 USA: UTAH: Wasatch Co., Provo River, put in below Deer Creek Dam N 40.40103 W 111.53139 1616 m 25-26 May 2010 C. R. Nelson# 9520 & INHUT 64 032PROIN Start time: 9:27 am. INHUT2010052602 9520

9521 USA: UTAH: Utah Co., Provo River, Vivian Park N 40.35596 W 111.57343 1606 m 26-May-2010 C. R. Nelson# 9521 & INHUT 64 032VIVOUT Kayak take out time 11:34 am, 2 hour float INHUT2010052603 9521

9522 USA: UTAH: Utah Co., Mount Timpanogos, Stewart Falls, Little North Creek N 40.386222 W 111.60421 2077 m 26-May-2010 C. R. Nelson# 9522 & INHUT 64 032STEWART 3 First 100s INHUT2010052604 9522

9523 USA: UTAH: Utah Co., Utah Lake State Park, Mouth of Provo River, Campground N 40.24018 W 111.73572 1415 m 26-May-2010 C. R. Nelson# 9523 & INHUT 64 032UTLKPK Fishing, wee(?) pulled park taco dinner, Chrissy Young--Lee Library, Folklorist talk. INHUT2010052605 9523

9524 USA: UTAH: Utah Co., Utah Lake, inlet of Provo River N 40.23396 W 111.73895 1364 m 27-May-2010 C. R. Nelson# 9524 & INHUT 64 032UTLKP Photos: Sea Kayaking. Camping night of 26-27 May. Later laundry and shopping in Provo. Heavy trailer jumped hitch in busy street at light on corner of 700 East and 300 South, Hwy 89! Also repaired light harness for

Kayak trailer at motorpool with student Trevor Meacham and supervisor Scott Sherwood.
INHUT2010052701 9524

9525 USA: UTAH: Sevier Co., Salina, Mom's Cafe N 38.95746 W 111.85981 1573 m, 27-May-2010 C. R. Nelson# 9525 & INHUT 64 google earth dinner at 7:00 PM, on the road after 8:00 PM. INHUT2010052702 9525

9526 USA: UTAH: Wayne Co., Grover, S of Torrey, The Ranch of Hale Pulsipher? family N 38.23652 W 111.34245 2135 m 28-May-2010 C. R. Nelson# 9526 & INHUT 64 033GRO stayed night of 27-28 May. Turkey vulture, robin, violet green swallows, raven, barn swallow, little brown bird, clipping sparrow, heard drumming downy? woodpecker, yellow warbler. INHUT2010052801 9526

9527 USA: UTAH: Wayne Co., Boulder Mountain, Larb Hollow Overlook N 38.127 W 111.329 2698 m 28-May-2010 C. R. Nelson# 9527 & INHUT 64 googled it. view to the east, very strong winds.

coordinates by Rachel Woodfield:

<http://www.byways.org/explore/byways/2020/places/35091> INHUT2010052802 9527

9528 USA: UTAH: Garfield Co. Boulder, Anasazi State Park, N 37.91086 W 111.42384 elev. 2052 m, 28-May-2010 C. R. Nelson# 9528 & INHUT 64 lecture by Don Montoya: oral history is better than artifacts. INHUT2010052803 9528

9529 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument Upper Calf Creek Falls trail, alcoves, swimming hole N 37.85576 W 111.45260 1828 m 28-May-2010 C. R. Nelson# 9529 & INHUT 64 google earth INHUT2010052804 9529

9530 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Hogback Ridge overlooking Lower Calf Creek Falls, N 37.83081 W 111.41509 elev. 1915 m, 28 May 2010, C. R. Nelson # 9530 & INHUT class 65 Google Earth view to canyon
INHUT2010052805 9530

9531 USA: UTAH: Garfield Co. Escalante Petrified Forest State Park, 2 mi NW of Escalante, N 37.78780 W 111.63135 elev. 1812 m, 28-30 May 2010, C. R. Nelson # 9531 & INHUT class 65 Google Earth camped two nights. 29 May 2010 walked Petrified Forest in the early morning. INHUT2010052901 9531

9532 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument, Hole in the Rock Road, Zebra and Tunnel Canyons, tributaries of Harris Wash, N 37.63949 W 111.44547 elev. 1642 m, 29 May 2010, C. R. Nelson # 9532 & INHUT class 65
034zebhead parked at fence line near Cottonwood Wash for access; nodules of iron concretions abundant in the Navajo Sandstone, especially at the head of Tunnel Canyon

off of Halfway Hollow; photos people and scenery. Deadman Ridge Road?

034tunarro Tunnel Narrows, N 37.65505 W 111.40668, elev. 1570 m; 034tunup top of tunnel Canyon N 34.65688 W 111.40628 elev. 1577m. this was not the moki marble place, but lower in the canyon. INHUT2010052902 9532

9533 USA: UTAH: Garfield Co. Escalante, Escalante First Ward, N 37.77181 W 111.60099 elev. 1725 m, 30 May 2010, C. R. Nelson # 9533 & INHUT class 65 034escal talked with Sister Barney; Talked with Brent Griffen (2nd ward) runs the supermarket, friend of Ken Packer. Talked with Bishop Brent Cottam. Talked with Counselor Christensen, from Ogden. Lunch and repack at City park. Center Street and 1 or 2 West. 034ESCALPK N37.78776 W 111.63165 elev. 1827 m. INHUT2010053001 9533

9534 USA: UTAH: Garfield Co. Glen Canyon Recreation Area, Hole in the Rock Road, Crack in the Wall, Coyote Gulch, N 37.41920 W 110.98514 elev. 1363 m, 30 May - 1 June 2010, C. R. Nelson # 9534 & INHUT class 65 034CRACK 40 mile ridge trailhead, 03440TRST (trailhead) N 37.40368 W 111.00899, elev. 1423 m. Also, alternative Crack GPS 034COYCRAK N 37.41916 W 110.98534 elev. 1328m. My camera data is 12 hours early, for all of INHUT perhaps. So this photo is 7:45pm on 30 May 2010.

INHUT2010053002. parting of the ways, 30 May 2010, 6:00pm or so. One group into Coyote Gulch through Moki steps at Jacob Hamblin Arch. My group (with Brian Cannon) walked to the Crack in the Wall and camped. sunset at the Crack, clear, nice sky. photos: people and scenery, sunset/sunrise.

INHUT2010053101. started down Crack early, Christina Nelson fell. Riley Nelson, Brian Cannon, Christine Nelson, and Erin McGuire stayed behind to help her. Eight proceeded after much discussion.

INHUT2010060101. Other group met us four at the Crack. photos: Sunset/sunrise. Walked out to 40 Mile Ridge Trailhead.

photos lizards on way to Crack INHUT2010053001 plus. 9534

9535 USA: UTAH: Garfield Co. Glen Canyon Recreation Area, Coyote Gulch, N 37.42324 W 110.99903 elev. 1188 m, 31-May-2010 C. R. Nelson # 9535 & INHUT class 65 034COY1FAL INHUT2010053102. At 3:00 pm when Christina Nelson was stabilized, she stayed with Brian Cannon. Erin McGuire and I went into Coyote Gulch. We walked to the Grand Alcove and met INHUT group 1. Informed Brian Hill that Christina was stable, continued to Cliff Arch and turned around to go back to the Crack in the Wall. GPS reading marginal, but good after consulting Google Earth back home. INHUT2010053102 9535

9536 USA: UTAH: Garfield Co. Glen Canyon Recreation Area, Coyote Gulch, "Elephant Gallery" (my name!) between Crack in the Wall and coyote Gulch at Sand Trail out, N 37.42493 W 110.98621 elev. 1235 m, 31-May-2010 C. R. Nelson # 9536 & INHUT class 65

google earth INHUT2010053103. We ate some watermelon carried into the canyon by boys from Southern Utah University. I doubt I will ever again eat watermelon in Coyote Gulch. photos: people and scenery. Erin and I went completely around the "Elephant" monolith. INHUT2010053103 9536

9537 USA: UTAH: Garfield Co. Glen Canyon Recreation Area, Escalante River, rim, south east side of first oxbow east of Crack in the Wall, N 37.41538 W 110.97572 elev. 1321 m, 01-Jun-2010 C. R. Nelson # 9537 & INHUT class 65 google earth INHUT2010060102. photos scenery, writing. Solitude. near point of great oxbow INHUT2010060102 9537

9538 USA: UTAH: Garfield Co. Glen Canyon Recreation Area, walk between Crack in the wall and 40 Mile Ridge Trailhead, N 37.40368 W 111.00899 elev. 1423 m, 01-Jun-2010 C. R. Nelson # 9538 & INHUT class 65 03440TRST INHUT2010060103. Use trailhead for GPS. photos: desert spiny lizard. INHUT2010060103 9538

9539 USA: UTAH: Garfield Co. Glen Canyon Recreation Area, trail between water tanks on 40 Mile Ridge and Jacob Hamblin Arch in Coyote Gulch, N 37.41925 W 111.04228 elev. 1292 m, 01-Jun-2010 C. R. Nelson # 9539 & INHUT class 65 google earth INHUT2010060104. Use google earth, 034JAC off a few meters to the west: N37.41884 W111.04333, elev. ? (not enough satellites). Photos: scenery from above at Coyote Gulch: Arch and gardens. 03440TANK (30 May 2010) trailhead, N37.39246 W111.04878, elev. 1455 m. INHUT2010060103 9539

9540 USA: UTAH: Garfield Co. Glen Canyon Recreation Area, Hole in the Rock Road, walk, last 5 miles of road to Hole in the Rock, N 37.25209 W 110.97122 elev. 1313 m, 01-Jun-2010 C. R. Nelson # 9540 & INHUT class 65 google earth, guess INHUT2010060105. estimated point of drop off from vans with google earth, not too sure. about 30 minute walk from drop off to Mormon (Hole in the Rock?) Arch plaque. photos: people and scenery. start 1:30pm end 3:25pm. First half hour slow 2 mph. last 1.5 hours fast, 3 mph. total 1+5 = 5 -6 miles. No GP"S at start! INHUT2010060105 9540

9541 USA: UTAH: Garfield Co. Glen Canyon Recreation Area, Hole in the Rock, top, N 37.25641 W 110.90008 elev. 1313 m, 01-Jun-2010 C. R. Nelson # 9541 & INHUT class 65 034HOLETOP INHUT2010060106. photos: people at Brian Cannon's lecture. INHUT2010060106 9541

9542 USA: UTAH: Garfield Co. Glen Canyon Recreation Area, Hole in the Rock, bottom, Lake Powell, N 37.25378 W 110.89382 elev. 1128 m, 02-Jun-2010 C. R. Nelson # 9542 & INHUT class 65 google earth INHUT2010060201. Waiting for houseboat photos: chuckwalla lizard INHUT2010060201 9542

9543 USA: UTAH: Garfield Co. Glen Canyon Recreation Area, Lake Powell, Escalante River Inlet, mouth Willow Creek Inlet, N 37.34855 W 110.92997 elev. 1107 m, 2-4 June 2010 C. R. Nelson # 9543 & INHUT class 65 036WILLOW INHUT2010060202. Camp across from Willow Creek Wall. canyon wren, small mouth bass INHUT2010060202 9543

9544 USA: UTAH: Garfield Co. Glen Canyon Recreation Area, Lake Powell, Escalante River Inlet, two bends below Cow and Fence Canyons, near end of lake, N 37.37378 W 110.94124 elev. 1130 m, 03-Jun-2010 C. R. Nelson # 9544 & INHUT class 65 google earth INHUT2010060301. Sea kayaking: Riley Nelson, John Bennion, Kevin Shelby, Christina Nelson, Jonathan Nelson, Jillian Hale, Ivy Hazlett, Lexi Malmrose, Kiersten Cole, and Greg Fuller INHUT2010060301 9544

9545 USA: UTAH: Garfield Co. Glen Canyon Recreation Area, Lake Powell, Escalante River Inlet, near end in Explorer Canyon, N 37.37551 W 110.92113 elev. 1162 m, 03-Jun-2010 C. R. Nelson # 9545 & INHUT class 65 google earth INHUT2010060302. photos scenery and people. Sea kayaking: Riley Nelson, John Bennion, Kevin Shelby, Christina Nelson, Jonathan Nelson, Jillian Hale, Ivy Hazlett, Lexi Malmrose, Kiersten Cole, and Greg Fuller INHUT2010060302 9545

9546 USA: UTAH: Garfield Co. Glen Canyon Recreation Area, Lake Powell, boat ride between Willow Creek Inlet on Escalante Arm and Bullfrog Marina, N 37.51550 W 110.74184 elev. 1128 m, 04-Jun-2010 C. R. Nelson # 9546 & INHUT class 65 google earth INHUT2010060401. photos scenery and people. Use Bullfrog as coordinates. INHUT2010060401 9546

9547 USA: UTAH: Garfield Co. Ticaboo, Hwy 276 N 37.67389 W 110.69185 elev. 1295 m, 04-Jun-2010 C. R. Nelson # 9547 & INHUT class 65 google earth INHUT2010060402. Parted ways at Bullfrog, others went to Moab. Riley Nelson, Courtenay Maynes, Kevin Shelby, and Christina Nelson went home through Hanksville and Price. yucca for Kevin Shelby, Yucca harrimaniae INHUT2010060402 9547

9548 USA: NEW MEXICO: Sandoval Co. East Fork Jemez River, Las Conchas Fishing Access, Hwy 4, 19 miles West of Los Alamos, N 35.81495 W 106.52469 elev. 2563 m, 07-Jun-2010 C. R. Nelson # 9548 & J. K. Gelhaus, P. B. Frandsen. 65 038CONCHAS photos: site and Lasiopogon. Wrote 20 miles on field label?, checked mileage later. Lasiopogon, Cyrtopogon; Tipulidae many; malenka? Podmosta? Chloroperlidae 2 spp Isoperla 2 spp; Ptychoptera. volcanic rock. Photos: Hexatoma, Cyrtopogon after 9551, Lampyridae, Membracidae, Chloroperlidae, Isoperla - end session. 9548

9549 USA: NEW MEXICO: Sandoval Co. East Fork Jemez River, Jemez Falls, near campground, N 35.81249 W 106.60676 elev. 2401 m, 07-Jun-2010 C. R. Nelson # 9549 &

J. K. Gelhaus, P. B. Frandsen. 65 038JEMFAL Buprestidae; Photo: Bombyliidae out of order in middle of 9550 second round. Tabanidae. photo Cyrtopogon, out of order after 9548 second set, Empididae, Mycetophilidae Chloroperlidae, Nemouridae. photos?: Cyrtopogon, Buprestidae, Curculionidae. 9549

9550 USA: NEW MEXICO: Sandoval Co. Soda Dam, Jemez River, 2 mi North of Jemez Springs, N 35.79118 W 106.68639 elev. 1924 m, 07-Jun-2010 C. R. Nelson # 9550 & J. K. Gelhaus, P. B. Frandsen. 65 038SODA Philopotamidae?; Leptoceridae; Hydropsychidae; Isoperla; Cleridae; Asilidae: Ospricerus abdominalis, Cophura?(added 3 May 2011 while labeling photos: Did I keep this alive and photograph it at home after trip? Actually Negasilus or something! Check photo voucher!), , Efferia female carinata group; Rhagionidae to Paul; Cicadidae. Photos later: Leptoceridae, Philopotamidae?, Isoperla female and male, Ospricerus last of night session. 9550

9551 USA: NEW MEXICO: Sandoval Co. Jemez River, Highway 4, 2 mi S of Jemez Springs, N 35.74229 W 106.71286 elev. 1845 m, 07-Jun-2010 C. R. Nelson # 9551 & J. K. Gelhaus, P. B. Frandsen. 65 038SJEMZ Hydropsychidae; Efferia albibarbis; Philopotamidae?; Isoperla longiseta? 9551

9552 USA: NEW MEXICO: Santa Fe Co. Rio En Medio, Hwy 475, Santa Fe Ski Basin, N 35.79539 W 105.80420 elev. 3095 m, 09-Jun-2010 C. R. Nelson # 9552 & J. K. Gelhaus, P. B. Frandsen. 65 038SKI Met Jan Hinsey from David Bowles lab in Missouri. Zapada cinctipes, Paraleuctra. Photos: Zapada cinctipes escaped, after review photos it looks like Zapada frigida. Photos: Scaeva, Pedicia (wingless!) with JKG, Agromyzidae? Blephariceridae larva 1, Ptychoptera, Bibionidae, Buprestidae, Chrysomelidae, Hemerobiidae, Tipulidae, Trichoptera to PB Frandsen. 9552

9553 USA: NEW MEXICO: Santa Fe Co. North Fork Tesuque Creek, Hwy 475, Big Tesuque Campground, N 35.76923 W 105.80988 elev. 2939 m, 09-Jun-2010 C. R. Nelson # 9553 & J. K. Gelhaus, P. B. Frandsen. 65 038BTESU photos: stream. May have called it Big Tesuque on the field labels. Correct to North Fork. photos: Taenionema , Paraleuctra, Cimbex Cimbicidae. Tipulidae Sinotipula, Bibionidae, Capnia female escaped, Trichoptera 9553

9554 USA: NEW MEXICO: Santa Fe Co. small tributary of North Fork Tesuque Creek, Hwy 475, Big Tesuque Campground, N 35.76923 W 105.80988 elev. 2939 m, 09-Jun-2010 C. R. Nelson # 9554 & J. K. Gelhaus, P. B. Frandsen. 65 038BTESU May need to fix field label to North Fork data. photos: Pentatomidae metallic green (out of sequence). Syrphidae, Zapada frigida, Paraleuctra, Sinotipula. 9554

9555 USA: NEW MEXICO: Santa Fe Co. South Fork Tesuque Creek, Hwy 475, Santa Fe Ski Basin Road, N 35.76037 W 105.81200 elev. 2970 m, 09-Jun-2010 C. R. Nelson # 9555 & J. K. Gelhaus, P. B. Frandsen. 65 038MIDTESU Bibionidae; Tipulidae: photos: Dicranota on fir trunk; Sinotipula on rock. Trichoptera; Mycetophilidae; Capnia; Taeniopterygidae?; Chrysomelidae flea beetles. 9555

9556 USA: NEW MEXICO: Santa Fe Co. Santa Fe, Convention Center, N 35.69016 W 105.93963 elev. 2129 m, 09-Jun-2010 C. R. Nelson # 9556 & S. W. Judson & friends 65 google earth Isoperla longisetata male at banquet of North American Benthological Society, to Sarah Judson. 9556

9557 USA: NEW MEXICO: Santa Fe Co. Santa Fe, New Mexico Museum of History, N 35.68838 W 105.93841 elev. 2131 m, 12-Jun-2010 C. R. Nelson # 9557 65 google earth group photo after Mongolia Symposium, with Jon Gelhaus' camera. 9557

9558 USA: UTAH: Emery Co. Green River, Green River town bridge, N 38.99442 W 110.14390 elev. 1251 m, 12-Jun-2010 C. R. Nelson # 9558 & P. B. Frandsen. 65 038GREEN Breakfast at 10:00am day after grand opening! former Ben's Cafe. La Veracruzana. Signed fieldbook by cook cosinera and Sara Polito and Dalia Hernandez. Photos on tamarisk flowers and Russian olive leaves: Isoperla longisetata. Chrysomelidae; Simuliidae abundant; water sample for turbidity (not very, discarded in lab). Calopterygidae Hetaerina americana to PB Frandsen. 9558

9559 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922, elev. 1495 m, 20-Jun-2010 C. R. Nelson # 9559 65 Anisopodidae, Sylvicola fenestralis 9559

9560 USA: UTAH: Utah Co., Provo, Brigham Young University, Widtsoe Laboratory, N 40.24625 W 111.64984 elev. 1420 m, 22-Jun-2010 C. R. Nelson # 9560 65 photo session in lab with Jesse Breinholt. photos: crayfish from Florida, background rocks inaccurate, local Utah limestone, etc. 1-2: USA: FLORIDA: Citrus Co., Gum Cave, N28.70783 W82.3603, elev? 7 May 2010, Jesse Breinholt. large white 1 Astacidae Procambarus lucifugas; 2 small white, lucifugas; 3: small dark reduced eyes, Procambarus milleri, USA: FLORIDA: Cade Co., Kahn Farm, SW 197 Avenue SW 332 Street, N25.5502 W80.51057 elev. ? 5 May 2010, Jesse Breinholt. 4-5: 4, big dark with small claws Procambarus pycnogonopodus. 5 big dark with large claws, both: USA: FLORIDA: Franklin Co., US Hwy 98, May 20120, Paul Moller. Jesse will give data later. 9560

9561 USA: airline flight overseas CALIFORNIA: Los Angeles - SOUTH KOREA: Incheon. Korean Airlines Flight. 27-28 June 2010 C. R. Nelson # 9561 65 Ate Bibimbap rice dish with seaweed soup. Watched movies: Alice in Wonderland (Ann Hathaway and Johnny

Depp); The Ghostwriter (Ewan Macgregor); Avatar; Sherlock Holmes (Robert Downey Jr. and Julie Law). Incheon to Ulaan Baatar: Percy Jackson. 9561

9562 MONGOLIA: Tov Aimag xx Ulaan Baatar, Zaluuchuud Hotel, east of Mongolian National University, N 47.92451 E 106.92197, elev. 1313 m, 29-Jun-2010 C. R. Nelson # 9562 & T. A. McKnight & MAIS 65 040UBHOTEL photos: Hotel room, Fuji camera. met Alexei Reshchikov.

Time is UTC +7 and no Daylight savings time. Provo is UTC-7, 14 hours difference. Sunrise in UB on 30 June 2010, 5:23am, direct observation.

I thought I had changed the time on my Nikon D300 to Mongolia time when I arrived, but didn't seem to do it until much later in the trip after CRN9576. I think many of the photos of 9576 were taken late in the evening of 3 July, but the first few 9576 shots of site photos might have been morning of 4 July. I May have changed the dae late in the evening of 3 July. I should check with Alain Maasri about time stamp I think the 9578 lake shots are accurate, time and date wise. Tipulidae, Dermestidae, Noctuidae, Chrysopidae 9562

9563 MONGOLIA: Tov Aimag xx Tuul River at mouth Gorkhi Valley, N 47.82066 E 107.35130, elev. 1402 m, 30-Jun-2010 C. R. Nelson # 9563 & T. A. McKnight, J. K. Gelhaus, A. Reshchikov, and Ganzorig Dashkhuu Nawcha (Oyuna's nephew) 65 040TUUL left out yellow pans all afternoon with Alexei. He studies ichneumonids. photos Isocapnia, yes, good photos; Haploperla?, Alloperla, Aslididae, several genera, scarab, Lygaeidae, Ephemeroptera, later in hotel: Syrphidae. 9563

9564 MONGOLIA: Tov Aimag xx Terelj River at Terelj, N 47.99095 E 107.46307, elev. 1515 m, 30-Jun-2010 C. R. Nelson # 9564 & T. A. McKnight, J. K. Gelhaus, A. Reshchikov, and Ganzorig Dashkhuu Nawcha (Oyuna's nephew) 65 040TERELJ photos: Empididae, Miridae very large, Lygaeidae, Alloperla 9564

9565 MONGOLIA: Tov Aimag xx boggy stream, 1 km N of Gorkhi Davaa (pass) N 47.94807 E 107.45423, elev. 1597 m, 30-Jun-2010 C. R. Nelson # 9565 & T. A. McKnight, J. K. Gelhaus, A. Reshchikov, and Ganzorig Dashkhuu Nawcha (Oyuna's nephew) 65 040BOG photos in hotel later: Tipulidae, Heterangaeus; Chrysomelidae including Cassidinae.

Pediciidae; Nemouridae dried old, Empididae, videos in flight; Rhagionidae; Sarcophagidae 9565

9566 MONGOLIA: several aimags xx Aero Mongolia flight from Ulaan Baatar to Ulaangom, N xx E xx, elev. xx m, 01-Jul-2010 C. R. Nelson # 9566 & T. A. McKnight & MAIS 65 photos and video 9566

9567 MONGOLIA: Uvs Aimag Ulaangom Ulaangom airport, N 49.97334 E 92.08405, elev. 935 m, 01-Jul-2010 C. R. Nelson # 9567 & T. A. McKnight & MAIS 65 Google Earth photos: people and baggage, distribution by shouting lottery . . .

26 persons form comple expedition, Jon Gelhaus, leader, Tipulidae; Sigitas Podenas, Tipulidae; Virginija Podeniene, Tipulidae larvae; John Morse, Trichoptera, maps; Riley Nelson, stoneflies, Asilidae, comic relief; Suvdaa, Trichoptera, lead researcher; Khandaa, Khandsuren Jigmed, expedition manager; Boloroo, Bolortsetseg Erdene, RBP, Ephemeroptera; Sosoburam, Sosko, Sosoburam Boldbaatar, Odonata; Nasa, Enkhnasa Davaadorj, Coleoptera; Bilgee, Oyunbileg Jargalsaikhan, Hemiptera; Alexei Reshchikov, Hymenoptera Ichneumonidae; Tristan McKnight, Diptera; Barbara Hayford, Chironomidae, biomonitoring; Brent Herdlicka, range monitoring; Bill Slaymaker, ethics; Alain Maasri, biomonitoring postdoc; Ugnaa Uugantsetseg Byambajev, diatoms, water chemistry; Tsooj, Tomortsooj Dashtogtokh, RBP, Chironomidae; Byambaa, Byambajav Olgidoi, lead driver, Uvs, Khovd Soum; Davaa, Davaasuren Batjargal, jeep driver, Uvs & Khovd Soum; Tuulga, Battulga Erden Ochir, van driver, Uvs, UB, Sagil Soum; Puje, Purevjav Badrath, van driver Ulaangom Soum and east; Gumba, Ganbold Dondav, truck driver, UB; Doko, Dolgorsuren Jigmed, head cook, Khandaa's oldest sister; Lkhagee, Lkam Jigmed, cook helper, Khandaa's older sister, from Khentiy. 9567

9568 MONGOLIA: Uvs Aimag, Tarialan Soum, Teeliin Gol, braid of Kharkhiraa Gol, 20 km S of Ulaangom N 49.82402 E 92.00149 elev. 1207 m 1-2 July 2010, C. R. Nelson # 9568 and T. A. McKnight, and MAIS team 65 041HARHI camped night of 1-2 July 2010

no gps from John, use mine. As a general rule, I recorded John Morse's official coordinates in the Coordinates field of this Filemaker database. I often recorded the coordinates as well and placed them in the Notes section and the record in the GPS code. If Morse didn't record a MAIS number, I used my GPS code coordinates in the Coordinates field. photos: scenery, Pieridae with black lines, Meloidae 3 spp., Tipulidae Cheilotrichia, Cerambycidae, Acrididae, Myrmeliontidae, Lycaenidae, Isoperla potanini,. Baetidae; Asilidae 4 spp. Stichopogon and 3 asilinae, MAIS2010070101 9568

9569 MONGOLIA: Uvs Aimag, Tarialan Soum, Kharkhiraa Gol, 4 km W of Tarialan N 49.77959 E 91.86026 elev. 1453 m 2-3 July 2010, C. R. Nelson # 9569 and T. A. McKnight, and MAIS team 65 morse 041harcany N49.77956E91.86024 elev. 1455 m. photos: scenery. Perlodidae Arcynopteryx, Empididae, Tipulidae, Asilidae, Ephydridae, Acalypterates: medium sized on Populus wounds. Gerridae, Curculionidae green, Micropezidae, Baetidae MAIS2010070201 9569

9570 MONGOLIA: Uvs Aimag, Tarialan Soum, steppe near Gurvanteel village N 49.57065 E 91.81815 elev. 2185 m 3 July 2010, C. R. Nelson # 9570 and T. A. McKnight, and MAIS

team 65 042SPIDER truck needed rest Asilidae in spider webs, collected both alive, spider ate fly before night camp. none 9570

9571 MONGOLIA: Uvs Aimag, Tarialan Soum, Gurvanteel area, family ger with aruul, N 49.56078 E 91.79691 elev. 2121 m 3 July 2010, C. R. Nelson # 9571 and T. A. McKnight, and MAIS team 65 042ARUUL Dried curd, aruul from Mongolian family. Good. Told by friends it is the leavings of Mongolian vodka. none 9571

9572 MONGOLIA: Uvs Aimag, Tarialan Soum, Khartarvagatay mines area, N 49.54247 E 91.76935 elev. 2112 m 3 July 2010, C. R. Nelson # 9572 and T. A. McKnight, and MAIS team 65 042 GOLD MINE photos: man giving directions. Coal. none 9572

9573 MONGOLIA: Uvs Aimag, Tarialan Soum, Khartarvagatay Gol, 30 km SW of Tarialan (direct) N 49.55006 E 91.70007 elev. 2309 m 3 July 2010, C. R. Nelson # 9573 and T. A. McKnight, and MAIS team 65 morse Need to send pictures to the man: Aaka. See address in black notebook.

041coalhou N49.55059E91.69947 elev. 2329 m. Photos: Nemouridae. Empididae, Tipulidae, Chironomidae larvae adults, Bibionidae, Carabidae. MAIS2010070301 9573

9574 MONGOLIA: Uvs Aimag, Tarialan Soum, pass, davaa above coal mine, N 49.53676 E 91.65451 elev. 2593 m 3 July 2010, C. R. Nelson # 9574 and T. A. McKnight, and MAIS team 65 042DAVAA ovoo, davaa, scenery, photo: group photo none 9574

9575 MONGOLIA: Uvs Aimag, Tarialan Soum, Nutsngen Gol, 70 km SW of Tarialan (direct) N 49.53507 E 91.60309 elev. 2552 m 3 July 2010, C. R. Nelson # 9575 and T. A. McKnight, and MAIS team 65 morse 042ortrib N49.53510E91.60313 elev. 2552 m. photos: Nemouridae abundant, Scatophagidae 3 spp.: stercoraria medium yellow, sp. large black, small only one, Therevidae all on horse dung. MAIS 2010070302 9575

9576 MONGOLIA: Uvs Aimag, Tarialan Soum, Dund Gol, 73 km Southwest of Tarialan (direct) N 49.51831 E 91.58729 elev. 2464 m 3 July 2010, C. R. Nelson # 9576 and T. A. McKnight, and MAIS team 65 morse Camped night of 3-4 July 2010. lost vial in camp just before leaving in jeep. Later found in jeep 5 July 2010. Hooray.

043dund: N49.51805E91.58690 elev. 2471 m.

I seemed to have reset the clock in my Nikon D300 at about here in the trip. (28 November 2010) photos: scenery and river. Nemouridae Amphinemura? Tipulidae, Deuterophlebiidae larvae, Rhyacophilidae, Trichoptera, Chironomidae, Empididae. MAIS2010070303 9576

9577 MONGOLIA: Uvs Aimag, Omnogovi Soum, Modot Ovootyn Davaa N 49.34397 E 91.88228 elev. 2172 m 4 July 2010, C. R. Nelson # 9577 and T. A. McKnight, and MAIS team 65 043OVOO Asilidae, Therevidae none 9577

9578 MONGOLIA: Uvs Aimag, Omnogovi Soum, Unnamed lake (1.5-2 km²), 24 km NNE of Omnogovi N 49.32741 E 91.82642 elev. 2069 m 4 July 2010, C. R. Nelson # 9578 and T. A. McKnight, and MAIS team 65 morse 043lake N49.32735E91.82658 elev. 2061 m pied avocets, redhead ducks, swan yellow bill with babies. Photos: Chironomidae several, Otitidae (Ulidiidae), Chloropidae, Saldidae, Bibionidae, horses at end. MAIS2010070401 9578

9579 MONGOLIA: Uvs Aimag, Omnogovi Soum, Orlogiin Gol, 25 km North Omnogovi N 49.33993 E 91.68145 elev. 1876 m 4 July 2010, C. R. Nelson # 9579 and T. A. McKnight, and MAIS team 65 morse near dry gold mining pit above placer mines 043orlog N49.33995E91.68144 elev 1883 m. Perlodidae 1 male, several nymphs. Saldidae Empididae Asilidae Lasiopogon. photos: site, citrine wagtail, nest, babies, and parent MAIS2010070402 9579

9580 MONGOLIA: Uvs Aimag, Omnogovi Soum, Orlogiin Gol, 5 km West of Omnogovi N 49.11833 E 91.62511 elev. 1593 m 4 July 2010, C. R. Nelson # 9580 and T. A. McKnight, and MAIS team 65 morse Camped night of 4-5 July 2010 on slow muddy river, mosquitoes. 043orloomno N49.11816E91.62509 elev 1591 m.

Mislabeled as Khovd Soum on field labels

found a rusty pair of sheep shears and took them home. Ulidiidae; Tipulidae; Culicidae; Ephydriidae; Chrysomelidae. photos: Asilidae 2-4 species, Cicindelidae, Curculionidae, Pompilidae with Thomisidae, Acrididae. MAIS2010070403 9580

9581 MONGOLIA: Uvs Aimag, Omnogovi Soum, Ponds by Orlogiin Gol Bridge, Omnogovi N 49.11071 E 91.72276 elev. 1565 m 5 July 2010, C. R. Nelson # 9581 and Gelhaus, Podenas, Podeninie, Enkhnasan, Oyunbileg, Sosorburam 65 morse Omno pond, 043omno N49.11042E91.72248 elev 1594 m Photos: Notostraca Triops; Conchostraca; Anostraca; Tipulidae Idiocera; Ephydriidae larvae; Syrphidae larva rat tailed maggot; Saldidae; Dolichopodidae MAIS2010070501 9581

9582 MONGOLIA: Uvs Aimag, Khovd Soum, Noriin Khotol (davaa) N 49.19954 E 91.39151 elev. 1883 m 5 July 2010, C. R. Nelson # 9582 and T. A. McKnight, and MAIS team 65 044NORDAV views to Omnogovi and Khar Us Nuur. Lunch stop on small pass none 9582

9583 MONGOLIA: Uvs Aimag, Khovd Soum, Shaazgay Nuur east shore N 49.22837 E 91.31071 elev. 1701 m 5 July 2010, C. R. Nelson # 9583 and T. A. McKnight, and MAIS team 65 morse 044shaazga N49.22830E91.31072 elev 1712 m photos: Asilinae; no photo Stichopogon; spider Geolycosa?; Cicindelidae. Myrmeleontidae; sweepings of freshwater lake and strand pool. Ruddy shellduck; Common Shellduck MAIS2010070502 9583

9584 MONGOLIA: Uvs Aimag, Khovd Soum, ponds and Deed Nuuriin Bulag, 27 km East of Khovd, 13 km Northwest of Shaazgay Nuuriin Urd Khotol N 49.29800 E 91.28097 elev. 1739 m 5 July 2010, C. R. Nelson # 9584 and T. A. McKnight, and MAIS team 65 morse 044shacrk N49.29802E91.28097 elev 1749 m. also on road photos? 044tsahot Tsagaan Khotol N49.38618E91.25726 elev 2233 m photos: scenery, views to Tsambagarav Peaks, site. Sweepings; Tipulidae; Asilidae 2 asilinae in 96% ethanol; Ptychopteridae; Chironomidae MAIS2010070503 9584

9585 MONGOLIA: Uvs Aimag, Khovd Soum, Shiver/Ireg Gol, 25 km Northeast of Khovd N 49.43119 E 91.19093 elev. 1964 m 5-6 July 2010, C. R. Nelson # 9585 and T. A. McKnight, and MAIS team 65 morse Camped night of 5-6 July 2010. bath. collected both days. 044shiver N49.43113E91.19096 elev 1968 m Deuterophlebiidae larvae pupae; Blephariceridae larvae pupae; Thaumaleidae larvae pupae; Simuliidae; Trichoptera MAIS2010070504 9585

9586 MONGOLIA: Uvs Aimag, Khovd Soum, Goojuur Gol, 25 km Northeast of Khovd N 49.42978 E 91.19503 elev. 1975 m 5-6 July 2010, C. R. Nelson # 9586 and T. A. McKnight, and MAIS team 65 morse 045GOO N49.42973E91.19517 elev 1995 m Camped on Shiver Gol 9585, 5-6 July 2010. Collected both days. Deuterophlebiidae larvae and pupae; Simuliidae; Baetidae; Thaumaleidae larvae; Chironomidae; Tipulidae MAIS2010070505 9586

9587 MONGOLIA: Uvs Aimag, Khovd Soum, Goojuur Waterfall, 29 km Northeast of Khovd N 49.44144 E 91.25202 elev. 2274 m 6 July 2010, C. R. Nelson # 9587 and T. A. McKnight, and MAIS team 65 morse waterfall. poor readings near falls (narrow canyon). 045fall N49.44421E91.25511 elev 2277 m. 045fall2 N49.44418E91.25501 elev 2279 m. good reading but far out (100 m): 045fallout N49.44096E91.25134 elev 2273 m. photos: scenery, people, and horse; Thaumaleidae larvae and pupae. Trichoptera, Nemouridae, Tipulidae. wool from herdsman address? in black notebook? MAIS2010070601 9587

9588 MONGOLIA: Uvs Aimag, Khovd Soum, springs by Goojuur Gol, 27 km Northeast of Khovd N 49.43095 E 91.21487 elev. 2274 m 6 July 2010, C. R. Nelson # 9588 and Gelhaus, Podenas, Podeniene, Hayford, Morse 65 morse Up to this point in Mongolia my GPS was one hour advance. Previously, 10:00 am should have been 9:00 am (Maybe only since Uvs time change, Maybe cameras are off an hour too! sweepings as same vial as benthics from river, separate into each vial by locality! MAIS2010070602 9588

9589 MONGOLIA: Uvs Aimag, Khovd Soum, braid of Shiver Gol, 13 km East of Khovd N 49.23040 E 91.07297 elev. 1475 m 6 July 2010, C. R. Nelson # 9589 and T. A. McKnight, and MAIS team 65 morse 045brashiv N49.23043E91.07296 elev 1476 m sweepings; Asilidae Holopogon Asilinae MAIS2010070603 9589

9590 MONGOLIA: Uvs Aimag, Khovd Soum, braid of Shiver Gol, 12 km East of Khovd N 49.24592 E 91.06149 elev. 1489 m 6-7 July 2010, C. R. Nelson # 9590 and T. A. McKnight, and MAIS team 65 morse 045brashiv2 N49.24618E91.06136 elev. 1479 m. Camped night 6-7 July 2010 sweepings; Asilidae Holopogon; Rhagionidae; Stratiomyidae MAIS2010070604 9590

9590.5 MONGOLIA: Uvs Aimag, Khovd Soum, unnamed stream and Marshes, East of MAIS2010070604, 11 km East of Khovd N 49.25445 E 91.05708 elev. 1500 m 6-7 July 2010, C. R. Nelson # 9590.5 and T. A. McKnight, and MAIS team 65 Google Earth, estimate Gelhaus and Morse collected a stream and Marsh upstream from campsite and near rounded hill of rocks. Nemouridae MAIS2010070604B 9590.5

9591 MONGOLIA: Uvs Aimag, Khovd Soum, main stem of Shiver Gol, 12.5 km East of Khovd N 49.23717 E 91.05908 elev. 1483 m 7 July 2010, C. R. Nelson # 9591 and T. A. McKnight, and MAIS team 65 morse 045main N 49.24594 E91.06083 elev. 1483 m This is the bigger "mainstem" braid but nearer camp than MAIS20100701 sweepings; Perlodidae female MAIS2010070701 9591

9592 MONGOLIA: Uvs Aimag, Khovd Soum, Khovd Gol bridge, Khovd N 49.28326 E 090.90299 elev. 1405 m 7 July 2010, C. R. Nelson # 9592 and T. A. McKnight, and MAIS team 65 morse fix field labels if given as MAIS20100700701 to 02. 045hovd gol N49.28333E90.90301 elev 1426 m Gomphidae; Lestidae; Perlidae; Perlodidae; Isoperla; Haploperla; Tipulidae; Stratiomyidae; Micropezidae Photos: Perlidae and Perlodidae, May have lost vial of vouchers MAIS2010070702 9592

9593 MONGOLIA: Uvs Aimag, Khovd Soum, Achit Nuur eastern shore, 1.3 km North of bridge N 49.43405 E 090.67022 elev. 1434 m 7-8 July 2010, C. R. Nelson # 9593 and T. A. McKnight, and MAIS team 65 morse camped night of 7-8 July 2010 fix field labels from 0702 to 0703

045achit N49.43411E90.67017 elev 1446 m

046achit2 N49.43421E90.67070 elev. 1444 m (next morning reading for fun to see how close) photos scenery; Chironomidae; Leptoceridae Mystacides Ceraclea; Hydroptilidae; Syrphidae; Culicidae; Coenagrionidae MAIS2010070703 9593

9594 MONGOLIA: Bayan Olgiy Aimag, Nogoonnuur Soum, Achit Nuur outfall, southwest bank, 300 m South of bridge N 49.42303 E 090.66346 elev. 1434 m 7-8 July 2010, C. R.

Nelson # 9594 and T. A. McKnight, and MAIS team 65 morse 045ach br
N49.42604E90.66589 elev. 1457 m Syrphidae; Asilidae; Cicindelidae; ducks pochard?
MAIS2010070704 9594

9595 MONGOLIA: Bayan Olgiy Aimag, Nogoongnuur Soum, Zuun Khol Nuur western shore N
49.39051 E 090.61692 elev. 1437 m 8 July 2010, C. R. Nelson # 9595 Maasri,
Bolortsetseg, Suvdtsetseg, Uugantsetseg, Morse 65 morse C. R. Nelson not present at this
MAIS sampling site. MAIS2010070801 9595

9596 MONGOLIA: Bayan Olgiy Aimag, Nogoongnuur Soum, braid of Khovd Gol, Develiyn
Aral, Khovd Bag N 49.30199 E 090.52973 elev. 1467 m 8 July 2010, C. R. Nelson # 9596
and T. A. McKnight, and MAIS team 65 morse 046hovdel N49.30225E90.52897 elev. 1473 m
Isoperla; Haploperla; Tipulidae; Rhagionidae; Corixidae tiny adults; sweepings;
Ephemeroptera; Asilidae MAIS2010070802 9596

9597 MONGOLIA: Bayan Olgiy Aimag, Nogoongnuur Soum, high road west side of Achit
Lake, view to Achit Lake and Kharkhiraa Mountains, N 49.36946 E 90.47758 elev. 1660 m 8
July 2010, C. R. Nelson # 9597 and T. A. McKnight, and MAIS team 65 046VIEWACH
Photos: view to Achit Lake from west hill/plains none 9597

9598 MONGOLIA: Bayan Olgiy Aimag, Nogoongnuur Soum, plains Southwest of Nogoongnuur
N 49.56 E 90.095 elev. 1649 m 8 July 2010, C. R. Nelson # 9598 and T. A. McKnight, and
MAIS team 65 Google Earth, estimate videos on the plains, bouncing across the glacial till
toward the Siylkhemiyin Mountains and Nogoongnuur town none 9598

9599 MONGOLIA: Bayan Olgiy Aimag, Nogoongnuur Soum, Zakhin Us Gol, 15 km West of
Nogoongnuur N 49.57774 E 090.03497 elev. 1764 m 8-9 July 2010, C. R. Nelson # 9599
and T. A. McKnight, and MAIS team 65 morse ended photo session of insects with
Nemestrinidae 9593 out of order, before 9599 site photos.

Camped night of 8-9 July 2010. Had birthday party for Jon Gelhaus.

046upnogoo N49.57781E90.03500 elev. 1770 m. camped on the highway. photos:
Chloroperlidae Suwallia?; Perlodidae Isoperla; Arcynopteryx?; Blephariceridae adult
pupae; many photo vouchers of others.

Tipulidae MAIS2010070803 9599

9600 MONGOLIA: Bayan Olgiy Aimag Nogoongnuur Soum, Nogoongnuur soum center N
49.61477 E 90.24751 elev. 1503 m 9 July 2010, C. R. Nelson # 9600 and T. A. McKnight,
and MAIS team 65 046NOGOON no meat, no vegetables, no coca cola. a nearly
abandoned kazakh town with people gone to the summer range none 9600

9601 MONGOLIA: Uvs Aimag Bokhmoron Soum, Bokhmoron soum center N 49.665 E
90.294 elev. 1485 m 9 July 2010, C. R. Nelson # 9601 and T. A. McKnight, and MAIS team

65 Google Earth photos: scenery & people; no meat, no vegetables, after a wait we got gas. This is a Mongol town. Still no coca cola for Tristan's stomach. none 9601

9602 MONGOLIA: Bayan Olgiy Aimag, Nogoonnuur Soum, Siylkhemiyin Nuruu Protected Area, Khatuugiin Gol, 20 km WNW of Nogoonnuur N 49.70740 E 089.97157 elev. 1793 m 9 July 2010, C. R. Nelson # 9602 and T. A. McKnight, and MAIS team 65 morse Riley ran yellow pans for Tristan. He isn't feeling well.

046hatug N49.70732E89.97139 elev. 1811 m photos: site and people; Chloroperlidae shot out of order at CRN 9603.

Tipulidae; Ephydriidae MAIS2010070901 9602

9603 MONGOLIA: Bayan Olgiy Aimag, Nogoonnuur Soum, Siylkhemiyin Nuruu Protected Area, Baga Khatuugiin/Burgastai Gol, 22 km Northwest of Nogoonnuur N 49.77340 E 090.02274 elev. 1694 m 9-10 July 2010, C. R. Nelson # 9603 and T. A. McKnight, and MAIS team 65 morse blue glacier stream. Seems to come from hillside waterfall, not an eroded gorge. Camped night of 9-10 July 2010.

047camp N49.77335E90.02271 elev. 1694 m photos: scenery and people.

Deuterophlebiidae; Nemouridae Amphinemura?; sweeps; photos: Notodontidae caterpillar (then Chloroperlidae of 9602) MAIS2010070902 9603

9604 MONGOLIA: Bayan Olgiy Aimag Nogoonnuur Soum Siylkhemiyin Nuruu Protected Area, cascades of Baga Khatuugiin Gol, 22 km NW of Nogoonnuur N 49.76540 E 089.99707 elev. 1833 m 10 July 2010, C. R. Nelson # 9604 and T. A. McKnight, and MAIS team 65 047CAMPUP big enough river, not big enough deep channel. a bit odd. photos:

Nemouridae; Tipulidae Philodoria.

Tipula and Ichneumonidae to Jon Gelhaus. sweepings. none 9604

9605 MONGOLIA: Bayan Olgiy Aimag, Nogoonnuur Soum, Siylkhemiyin Nuruu Protected Area, unnamed ponds, 20 km WNW of Nogoonnuur N 49.71056 E 089.98618 elev. 1751 m 10 July 2010, C. R. Nelson # 9605 and T. A. McKnight, and MAIS team 65 morse 047ponds N49.71169E89.98611 elev. 1750 m. Ephydriidae; Dolichopodidae; Dixidae; Chloropidae; Syrphidae; Chironomidae; photos scenery and people, white winged scoter.

MAIS2010071001 9605

9606 MONGOLIA: Uvs Aimag, Bokhmoron Soum, Bokhmoron/Tavan Salaa Gol at Hwy A16 crossing N 49.70380 E 090.23026 elev. 1526 m 10 July 2010, C. R. Nelson # 9606 and T. A. McKnight, and MAIS team 65 morse Tavan Salaa means "Five Branches"

048bohoro N49.70379E90.23022 elev. 1531 m. photos: Isoperla 2 spp; Arcynopteryx; Scutellaridae; Tipulidae; Buprestidae.

Tenebrionidae; Cerambycidae; Chloroperlidae with Jon Gelhaus; Tanyderidae! with Jon Gelhaus. Cossidae larva MAIS2010071002 9606

9607 MONGOLIA: Uvs Aimag, Bokhmoron Soum, Jigerstey bag, N of Bokhmoron N 49.92936 E 090.24702 elev. 1685 m 10 July 2010, C. R. Nelson # 9607 and T. A. McKnight, and MAIS team 65 052JIGERST photos: scenery none 9607

9608 MONGOLIA: Uvs Aimag, Bokhmoron Soum, Gulzat Protected Area, Altan Gadasni Gol, 7 km North of Jigertei Bag N 49.99679 E 090.27887 elev. 1763 m 10-11 July 2010, C. R. Nelson # 9608 and T. A. McKnight, and MAIS team 65 morse photos of Dytiscus from 9605 out of order.

052altan N49.99668E90.27896 elev. 1744 m. Raphidiidae; Perlodidae large 1 skin (but check in RBP they found a nymph); Isoperla 2 spp.; Chloroperlidae 1 specimen; Blephariceridae adult; Ephemeroptera Mayflies; sweepings. Photos of site and Ikh Turgan Peak. MAIS2010071003 9608

9609 MONGOLIA: Uvs Aimag, Bokhmoron Soum, Altan Gadasni Gol at Hwy A16 crossing, N 49.77578 E 090.43120 elev. 1504 m 11 July 2010, C. R. Nelson # 9609 and T. A. McKnight, and MAIS team 65 morse 042altalow N49.77572E90.43116 elev. 1510 m. photos: site, scenery Siylkhemiyin Range; north into Russia. Red knob. sweepings; Syrphidae; Ephydriidae; Dolichopodidae; Tipulidae; Lycaenidae; saw Gomphidae, Libellulidae, Aeshnidae, Lestidae caught to Sosko, Coenagrionidae. MAIS2010071101 9609

9610 MONGOLIA: Uvs Aimag, Sagil Soum, pass southwest of Uureg Nuur, N 50.10888 E 090.76743 elev. 1815 m 11 July 2010, C. R. Nelson # 9610 and T. A. McKnight, and MAIS team 65 052UREG VU photos: first look at Uureg Lake none 9610

9611 MONGOLIA: Uvs Aimag, Sagil Soum, border station NW of Uuregnuur, N 50.23346 E 090.73653 elev. 1587 m 11 July 2010, C. R. Nelson # 9611 and T. A. McKnight, and MAIS team 65 052OUTPOST Russian border; gained permission of base commander none 9611

9612 MONGOLIA: Uvs Aimag, Sagil Soum, Gulzat Protected Area, Kharig Gol, 2 km SE Mongolian/Russian border N 50.24094 E 090.75657 elev. 1552 m 11 July 2010, C. R. Nelson # 9612 and T. A. McKnight, and MAIS team 65 morse 052harig N50.24096E90.75652 elev. 1555 m Isoperla 1 m; Nemouridae; Chloroperlidae 2; Asilidae 3 spp?; Bombyliidae; Nemestrinidae to Tristan; Tipulidae; Ephydriidae; bees; Therevidae; Syrphidae; Cerambycidae; Curculionidae; Chrysomelidae; Tabanidae; Blephariceridae. MAIS2010071102 9612

9613 MONGOLIA: Uvs Aimag, Sagil Soum, Gulzat Protected Area, Tsagaan Gol, 10 km West of Uureg Nuur Bag N 50.17117 E 090.72800 elev. 1629 m 11-13 July 2010, C. R. Nelson #

9613 and T. A. McKnight, and MAIS team 65 morse 052nadaam N50.17115E90.72793 elev. 1635 m.

Nadaam celebrations site. Photos: people at Nadaam. photos: Nemouridae adult; nymph with flatworm; Nephrotoma scaris ssp parvinotata; Tipula (Beringotipula) unca amurensis; Tipula (Lunatipula) lunata; black and yellow beetle; Empididae; Nemestrinidae sleeping; Miridae; Opilionida; Lycosidae with babies.

MAIS2010071103 9613

9613.3 MONGOLIA: Uvs Aimag, Sagil Soum, Gulzat Protected Area, Khargaitin Gol, 15 km West of Uureg Nuur Bag N 50.16374 E 090.66705 elev. 1775 m 12 July 2010, C. R. Nelson # 9613.3 Podenas, Maasri, Morse 65 morse C. R. Nelson not present during sampling. Nemouridae 1 MAIS2010071201 9613.3

9613.6 MONGOLIA: Uvs Aimag, Sagil Soum, Gulzat Protected Area, Tsagaan Gol, 13 km West of Uureg Nuur Bag N 50.17337 E 090.69307 elev. 1713 m 12 July 2010, C. R. Nelson # 9613.6 Podenas, Maasri, Morse 65 morse C. R. Nelson not present during sampling. MAIS2010071202 9613.6

9614 MONGOLIA: Uvs Aimag, Sagil Soum, Uureg Nuur western shore, 9 km SE of Uureg Nuur Bag N 50.14112 E 090.87587 elev. 1430 m 13 July 2010, C. R. Nelson # 9614 and T. A. McKnight, and MAIS team 66 morse photos: sites and scenery also 053uureg N 50.14036 E 90.87519 elev. 1437 m

30 Nov 2010: i started adding taxa and notes sections here. I replaced none in GPS code with morse and put my numbers in this Notes field. Ephyrdridae, Ulidiidae, Tipulidae, Stratiomyidae, Asilidae 2 genera, Chironomidae, Saldidae, Chrysomelidae, Coenagrionidae, Dolichopodidae, bees. MAIS2010071301 9614

9615 MONGOLIA: Uvs Aimag, Sagil Soum, Uureg Lake, SE corner, N 50.08414 E 91.08226 elev. 1433 m 13 July 2010, C. R. Nelson # 9615 and T. A. McKnight, and MAIS team 66 053UUREGSE photos lake and scenery, Gelhaus photo none 9615

9616 MONGOLIA: Uvs Aimag, Sagil Soum, Omno Bij Bul, 36 km WNW of Turgen N 50.20571 E 91.20193 elev. 1637 m 13 July 2010, C. R. Nelson # 9616 and T. A. McKnight, and MAIS team 66 morse 053OMNOBIJ N 50.20567 E 91.20192 elev. 1631 m stream heavily impacted by animals from 6 ger visible. Limoniidae, Tipulidae, Nemouridae, Perlodidae, Ephemerellidae, Baetidae, Brachycentridae, Limnephilidae, Ephyrdridae, Dolichopodidae. MAIS2010071302 9616

9617 MONGOLIA: Uvs Aimag, Turgen Soum, Ulaan Davaa, 18 km Northwest of Turgen N 50.17626 E 91.48144 elev. 1777 m 13 July 2010, C. R. Nelson # 9617 and T. A. McKnight,

and MAIS team 66 053WRECK Coal truck rollover and smashed cab, mere seconds ahead of us. Much uncertainty about death. All four survived. Our truck's winch allowed the driver to be pruned loose from the horrible mess. none 9617

9618 MONGOLIA: Uvs Aimag, Turgen Soum, junction Hwys A10 and A1702, 3 km North of Turgen N 50.14711 E 91.64793 elev. 1155 m 13 July 2010, C. R. Nelson # 9618 and T. A. McKnight, and MAIS team 66 Google Earth photos: demoiselle crane none 9618

9619 MONGOLIA: Uvs Aimag, Turgen Soum, Turgen soum center N 50.09425 E 91.66962 elev. 1250 m 13 July 2010, C. R. Nelson # 9619 and T. A. McKnight, and MAIS team 66 053TURGEN photos town and views to Uvs Lake none 9619

9620 MONGOLIA: Uvs Aimag, Sagil Soum, Khondlon Gol, 4.5 km West of Turgen N 50.08403 E 91.61472 elev. 1295 m 13-14 July 2010, C. R. Nelson # 9620 and T. A. McKnight, and MAIS team 66 morse 053HONDOLN N 50.08393 E 91.61480 elev. 1281 m. photos: Isoperla potanini mating pair, Saldidae, Carabidae, Archaeognatha, Raphidiidae, Cerambycidae long and big MAIS2010071303 9620

9621 MONGOLIA: Uvs Aimag, Turgen Soum, Khondlon Gol, 6 km West of Turgen N 50.07567 E 91.60130 elev. 1310 m 14 July 2010, C. R. Nelson # 9621 and T. A. McKnight, and MAIS team 66 053HODUP main river at springs 053HODUP Deuterophlebiidae larvae & pupae, Blephariceridae pupa, sweepings, Chloroperlidae 1, Tabanidae, Trichoptera, Chrysomelidae, Empididae Hilara, Asilidae 3 genera none 9621

9622 MONGOLIA: Uvs Aimag, Turgen Soum, Springs South side of Khondlon Gol, 6 km West of Turgen N 50.07458 E 91.60140 elev. 1316 m 14 July 2010, C. R. Nelson # 9622 and T. A. McKnight, and MAIS team 66 morse springs up Chloroperlidae larvae at headwaters.

Photos: Limnephilidae and Phryganeidae larvae photo vouchers to John Morse. Photos: Isoperla larva, Siphonuridae larva. sweepings, Ephydriidae, Dolichopodidae, Ptychopteridae, Lonchaeidae MAIS2010071401 9622

9623 MONGOLIA: Uvs Aimag, Davst Soum, Davst N 50.61215 E 92.40353 elev. 854 m 14 July 2010, C. R. Nelson # 9623 and T. A. McKnight, and MAIS team 66 053DAVST photos: town, Uvs Lake, people none 9623

9624 MONGOLIA: Uvs Aimag, Davst Soum, Shuden border outpost N 50.69270 E 92.58861 elev. 1006 m 14 July 2010, C. R. Nelson # 9624 and T. A. McKnight, and MAIS team 66 053SHUDEN passports checked none 9624

9625 MONGOLIA: Uvs Aimag, Davst Soum, Tokhilog Gol, 4 km North of Mongolian military border outpost N 50.71740 E 92.59928 elev. 1043 m 14-15 July 2010, C. R. Nelson # 9625

and T. A. McKnight, and MAIS team 66 morse 053SHURIV N 50.71744 E 92.59942 elev. 1028 m. Hexatoma, Perlodidae skin, Chloroperlidae skin, Carabidae, Opilionida
MAIS2010071402 9625

9626 MONGOLIA: Uvs Aimag, Davst Soum, Tokhilog Gol, by Mongolian military border outpost N 50.69165 E 92.59283 elev. 1003 m 14-15 July 2010, C. R. Nelson # 9626 and T. A. McKnight, and MAIS team 66 morse 092SHUCAMP N 50.69163 E 92.59283 elev. 987 m. camped night of 14-15 July 2010.

Out of order at 9628: photo: Chloroperlidae with bad wings after red chrysomelid at 9628. Hexatoma male after Vestiplex of 9628. Buprestidae out of order end with small Limoniinae Hexatoma MAIS2010071403 9626

9627 MONGOLIA: Uvs Aimag, Davst Soum, Uvs Nuur north shore, 10 km Southeast of Davst N 50.54100 E 92.49384 elev. 763 m 15 July 2010, C. R. Nelson # 9627 and T. A. McKnight, and MAIS team 66 morse 092UVSNUUR N 50.54096 E 92.49384 elev. 736 m. photos Stratiomyidae, Dermestidae. Ephydriidae, Dolichopodidae MAIS2010071501 9627

9628 MONGOLIA: Uvs Aimag, Sagil Soum, Borshoo Gol, 29 km NNE of Sagil N 50.57615 E 91.77029 elev. 1281 m 15-16 July 2010, C. R. Nelson # 9628 and T. A. McKnight, and MAIS team 66 morse 092BORSHOO N 50.57621 E 91.77029 elev. 1247 m

I lost my old friend Pentel pencil in the woods here. It gave me separation anxiety, mild, what a place!, beautiful place, to leave an old friend. I have a light weight plastic, solid new friend pencil. We are becoming acquainted. start photos: Chrysomelidae red, Tipulidae Limoniinae (end of out of order crossed out), Isoperla, Chloroperlidae 2 spp., ant & aphids, Acalypterate red, Anthomyiidae several - most vouchers escaped, Acroceridae, Dioctria with beetle prey, Therevidae & spider, caterpillar, Tipulidae pectinate. MAIS2010071502 9628

9629 MONGOLIA: Uvs Aimag, Sagil Soum, Nutsgen (,ÄúBayan,Äù) Gol, 22 km NNE of Sagil N 50.51153 E 91.74493 elev. 1229 m 16 July 2010, C. R. Nelson # 9629 and T. A. McKnight, and MAIS team 66 morse 092SPR N 50.51147 E 91.74488 elev. 1255 m. Highway sign read Bayan, not believed. Dolichopodidae, Tipulidae, Chloroperlidae, Stratiomyidae, Goeridae, Leptoceridae, Brachycentridae larvae, Baetidae, Syrphidae, Scatophagidae, Asilidae Leptogaster Machimus. MAIS2010071601 9629

9630 MONGOLIA: Uvs Aimag, Sagil Soum, Sagil soum center N 50.33410 E 91.61465 elev. 1132 m 16 July 2010, C. R. Nelson # 9630 and T. A. McKnight, and MAIS team 66 092SAGIL I think we got gas here. (CRN added 30 November 2010) Asilidae, rock. photos ger walls. I think we got gas here. none 9630

9631 MONGOLIA: Uvs Aimag, Sagil Soum, Daltiin Davaa (pass) N 50.23141 E 91.38155 elev. 1969 m 16 July 2010, C. R. Nelson # 9631 and T. A. McKnight, and MAIS team 66 092DALTIIN photos: Argali sheep skull on ovoo
photos: sheep shearing in next valley south Asilidae Stenopogon Asilinae mating pair.
photos: Argali sheep skull on ovoo none 9631

9632 MONGOLIA: Uvs Aimag, Turgen Soum, davaa N 50.01287 E 91.35163 elev. 2010 m 16 July 2010, C. R. Nelson # 9632 and T. A. McKnight, and MAIS team 66 092DAVAA photos: view to SSE, 1 photo. Acrididae to Jon Gelhaus none 9632

9633 MONGOLIA: Uvs Aimag, Turgen Soum, Turgen Gol?, Delgermoron N 50.91213 E 91.39356 elev. 1798 m 16 July 2010, C. R. Nelson # 9633 and T. A. McKnight, and MAIS team 66 092DEL Arcynopteryx 1 male, 1 nymph, skins. Apataniidae adult. none 9633

9634 MONGOLIA: Uvs Aimag, Turgen Soum, Javartain Gol & Turgen Gol, 33 km Southwest of Turgen N 49.89234 E 91.35239 elev. 1849 m 16-17 July 2010, C. R. Nelson # 9634 and T. A. McKnight, and MAIS team 66 morse 092TURGCONFL N 49.89164 E 91.35229 elev. 1859 m. Turgen Gol is much larger and runs glacial milk, Javartin is clear and dark. photos: Arcynopteryx, Tipulidae Vestiplex wingless female. Isoperla, Chloroperlidae 1 with Suvdaa, sweepings, two species of big perlodids, female short winged female long winged. photos: scenery, Rhabdomastix tipulids, Nephrotoma erebus. Photo: Dermaptera (after Turgen site photos #9636. Edelweiss of bookMark. MAIS2010071602 9634

9635 MONGOLIA: Uvs Aimag, Turgen Soum, Javartain Gol, 33.5 km Southwest of Turgen, near confluence Turgen Gol, N 49.88653 E 91.34708 elev. 1871 m 16 July 2010, C. R. Nelson # 9635 and T. A. McKnight, and MAIS team 66 morse No CRN GPS reading, use Morse. Little right hand fork. Stratiomyidae, Nemouridae, Perlodidae 2 gen., Ephydriidae, photo Machilidae not exact voucher, but the same. Limnephilidae? and Goeridae? to Suvdaa. MAIS2010071603 9635

9636 MONGOLIA: Uvs Aimag, Turgen Soum, Turgen Gol, 34 km Southwest of Turgen N 49.88059 E 91.35802 elev. 1897 m 17 July 2010, C. R. Nelson # 9636 Maasri, Bolortsetseg, Tomortsoog, Uugantsetseg, Oyunbileg 66 morse Big main left hand fork, no crn reading use Morse or CRN 9634. Perlodidae Arcynopteryx, mashed female, male. Bombus, Ichneumonidae, Opilionidae, Trichoptera, Cicadellidae MAIS2010071604 9636

9637 MONGOLIA: Uvs Aimag, Turgen Soum, Buural Gol, 30 km Southwest of Turgen N 49.90381 E 91.41097 elev. 1812 m 17 July 2010, C. R. Nelson # 9637 Maasri, Bolortsetseg, Tomortsoog, Uugantsetseg, Oyunbileg, Suvdtsetseg, Morse 66 morse downstream junction of all near CRN #9633. No CRN reading, use morse. CRN did not visit, near ruins, Suvdaa gave me: Isoperla, Chloroperlidae. MAIS2010071605 9637

9638 MONGOLIA: Uvs Aimag, Turgen Soum, man Stone, near Delgermoron N 49.95203 E 91.38646 elev. 1703 m 17 July 2010, C. R. Nelson # 9638 and T. A. McKnight, and MAIS team 66 092manSTON photos: archaeology none 9638

9639 MONGOLIA: Uvs Aimag, Turgen/Sagil Soum, Ulaan Davaa, 18 km Northwest of Turgen N 50.17514 E 91.45869 elev. 1971 m 17 July 2010, C. R. Nelson # 9639 and T. A. McKnight, and MAIS team 66 092ULAADAV field notes read 18 km SE of Turgen in darker pencil. PHotos: ovoo and people, videos descending into Uvs Lake region. Rough pencil sketch of Khandaa. none 9639

9640 MONGOLIA: Uvs Aimag, Ulaangom Soum, Ulaangom N 49.98060 E E 92.06579 elev. 933 m 17 July 2010, C. R. Nelson # 9640 and T. A. McKnight, and MAIS team 66 Google Earth photos: People? Tolga (or elsewhere?) shopping. none 9640

9641 MONGOLIA: Uvs Aimag, Tarialan Soum, Teeliin Gol, 13 km Southeast of Ulaangom N 49.90393 E 92.20848 elev. 955 m 17-18 July 2010, C. R. Nelson # 9641 and T. A. McKnight, and MAIS team 66 morse 092TEELIN N 49.90392 E 92.20852 elev. 965 m. camped night 17-18 July sweepings, Tipulidae, Stratiomyidae, photos: sun up over camp, horse woman with lens, Gyrinidae vouchers to Nasa, nettles with caterpillars and pupae, Nymphalidae. MAIS2010071701 9641

9642 MONGOLIA: Uvs Aimag, Naranbulag Soum, Uvs Nuur, 39 km East of Ulaangom N 49.99021 E 92.60818 elev. 760 m 18 July 2010, C. R. Nelson # 9642 and T. A. McKnight, and MAIS team 66 morse 092UVSOUTH N 49.99016 E 92.60819 782 m. Acroceridae, Asilidae Stichpogon Holopogon large Asilinae, Leptoceridae, Membracidae, Bombyliidae, bees, Syrphidae, Cerambycidae grass, Chrysomelidae, Tipulidae 1 to Sigitas. MAIS2010071801 9642

9643 MONGOLIA: Uvs Aimag, Malchin Soum, 50 km West of Zuungovi N 49.90618 E 93.10909 elev. 881 m 18 July 2010, C. R. Nelson # 9643 and T. A. McKnight, and MAIS team 66 093LUNCH photos: endless plain (little camera) last shot of Turgen Mtns. to the west. none 9643

9644 MONGOLIA: Uvs Aimag, Malchin Soum, 26 km West of Zuungovi N 49.89146 E 93.42973 elev. 968 m 18 July 2010, C. R. Nelson # 9644 and T. A. McKnight, and MAIS team 66 093VULT photos: cinereous vultures none 9644

9644.5 MONGOLIA: Uvs Aimag, Zuungovi Soum, Zuungovi soum center N 49.90326 E 93.78836 elev. 1001 m 18 July 2010, C. R. Nelson # 9644.5 and T. A. McKnight, and MAIS team 66 093ZUUNGOV photos: water spigot, then 19 July 2010 photos carpet salesman that reminded me of Limb Hapairai. none 9644.5

9645 MONGOLIA: Uvs Aimag, Zuungovi Soum, 9 km Northeast of Zuungovi N 49.97065 E 93.86186 elev. 1127 m 18 July 2010, C. R. Nelson # 9645 and T. A. McKnight, and MAIS team 66 name it from gps? photos: habitat small camera Chrysomelidae, Asilidae, Cerambycidae. none 9645

9646 MONGOLIA: Uvs Aimag, Zuungovi Soum, 3.7 km E of Bayan Nuur outflow bridge N 50.02229 E 94.07195 elev. 1028 m 18 July 2010, C. R. Nelson # 9646 and T. A. McKnight, and MAIS team 66 093BAYANUP Stenopogon, Chrysomelidae, Holopogon, photos: milkweed and habitat. none 9646

9647 MONGOLIA: Uvs Aimag, Zuungovi Soum, Nariin Gol, 30 km Northeast of Zuungovi N 50.05245 E 94.15410 elev. 923 m 18-19 July 2010, C. R. Nelson # 9647 and T. A. McKnight, and MAIS team 66 morse 093NARSAND N 50.05282 E 94.15392 elev. 942 m. Sandy bottomed spring system. near "spa" Tipulidae, Stratiomyidae, Asilidae Holopogon Dioctria, photos: Nemouridae black. Phryganeidae larva, Nepidae Nepa nymphs, Rhagionidae, Empididae, much more. MAIS2010071802 9647

9648 MONGOLIA: Uvs Aimag, Zuungovi Soum, Bayan Nuur north end, ponds & outflow N 50.02724 E 94.02057 elev. 933 m 19 July 2010, C. R. Nelson # 9648 and T. A. McKnight, and MAIS team 66 morse 093BAYANUR N 50.02604 E 94.02180 elev. 947 m. Stichopogon, Dolichopodidae, Syrphidae, Chloroperlidae, Tridactylidae, Lestidae, Libellulidae, Aeshnidae, bees. photo of Ichneumonidae for Alexei Reschikov MAIS2010071901 9648

9649 MONGOLIA: Uvs Aimag, Baruunturuun Soum, Baruunturuun soum center N 49.65726 E 94.38755 elev. elev. 1226 m 19 July 2010, C. R. Nelson # 9649 and T. A. McKnight, and MAIS team 66 Google Earth gas stop none 9649

9650 MONGOLIA: Uvs Aimag, Baruunturuun Soum, Taravjin River Valley N 49.50430 E 94.61293 elev. 1459 m 19 July 2010, C. R. Nelson # 9650 and T. A. McKnight, and MAIS team 66 093TARAVJI photos: traveling, scenery none 9650

9651 MONGOLIA: Uvs Aimag, Baruunturuun Soum, pass above Taravjin River Valley N 49.47247 E 94.71905 elev. 1648 m 19 July 2010, C. R. Nelson # 9651 and T. A. McKnight, and MAIS team 66 093DAVAA vehicle cooling stop. photos: people and scenery. none 9651

9652 MONGOLIA: Uvs Aimag, Ondorkhangai Soum, Baruunturuuni Gol & Morguugiin Gol, at confluence, 20 km NNW of Ondorhangai N 49.44592 E 94.79595 elev. 1688 m 19-20 July 2010, C. R. Nelson # 9652 and T. A. McKnight, and MAIS team 66 morse 094BARRIV N 49.44584 E 94.79491 elev. 1692 m. camped night of 19-20 July. Mayfly Baetidae adults at evening. photo: site in fog, Limnephilidae short winged. Isoperla, Paragnetina skin Perlidae

nymphs and skin, Nemouridae 1 male?, Limnephilidae, rainy night, Leptoceridae, Psychomyiidae, Heptageniidae adults uncommon. MAIS2010071902 9652

9653 MONGOLIA: Uvs Aimag, Ondorkhangai Soum, Morguugiin Gol, 20 km NNW Ondorkhangai, tributary of Baruun Turuuni Gol, N 49.44534 E 94.79713 elev. 1689 m 19-20 July 2010, C. R. Nelson # 9653 and T. A. McKnight, and MAIS team 66 morse 094BARTRIB 49.44455 E 94.79755 elev. 1699 m. Perlodidae large nymphs, Nemouridae, Isoperla, caddis, Thaumaleidae (no, Chironomidae Boreoheptygia?), Dolichopodidae, Ephydriidae, no Deuterophlebiidae!, Heptageniidae adults, Baetidae adults. MAIS2010071903 9653

9654 MONGOLIA: Uvs Aimag, Ondorkhangai Soum, 8 km NNE of Ondorkhangai N 49.34519 E 94.92602 elev. 2009 m 20 July 2010, C. R. Nelson # 9654 and T. A. McKnight, and MAIS team 66 095LASSO high mountain valley. photos man with lasso, woman with back basket. none 9654

9655 MONGOLIA: Uvs Aimag, Ondorkhangai Soum, Ondorkhangai soum center N 49.27171 E 94.85497 elev. 1689 m 20 July 2010, C. R. Nelson # 9655 and T. A. McKnight, and MAIS team 66 095ONDORHA passed through town none 9655

9656 MONGOLIA: Uvs Aimag, Ondorkhangai Soum, Jargalant town, 25 km West of Ondorkhangai N 49.22313 E 94.61039 elev. 1719 m 20 July 2010, C. R. Nelson # 9656 and T. A. McKnight, and MAIS team 66 095JARGAL photos: cat, kids, camel, family - send photos. none 9656

9657 MONGOLIA: Uvs Aimag, Tsagaankhayrkhan Soum, Onchun Gol, 15 km ESE of Tsagaankhayrkhan N 49.38851 E 94.44290 elev. 1832 m 20-21 July 2010, C. R. Nelson # 9657 and T. A. McKnight, and MAIS team 66 095ONCHUN camped night of 20-21 July 2010. End of expedition party. photos and video: Empididae Clinocerinae eating Chironomidae. Perlodidae Isoperla potanini. Syrphidae, Tipulidae. MAIS2010072001 9657

9658 MONGOLIA: Uvs Aimag, Tsagaankhayrkhan Soum, Tsagaankhayrkhan soum center N 49.40897 E 94.23555 elev. 1771 m 21 July 2010, C. R. Nelson # 9658 and T. A. McKnight, and MAIS team 66 096TSAGAAN photos of group. parting of ways none 9658

9659 MONGOLIA: Uvs Aimag, Hyargas Soum, roadside rest stop, 20 km or so Southeast of Hyargas N 49.54658 E 93.91741 elev. 1920 m 21 July 2010, C. R. Nelson # 9659 and T. A. McKnight, and half MAIS team 66 096REST photos: horse herd, scenery. none 9659

9660 MONGOLIA: Uvs Aimag, Hyargas Soum, Hyargas soum center N 49.67119 E 93.77866 elev. 1387 m 21 July 2010, C. R. Nelson # 9660 and T. A. McKnight, and half MAIS team 66

096HYARGAS 12:45pm. photos: town on Fuji camera. photos and video: boxing glove grasshopper fuji and nikon camers. none 9660

9661 MONGOLIA: Uvs Aimag, Malchin Soum, fork in the road, Hwy A18, SE of Uvs Nuur N 49.89490 E 93.36758 elev. 965 m 21 July 2010, C. R. Nelson # 9661 and T. A. McKnight, and half MAIS team 66 096 all Thought of Robert Johnson the guitar player, fork in the road. video and photos: fork in the road. none 9661

9662 MONGOLIA: Uvs Aimag, Tarialan Soum, Teelin River, at A18, dam N 49.91458 E 92.23653 elev. 936 m 21 July 2010, C. R. Nelson # 9662 and T. A. McKnight, and half MAIS team 66 097TEELDAM photos: river, last view of Kharkhiraa! none 9662

9663 MONGOLIA: Uvs Aimag, Ulaangom Soum, Ulaangom, ger camp N 49.96658 E 92.05048 elev. 952 m 21 July 2010, C. R. Nelson # 9663 and T. A. McKnight, and half MAIS team 66 097UGOMGER Tipulidae none 9663

9664 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 28-Jul-2010 C. R. Nelson # 9664 & J. K. Nelson 66 photos: apricots with Riley 9664

9665 USA: UTAH: Utah Co., Covered Bridge Canyon, Upper Right Fork, 100 m below Right Fork Tank, N 40.02216 W 111.57014 1495 m 29-Jul-2010 C. R. Nelson # 9665 & L. W. Phillips 66 Google Earth Lane William Phillips is Levi Phillips grandson. Levi was a printer/lepidopterist friend of mine from the Bean Museum in the 1980s. Phone number: 801 873 3282 photos: Syrphidae Microdon in ant infested aspen logs. CRN not present when collected; photographed in lab. 9665

9666 USA: UTAH: Utah Co., Provo, Brigham Young University, Widtsoe Laboratory, N 40.24625 W 111.64984 elev. 1420 m, 03-Aug-2010 C. R. Nelson # 9666 66 photo session for preserved specimens of Empididae from Mongolia: Crossopalpus/Micrempis, male, MAIS2009071202, female, MAIS2009071302. Chelifera (called Hemerodromia after Costa Rica), MAIS2009070604. Drapetis, MAIS2009070802. Platypalpus, MAIS2009071604. Empis MAIS2008071002. Rhamphomyia? yes, subgenus Megacyttarus after Costa Rica, MAIS2009071503. Hilara MAIS2009070705. Heleodromia, MAIS2009070402. Dolichocephala, MAIS2009071501. Microphor, MAIS2009070902. Helped by Ryan Widdison and Paul Frandsen. 9666

9667 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95623 W 111.26763 elev. 1829 m, 05-Aug-2010 C. R. Nelson # 9667 66 photos: aftermath of flashflood 9667

9668 USA: UTAH - WYOMING Delta Airline flight Salt Lake City - Evanston - Laramie, 06-Aug-2010 C. R. Nelson # 9668 66 photos: from air 9668

9669 COSTA RICA: Alajuela Province San Jose, Ramada Herradura Hotel, N 9.97869 W 84.16235, elev. 967 m, 07-Aug-2010 C. R. Nelson # 9669 & J. K. Nelson after 13 August, not before 66 photos: mall Carrion;

8 August, birds rufous collared sparrow, rufous naped wren, hoffman's woodpecker, kiskadee, grackle, rufous collared sparrow and rosy periwinkle
097INBIO N9.97160 W84.09318 elev. 1136 m.

9-10 August.

rufous naped wren, hoffman's woodpecker, kiskadee, Group shot of South Americans

13 August, photos people at the Seventh International Congress of Dipterology closing.

19 August 2010: photos Hotel and Carrion mall.

9669

9670 COSTA RICA: Guanacaste Province Liberia, N 10.63128 W 85.44319, elev. 165 m, 14-Aug-2010 C. R. Nelson # 9670 & J. K. Nelson 66 photos in town.

also 097ESPARTA Esparza town and 097LAGAR near Lagarto town. 9670

9671 COSTA RICA: Guanacaste Province Santa Rosa National Park, headquarters area, N 10.83949 W 85.61858, elev. 296 m, 14-Aug-2010 C. R. Nelson # 9671 & J. K. Nelson & Dipterists 66 097starosa Daniel Janzen <djanzen@sas.upenn.edu>

participants in field trip: Riley Nelson Provo USA, Kaye Nelson Provo USA, Jeff Skevington Ottawa Canada, Daniel Janzen Philadelphia USA, Winnie Hallwachs Philadelphia USA, Ho-Yeon Han South Korea, Kyung Eni Ro South Korea, Morgan Jackson Guelph Canada, Andrew Young Guelph Canada, Gil Felipe Goncalves Miranda Guelph/ Brazil, Michelle Locke Guelph Canada, Joel Kits Guelph Canada, Joel Gibson Guelph Canada, Eric Fisher Sacramento USA, Julia Calhau Almeida Brazil/ Chicago?, Silvio Shigueo Nihei Sao Paulo Brazil, Jessica Paula Gillung Sao Paulo Brazil, Lucas de Araujo Cezar Sao Paulo Brazil, Jason Londt South Africa, Kazuhiro Masunaga Japan, Nichelle Lomas Guelph Canada, Torbjorn Ekrem Norway, Elizabeth Stur Norway, Martin Grund Cologne Germany, Jonas Strandberg Stockholm Sweden, Roberta Figueireido Sao Paulo Brazil, Torsten Dikow Chicago USA, Justin Runyon Bozeman Montana, Vera Cristina Silva Ribeirao Preto Brazil, Lica Fullman Curitiba Brazil.

Set up two malaise traps on 16 August 2010, 9:00 am took down 17 August 5:00pm. One in weatherstation clearing one near stream 200 m NW of dormitories. 14 aug: photos: spider monkeys, howler monkey, Dan Janzen and Winnie Hallwachs. 15 aug: photos: Lymxyelidae

Atractocerus with sticky eggs, taken out of order with CRN9672; then Stratiomyidae Ptecticus, Tipulidae. 16 August: best collecting near weatherstation in clearing: google earth N 10.840004 W 85.617562 elev 294 m. scorpion (dormitory); Acrididae, cone wingless weatherstation (ws); Mantidae ws; Certainia with beetle no voucher ws; Chrysomelidae tortoise ws; Reduviidae with prey ws; mantispidae ws some in 100% ethanol; Curculionidae ws; Pompilidae ws; Cicadidae HQ; fungus near stream; Nymphalidae Heliconius near stream; Hesperidae near stream; Chrysomelidae Hlspinae Microrhopala? near stream; Chrysomelidae tortoise larva near stream; Formicidae Pseudomyrmex on acacia near stream; Phoridae near stream; Ichneumonidae metallic near stream; Calliphoridae near stream; Heleomyzidae near stream; crab spider near stream; termite mound near stream; Hibiscus, Malvaviscus near stream; Curculionidae gripping ws; Ponerinae ws; Diogmites 7 prey ws; Libellulidae ws; Chrysomelidae tortoise mating ws; Coreidae? red and black ws; Reduviidae Apiomerus? ws; Mantidae ws; Buprestidae ws; Tettigoniidae ws; Coreidae orange lines ws; Mantidae ws; Hylidae ws. Posed in lab 16 August: Mallophora ws; Apidae Euglossa from Gil; Sphecidae from Gil; Syrphidae Ornidia obesa from Gil; Buprestidae ws; Chrysopidae dead ws; Diogmites ws; Blepharepium ws; Empididae near stream; Lauxaniidae deep gold near stream; Lauxaniidae light tan yellow near stream; Heleomyzidae dead near stream end 16 August. 18 August 2010: Acrididae Tropidacris; photos Lygaeidae on milkweed matelea?. Formicidae Atta? Acromyrmex? 9671

9672 COSTA RICA: Alajuela Province Guanacaste Conservation Area, San Gerardo Station N 10.88037 W 85.38905, elev. 588 m, 15-Aug-2010 C. R. Nelson # 9672 & J. K. Nelson & Dipterists 66 097sgerard accidentally left GPS at station, got it back on 18 August 2010. photos: Dan Janzen in bus; Phasmatodea; Scarabaeidae; Curculionidae 2 spp. one small one, photos named coleop curculionid big eyes 005.jpg is Hoplocopturus ochraceicollis Champion det. Henry Hespenheide June 2013; Attinae leaf cutters; Calliphoridae; frog; Ithomiidae; Tipulidae black; Tetrigidae; Cicadellidae; Languriidae; Cerambycidae; Stratiomyidae; Acrididae; Drosophilidae; Buprestidae; Ameiva; Elateridae yellow; Braconidae; Chrysomelidae; Reduviidae; Delphacidae; Sarcophagidae; Riodinidae; Cercopidae; Micropezidae; Syrphidae Ocyptamus; Psychodidae; Syrphidae Toxomerus; Salticidae & Cicadellidae; Asilidae Lampria from Eric Fisher; Laphriinae; Eumecosoma; Stratiomyidae Ptecticus; Chalcididae 9672

9673 COSTA RICA: Guanacaste Province Santa Rosa National Park, primary forest, bosque humedo, between entrance and headquarters, N 10.85081 W 85.61065, elev. 284 m, 15-Aug-2010 C. R. Nelson # 9673 & J. K. Nelson & Dipterists 66 google earth saved as 097boshum accidentally left GPS at station, got it back on 18 August 2010. photos: Scarabaeidae 2 spp. Tipulidae.

near HQ photos: Oxyopidae with Pyrrhocoridae prey.

wasp sting clearing: google earth: N 10.85345 W 85.60906 elev. 305 m. 9673

9674 COSTA RICA: Guanacaste Province roadside and Rio Blanco, near Porton ICE (Instituto Costarricense Electricidad) geothermal development, 3 km S of Rincon de la Vieja National Park headquarters, N 10.75576 W 85.37688, elev. 558 m, 17-Aug-2010 C. R. Nelson # 9674 & J. K. Nelson & Dipterists 66 google earth saved as 097ICE photos: Formicidae Eciton army ants with prey; Syrphidae; Asilidae Atomosia; banded caterpillars; Sepsidae; Cicadellidae; Nymphalidae; Tenthredinidae; Hesperidae. Mayfly from Elizabeth Stur. photos: people ICE workers. 9674

9675 COSTA RICA: Guanacaste Province Rincon de la Vieja National Park, Pailas headquarters trails, N 10.773450 W 85.349095, elev. 794 m, 17-Aug-2010 C. R. Nelson # 9675 & J. K. Nelson & Dipterists 66 google earth saved as 097rincon photos: people singles and group shots; pectinate beetles courting; Chrysomelidae; river; Formicidae odd alate; wasps mating or fighting; iguana; Kaye; Ithominae; Heliconinae; Arctiidae Ctenuchinae; forest; waterfall;; fumaroles; Riley with Smeringolaphria; hot pots; lizard. Photos staged in commons room: Smeringolaphria; Promachus; odd ant alate again; Tettigoniidae 9675

9676 COSTA RICA: Guanacaste Province Guanacaste Conservation Area, Bahia Junquillal, N 10.96876 W 85.688284, elev. 5 m, 18-Aug-2010 C. R. Nelson # 9676 & J. K. Nelson & Dipterists 66 google earth saved as 097junq Ephydriidae; Tridactylidae; Sarcophagidae; Mallophora caught by Kazuhiro Masunaga; Diogmites dark wing caught by others. photos: scenery; staged: Cicindelidae 2 spp.; Eccritosisia zamon (right middle leg in 100% ethanol for DNA); Lissoteles sp. (right middle leg in 100% ethanol for DNA). 9676

9677 COSTA RICA: Delta airline flight, San Jose to Atlanta Georgia, USA 19-Aug-2010 C. R. Nelson # 9677 & J. K. Nelson 66 photos: San Jose; Atlantic Coast; Rio Sarapiquí joining Rio San Juan at Nicaragua border; islands off Nicaragua biggest are Great and Little Corn Islands; Florida Keys; Boca Grande area: Rotonda. 9677

9669.5 COSTA RICA: Alajuela Province Santo Domingo, Instituto Nacional de Biodiversidad, N 9.97160 W 84.09318, elev. 1136 m, 07-Aug-2010 C. R. Nelson # 9669.5 66 097inbio photos: Acrididae; Tipulidae Nephrotoma. 9669.5

9676.3 COSTA RICA: Guanacaste Province volcanoes of Rincon de la Vieja area, from Highway 1, between Liberia and Canas N 10.5 W 85.2 18-Aug-2010 C. R. Nelson # 9676.3 & J. K. Nelson 66 photos: volcanoes 9676.3

9676.6 COSTA RICA: Puntarenas Province Caldera N 9.92297 W 84.71316 elev. 2 m, 18-Aug-2010 C. R. Nelson # 9676.6 & J. K. Nelson 66 photos: ocean and people at last dinner: Grace & Monty Wood, Kaye. 9676.6

9428 FRANCE: Ile de France Province, Arch of Triumph, Champs Elysées N 48.87387 E 2.29528 101 m, 19-Apr-2010 C. R. Nelson # 9428 & J. K. Nelson 63 022ARCTRI photos: Arch of Triumph, Kaye, Spiral Staircase art shots, Au soldat inconnu (unknown soldier), views of city, victory scowls. 9428

9415.5 USA: UTAH: Salt Lake Co. Sandy, Living Planet Aquarium N 40.55931 W 111.87099 1384 m, 3 April 2010, C. R. Nelson # 9415.5 & family 63 With Parkers many fish and other animals 9415.5

9678 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 01-Sep-2010 C. R. Nelson # 9678 66 photos: clothes moths. Adults, larvae, and pupae on Mongolian Wool Pads from Altai 2008 9678

9679 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95623 W 111.26763 elev. 1829 m, 5-6 September 2010 C. R. Nelson # 9679 66 USU friends party. Riley Nelson, Kaye Nelson, Rexanne Pond, Hank Pond, Cynthia Parrish, Blair Parrish, Carly Parrish, Tracy Smith, Erin Smith, Mikaela Smith. Tristan McKnight came to collect insects at 3:00 pm as we were leaving: Lordotus. I saw no Asilidae. He collected one Diogmites. photos: people and scenery. 9679

9680 USA: UTAH: Utah Co., Deer Creek at Cascade Springs, 7 miles East of Hwy 92 junction, N 40.45900 W 111.54945 elev. 1888 m, 07-Sep-2010 C. R. Nelson # 9680 & Aquatic Entomology class 66 098cascade Aquatic Entomology class: Riley Nelson, John Sproul, Steve Merkley, Paul Edmonds, Tristan McKnight, Nick Davis, Peter Meyers. adults: Empididae, Sepsidae, Lauxaniidae, Nemouridae malenka. In water: Amphizoidae Amphizoa, Leptophlebiidae, Ptychopteridae Ptychoptera, Limnephilidae, Rhyacophilidae, Nemouridae, Perlodidae, Elmidae, many more! 9680

9681 USA: UTAH: Utah Co., Provo, Brigham Young University, Widtsoe Laboratory, N 40.24625 W 111.64984 elev. 1420 m, 08-Sep-2010 C. R. Nelson # 9681 66 photos: Y Mountain, Mount Timpanogos, Mount Nebo 9681

9682 USA: UTAH: Utah Co., Provo River, Provo, 2230 North Street bridge, N 40.26402 W 111.66380, 1409 m, 11-Sep-2010 C. R. Nelson # 9682 66 102proriv sampled aquatic insects for use in a lab. Talked of Nature Experiences.

Biology 100 class, self selected few, about 30. photos: students and river, Group photo by Andres De Hoyos 9682

9683 USA: UTAH: Utah Co., Mount Timpanogos, Little North Fork Creek at BYU Timp Lodge, N 40.38920 W 111.58580, 1934 m, 13-Sep-2010 C. R. Nelson# 9683 66 102timplod
Mileages:

Sundance turnoff, Hwy 92 48.8

Sundance entrance 51.1

Stewart Road, Hwy 92 51.4

Sundance/Timp Lodge split 51.6

Stewart Falls Trail bridge 51.7

Timp Lodge Sign, parking 52.0

Back to Hwy 189 55.2

Canyon mouth Pro/Or split 62.0. 10 minutes Timp lodge to here.

Wills Pit Stop 64.2

BYU Stadium, University Parkway and Canyon Road 66.2. 20 minutes total from Timp Lodge. photos: Timp Lodge, scenery, leaves.

also photos: Sundance Ski Area, Hwy 92: N 40.391870 W 111.577116 elev. 1859 (google earth) 9683

9684 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River above South Fork Ranger Station, site 3, N 40.45180 W 111.65754 1862 m, 14-Sep-2010 C. R. Nelson# 9684 & Aquatic Entomology class 66 Recovered 3 of 5 lindgren funnel traps abandoned in May 2009.

Aquatic Entomology class: Riley Nelson, John Sproul, Steve Merkley, Paul Edmonds, Tristan McKnight, Nick Davis, Peter Meyers. photos: streamside picking. *Pictetiella expansa* nymphs, *Drunella*, *Dolophilodes*, 9684

9685 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River near Timpooneke Guard Station, site 4, N 40.43226 W 111.63741, 2213 m, 14-Sep-2010 C. R. Nelson# 9685 & Aquatic Entomology class 66

Aquatic Entomology class: Riley Nelson, John Sproul, Steve Merkley, Paul Edmonds, Tristan McKnight, Nick Davis, Peter Meyers. *Empididae* *Clinocera*, *Rhyacophilidae*, *Perlodidae* *Megarcys* nymph, *Pictetiella* nymph! A FIRST HERE, *Chloroperlidae* *Sweltsa borealis* adults, *Suwallia?* adult, *Nemouridae* nymphs, *Mycetophilidae*. 9685

9686 USA: UTAH: Summit Co. North Fork Provo River, Upper Provo River Falls, 18 mi NE of Kamas, Hwy 150, N 40.65765 W 110.94604, 2863 m, 17-Sep-2010 C. R. Nelson# 9686 & Aquatic Entomology class 66 102profall distance to town straight line, Google Earth

Aquatic Entomology class: Riley Nelson, John Sproul, Steve Merkley, Paul Edmonds, Nick Davis, Peter Meyers. photos: *Blephariceridae*. *Ephemerellidae*, *Hexatoma*, *Heptageniidae*

3 genera, Leuctridae, Perlidae Hesperoperla, Chloroperlidae, Perlodidae, Nemouridae adult, Trichoptera adults, Rhyacophilidae. 9686

9687 USA: UTAH: Summit Co. Provo River, Hwy 35, 3.2 mi SE of Woodland, N 40.55854 W 111.17332, 2151 m, 17-Sep-2010 C. R. Nelson# 9687 & Aquatic Entomology class 66 102SPRWOOD distance to town straight line, Google Earth

Aquatic Entomology class: Riley Nelson, John Sproul, Steve Merkley, Paul Edmonds, Nick Davis, Peter Meyers. Same spot as CRN8847 and CRN9507 photos: Blephariceridae THOUSANDS

OF YOUNG LARVAE ON THE ROCKS. Hydropsychidae, Athericidae, Gyrinidae, Gerridae, Empididae long legs Clinocera 9687

9688 USA: UTAH: Wasatch Co. Nobletts Creek, 0.5 mi N of Hwy 35, 7.6 mi SE of Woodland N 40.54686 W 111.08894, 2307 m, 17-Sep-2010 C. R. Nelson# 9688 & Aquatic Entomology class 66 102nob distance to town straight line, Google Earth

Aquatic Entomology class: Riley Nelson, Steve Merkley, Paul Edmonds, Peter Meyers. malenka adults, Neothremma ? adults, flatworms, Syrphidae, Mycetophilidae. 3 First 100s 9688

9689 USA: UTAH: Wasatch Co. Nobletts Ponds, 0.5 mi N of Hwy 35, 7.6 mi SE of Woodland N 40.54686 W 111.08894, 2307 m, 17-Sep-2010 C. R. Nelson# 9689 & Aquatic Entomology class 66 102nobpond distance to town straight line, Google Earth

Aquatic Entomology class: Riley Nelson, John Sproul, Steve Merkley, Paul Edmonds, Nick Davis, Peter Meyers. Dytiscidae several genera, Haliplidae, Siphonuridae, Lestidae, Aeshnidae, tiger salamanders, Hydrophilidae 9689

9690 USA: UTAH: Duchesne Co. Duchesne River, Hades Campground, 10.5 mi NW of Hannah, N 40.53230 W 110.87288, 2241 m, 18-Sep-2010 C. R. Nelson# 9690 & Aquatic Entomology class 66 102hades distance to town straight line, Google Earth

Aquatic Entomology class: Riley Nelson, John Sproul, Steve Merkley, Paul Edmonds, Nick Davis, Peter Meyers. Stayed night of 17-18 Sep 2010. brook trout, red tree squirrel, Hexatoma larvae. 6 first 100s 9690

9691 USA: UTAH: Duchesne Co. Yellowstone River, Bridge Campground, 26 mi N of Duchesne, N 40.54613 W 110.33379, 2328 m, 18-Sep-2010 C. R. Nelson# 9691 & Aquatic Entomology class 66 102yellow distance to town straight line, Google Earth

Aquatic Entomology class: Riley Nelson, John Sproul, Steve Merkley, Paul Edmonds, Nick Davis, Peter Meyers. from near Bridge Campground we had an easy cross with a van on a good road to the Uinta River: N 40.53644 W 110.24313 elev 2405 m. part way on that road, 103goodrd Blephariceridae, Simuliidae, Thaumaleidae? splash zone rubbing, Claassenia,

Hesperoperla, Amphizoa, Dytiscidae Oreodytes?, Haliplidae Brychius?. No
Deuterophlebiidae seen, searched hard! 9691

9692 USA: UTAH: Duchesne Co. Uinta Canyon Trailhead, Uinta River, 24 mi N of Roosevelt,
N 40.62687 W 110.15648, 2343 m, 18-Sep-2010 C. R. Nelson# 9692 & Aquatic
Entomology class 66 103uinta distance to town straight line, Google Earth
Aquatic Entomology class: Riley Nelson, John Sproul, Steve Merkley, Paul Edmonds, Nick
Davis, Peter Meyers. Blephariceridae, Philopotamidae, Thaumaleidae? No
Deuterophlebiidae seen, searched hard! Season must be passed. 9692

9693 USA: UTAH: Duchesne Co. Uinta Canyon Trailhead, Beaver ponds, 24 mi N of
Roosevelt, N 40.629822 W 110.155168, 2344 m, 18-Sep-2010 C. R. Nelson# 9693 &
Aquatic Entomology class 66 GoogleEarth distance to town straight line, Google Earth
Aquatic Entomology class: Riley Nelson, John Sproul, Steve Merkley, Paul Edmonds, Nick
Davis, Peter Meyers. Corduliidae, Aeshnidae, Hydrophilidae, Dixidae, flat coil snails
Photos: Haliplidae Halipus, Tipulidae Tipula (Angarotipula)
some photo vouchers with students? 9693

9694 USA: UTAH: Utah Co., Cascade Springs, 7 miles East of Hwy 92 junction, N 40.45900
W 111.54945 elev. 1888 m, 19-Sep-2010 C. R. Nelson # 9694 & J. K. Nelson & friends 67
098cascade Riley Nelson, Kaye Nelson, McKays: Bruce, Callie, Duncan Caijsa, and Gavin.
photos: aspen on loop, maples and and peaks, springs, group photo. Nemouridae
malenka. Sweepings to duncan for Alan Meyrup's biology class at Timp view High School.
9694

9695 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 22-Sep-2010 C. R. Nelson # 9695 67 pocket gopher caught by
domestic cat, Heiva. 9695

9696 USA: UTAH: Utah Co., Warm Springs, Goshen Ponds, near south end of Utah Lake, N
39.96117 W 111.85407 1394 m, 23 September 2010, C. R. Nelson# 9696 & class 67
photos: scenery

Riley Nelson, John Sproul, Peter Meyers, Nick Davis, Tristan McKnight, and Paul Edmonds.
Hydrometridae; Naucoridae Ambrysus; Veliidae Rhagovelia; Gerridae; Mesoveliidae;
Hydrophilidae; Dytiscidae; Elmidae; Hebridae; Calopterygidae Hetaerina; Coenagrionidae;
Lestidae; Aeshnidae; Libellulidae; Corixidae; Hyalella azteca; Pisauridae Dolomedes. 9696

9697 USA: UTAH: Box Elder Co. Rozel Point, Great Salt Lake, Spiral Jetty, N 41.43833 W
112.66604 1260 m, 24 September 2010, C. R. Nelson# 9697 & BYU group 67 103spirar
photos: lake, salt, and jetty. Land art of Robert Smithson.

Riley Nelson, Byron Adams, Judit Hersko, Allan Harker, Leigh Johnson, Dana Blackburn, Camilla Nagata, Amy Nelson, Brian Christensen, and Feng Chen (Allan's postdoc?). 9697

9698 USA: UTAH: Box Elder Co. Sun Tunnels, 2 mi S of Lucin, N 41.30352 W 113.86379 1342 m, 24 September 2010, C. R. Nelson# 9698 & BYU group 67 103sun photos: concrete tunnel art of Nancy Holt. Efferia females. 9698

9698 USA: UTAH: Box Elder Co. Sun Tunnels, 2 mi S of Lucin, N 41.30352 W 113.86379 1342 m, 24 September 2010, C. R. Nelson# 9698 & BYU group 67 103sun photos: concrete tunnel art of Nancy Holt. Efferia females. 9698

9699 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95623 W 111.26763 elev. 1829 m, 25-Sep-2010 C. R. Nelson # 9699 67 sawed firewood from old lodgepole pine cut originally for house logs. pear wood from Nelson home yard, aged for about 2 years. Infested with Cerambycidae. 9699

9700 USA: UTAH: Utah Co., Diamond Fork River, 0.5 North of Hwy 6, N 40.03419 W 111.49478 elev. 1510 m, 28-Sep-2010 C. R. Nelson # 9700 & class 67 105diam photos: scenery.

Riley Nelson, Nick Davis, John Sproul, Peter Meyers, Tristan McKnight, Paul Edmonds, Steve Merkley. whole Aquatic Entomology class. Pteronarcys, Ceratopogonidae, Perlidae Claassenia, Perlodidae Isogenoides, Helicopsychidae, Elmidae, burl wood.

Side ponds: Dytiscidae, Hydrophilidae, Libellulidae, Aeshnidae, Coenagrionidae Argia and others, spotted frog 9700

9701 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6, 12 miles East of Thistle, N 39.95346 W 111.26523 elev. 1807 m, 28-Sep-2010 C. R. Nelson # 9701 & class 67 105sold photos: scenery.

Riley Nelson, Nick Davis, John Sproul, Peter Meyers, Tristan McKnight, Paul Edmonds, Steve Merkley. whole Aquatic Entomology class.

also photos of windmill vanes on the freeway in Spanish Fork Isogenoides, Pteronarcella, Microvelia, Gomphidae, Ephemerellidae Drunella, Tipulidae, Amphizoidae larva, Elmidae, Haliplidae Brychius, Gerridae, Corixidae, Hydrophilidae, Saldidae, Brachycentrus, Heptageniidae, Hydropsychidae, Limnephilidae, Dixidae, Athericidae. 9701

9702 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 29-Sep-2010 C. R. Nelson # 9702 67 Tipulidae Nephrotoma 9702

9703 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 03-Oct-2010 C. R. Nelson # 9703 67 photos: Mount Timpanogos. Burl

wood from Diamond Fork CRN9700. photos: Cerambycidae *Clytus* sp. in pear wood; tomatoes; beans; peppers; apples; pears; aspen leaves; virginia creeper; sumac; juniper seeds; *Oenothera* sp with honey bees; *Aster canadensis*; snapdragons; *Croton*? weed in garden; catnip; yew; ants (*Camponotus noveboracensis*) on *Campsus radicans*. 9703

9706 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95623 W 111.26763 elev. 1829 m, 09-Oct-2010 C. R. Nelson # 9706 & J. K. Nelson 67
Dolichopodidae, large at waterfall 9706

9707 USA: UTAH: Emery Co. Cleveland Lloyd Dinosaur Quarry, 10 miles East of Cleveland, N 39.32282 W 110.68758 elev. 1656 m, 09-Oct-2010 C. R. Nelson # 9707 & J. K. Nelson 67 106cleve photos: scenery, dinosaur exhibits 9707

9708 USA: UTAH: Emery Co. San Rafael Swell, Buckhorn Wash Pictograph Panel, 20 mi SE of Castle Dale, N 39.12326 W 110.69422 elev. 1542 m, 09-Oct-2010 C. R. Nelson # 9708 & J. K. Nelson 67 106buck photos: rock art, Kaye 9708

9709 USA: UTAH: Emery Co. San Rafael Swell, San Rafael River, Swinging Bridge, 24 mi SE of Castle Dale, N 39.08159 W 110.66687 elev. 1488 m, 09-Oct-2010 C. R. Nelson # 9709 & J. K. Nelson 67 106sanrafa 4.0 mi S of Buckhorn Wash Pictograph Panel. photos: river scenery, crayfish: *Orconectes virilis*, Veliidae *Rhagovelia*, Elmidae larvae and adult. saw *Hydropsychidae* larvae couldn't find in bucket when I sorted at home. Very turbid water, much recent flooding. 9709

9704 USA: UTAH: Utah Co., Provo, Brigham Young University, Widtsoe Laboratory, N 40.24625 W 111.64984 elev. 1420 m, 06-Oct-2010 C. R. Nelson # 9704 & J. W. Breinholt 67 photo session in lab of crayfish from Florida with Jesse W. Breinholt.

1. Blue. *Procambarus rogersi*, FL Wakulla Co., Apalachicola National Forest Road 314, S of Forest Road 13, 30.19424-84.6276, July 2010.

2. Red. *Procambarus paeninsulanus*, FL Gulf Co., Iola Vanding Road, 30.1551 -85.1440, August 2010.

3. White big claw. *Procambarus orcinus*, FL Leon Co., Apalachicola National Forest, N of L. Wallace Road, 30.3353 -84.3443, September 2010.

4. *Procambarus pallidus*. FL Madison Co., 30.5294 -83.2492, August 2010. unnamed sinkhole.

Vouchers of all with Jesse for DNA. 9704

9705 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 06-Oct-2010 C. R. Nelson # 9705 67 photos: Set up colonies: 2 colonies of *Drosophila melanogaster* from compost bucket.

photos: *Drosophila melanogaster* 1 colony of wingless form from pet food trade colony of Brigham McKay. 9705

9710 USA: UTAH: Washington Co. Leeds Creek, 6 miles west of Leeds, N 37.29200 W 113.41282 elev. 1557 m, 15 October 2010, C. R. Nelson# 9710 & Aquatic Entomology class 67 106LEEDS Riley Nelson; Steve Merkley, Tristan McKnight, John Sproul, Nick Davis, Peter Meyers. photos: chaparral, manzanita. Baetidae, Leptophlebiidae, Amphizoidae, Cordulegastridae, Psychodidae, Stratiomyidae, Hydroptilidae, Ephemerellidae, Dixidae, Tipulidae, Perlidae *Hesperoperla pacifica*, Nemouridae, Chloroperlidae, Eumastacidae Morsean monkey grasshopper escaped. Heptageniidae *Epeorus*. 9710

9711 USA: NEVADA: Clark Co. Warm Springs Natural Area, jct North & South Forks of Muddy River, N 36.72311 W 114.717511 elev. 537 m, 15 October 2010, C. R. Nelson# 9711 & Aquatic Entomology class 67 google earth Riley Nelson; Steve Merkley, Tristan McKnight, John Sproul, Nick Davis, Peter Meyers. Naucoridae: *Limnocoris moapensis* and *Ambrysus mormon mormon*, Leptohyphidae *Tricorythodes*, Elmidae *Stenelmis calida moapa* and *Microcyloopus moapus*, photos: Hydropsychidae *Smicridea fasciatella*, Coenagrionidae *Argia* sp., Calopterygidae *Hetaerina americana*. Crambidae *Petrophila jaliscalis*, Halipus, *Corydalus texanus*, Belostomatidae *Belostoma*. Kept a cross section wedge of cut down palm tree, *Washingtonia filifera*. 9711

9712 USA: NEVADA: Clark Co. Warm Springs Natural Area, Southern Nevada Water Authority, house office, N 36.71537 W 114.71665 elev. 537 m, 15 October 2010, C. R. Nelson# 9712 & Aquatic Entomology class 67 106waho Riley Nelson; Steve Merkley, Tristan McKnight, John Sproul, Nick Davis, Peter Meyers. Hosted by Robert L. Johnson. photos: morning scenery, Reduviidae Ploariidae, Embiidina, Limnephilidae *Limnephilus assimilus*?, moth. 9712

9713 USA: NEVADA: Clark Co. Warm Springs Natural Area, Cardy Lamb Spring Pool, N 36.72581 W 114.72868 elev. 561 m, 15 October 2010, C. R. Nelson# 9713 & Aquatic Entomology class 67 106card Riley Nelson; Steve Merkley, Tristan McKnight, John Sproul, Nick Davis, Peter Meyers. Hosted by Robert L. Johnson. photos: Haliplidae larva, *Petrophila* larva, chorus frog *Pseudacris triseriatus*?. Naucoridae *Pelocoris biimpressus* shoshone, Dixidae, Trichoptera Odontoceridae? 9713

9714 USA: NEVADA: Clark Co. Warm Springs Natural Area, pond near Hwy 168, N 36.72100 W 114.70658 elev. 530 m, 15 October 2010, C. R. Nelson# 9714 & Aquatic Entomology class 67 106pond Riley Nelson; Steve Merkley, Tristan McKnight, John Sproul, Nick Davis, Peter Meyers. Hosted by Robert L. Johnson. Get glycerin jelly for Robert for drawing fungus

gnats. Aeshnidae, Hydrophilidae. Photos: Belostomatidae *Belostoma flumineum* with *Gambusia affinis* mosquito fish. Dytiscidae, Corixidae, Hebridae. 9714

9715 USA: NEVADA: Clark Co. Muddy River, Hidden Valley between powerplant and I-15, N 36.65252 W 114.61906 elev. 475 m, 15 October 2010, C. R. Nelson# 9715 & Aquatic Entomology class 67 106hidden Riley Nelson; Steve Merkley, Tristan McKnight, John Sproul, Nick Davis, Peter Meyers. Hosted by Robert L. Johnson. Get glycerin jelly for Robert for drawing fungus gnats. photos: Isonychiidae *Isonychia intermedia*, Rhagovelia becki, Leptohyphidae *Leptohyphes*, Calopterygidae *Hetaerina americana*, *Argia* mating (dry vouchers). Corydalidae, Baetidae, Elmidae *Microcyloopus*, Leptoceridae *Nectopsyche*, Simuliidae, Libellulidae *Brechmorhoga mendax* adult seen, Crambidae *Petrophila*, Philopotamidae *Chimarra* with Steve Merkley. 9715

9716 USA: ARIZONA: Mohave Co. Virgin River at Littlefield I-15 bridge, Little Jamaica, N 36.89353 W 113.91874 elev. 556 m, 15 October 2010, C. R. Nelson# 9716 & Aquatic Entomology class 67 106jam Riley Nelson; Steve Merkley, Tristan McKnight, John Sproul, Nick Davis, Peter Meyers. photos: scenery. Gomphidae, Leptohyphidae, Heteroceridae, Baetidae, Dytiscidae, Naucoridae, Veliidae 2 genera, Hydrophilidae, Tabanidae, Corydalidae, Elmidae, Hydropsychidae, Tetrigidae, Dryopidae. 9716

9717 USA: UTAH: Washington Co. Leeds Creek, 2 miles west of Leeds, N 37.26647 W 113.36891 elev. 1211m, 15-16 October 2010, C. R. Nelson# 9717 & Aquatic Entomology class 67 107creek Riley Nelson; Steve Merkley, Tristan McKnight, John Sproul, Nick Davis, Peter Meyers. The scenery shots were taken at 107LEEDS: N 37.26553 W 113.36881 elev. 1214 m. camped night of 15-16 October. GPS at high point N of road between road and creek. photos: sunset, fabulous. ran mercury vapor lamp on 15th. photos: Solpugida, Scarabaeidae *Xyloryctes jamaicensis* female, Limnephilidae, Siricidae, Carabidae *Omophron*. 16 Oct 2010: photos: sunrise, fabulous. Hydrophilidae, Psychomyiidae, photos at home: Perlodidae *Isoperla quinquepunctata* adults. Tipulidae, Psychodidae?, Stratiomyidae. Photos, site, wonderful. Pteronarcyidae *Pteronarcella badia*, Nemouridae, Dryopidae, Baetidae, Leptophlebiidae, Ephemerellidae *Drunella*, Elmidae, Naucoridae, Calopterygidae, Hydropsychidae, Corydalidae, Empididae, Veliidae *Microvelia*, Gerridae, Dixidae, Simuliidae, Hydrophilidae. Photos at home: Ephydriidae *Ochthera* mantis. 9717

9718 USA: UTAH: Washington Co. Virgin River, Mosquito Cove, 4 mi W of Rockville, Hwy 9, N 37.16812 W 113.10391 elev. 1103 m, 16 October 2010, C. R. Nelson# 9718 & Aquatic Entomology class 67 107VIRGRAF Riley Nelson; Steve Merkley, Tristan McKnight, John Sproul, Nick Davis, Peter Meyers. Ephydriidae good assortment, Tabanidae, Baetidae, Gomphidae, Gelastocoridae, Tetrigidae, Veliidae. 9718

9719 USA: UTAH: Washington Co. Virgin River, Barker Park, Hwy 9, Springdale N 37.17656 W 113.00861 elev. 1146 m, 16 October 2010, C. R. Nelson# 9719 & Aquatic Entomology class 67 107virspri Riley Nelson; Steve Merkley, Tristan McKnight, John Sproul, Nick Davis, Peter Meyers. Baetidae Fallceon Baetodes Camelobaetidius, Ephemerellidae?, Dryopidae, Elmidae, crayfish Orconectes, Corydalidae Corydalus. Therevidae 9719

9720 USA: UTAH: Kane Co., Middle La Vanger Reservoir, 1 mi East of Hwy 89, Alton Turnoff, N 37.43478 W 112.51647 elev. 2083 m, 16 October 2010, C. R. Nelson# 9720 & Aquatic Entomology class 67 107alton Riley Nelson; Steve Merkley, Tristan McKnight, John Sproul, Nick Davis, Peter Meyers. Notonectidae, snails, Corixidae, Baetidae Callibaetis, Sciomyzidae, Aeshnidae, Haliplidae. 9720

9721 USA: UTAH: Garfield Co. Sevier River, Hwy 89, 9 mi South of Circleville, N 38.06900 W 112.34369 elev. 1930 m, 16 October 2010, C. R. Nelson# 9721 & Aquatic Entomology class 67 107SEVIER Riley Nelson; Steve Merkley, Tristan McKnight, John Sproul, Nick Davis, Peter Meyers. Gompidae, Baetidae, Athericidae, Naucoridae, Tipulidae, Ceratopogonidae, Perlodidae Isoperla Isogenoides, Dryopidae, Corixidae, Leptophlebiidae, Hydropsychidae. 9721

9722 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95623 W 111.26763 elev. 1829 m, 23-Oct-2010 C. R. Nelson # 9722 & J. K. Nelson 67 photos: Sherry Wheeler, Kaye Nelson, Paul Ashton, Riley Nelson photos: people, Calliphoridae, Alucitidae Alucita hexadactylusl 9722

9723 USA: UTAH: Utah Co., Salt Lake City, Red Butte Gardens, N 40.768066 W 111.823940 elev. 1537 m, 23-Oct-2010 C. R. Nelson # 9723 & J. K. Nelson 67 google earth Andrea was leading a Halloween group at her job at Red Butte Gardens. The Gardens after dark series. photos: people, colored lights on trees, I call it "Painting with Light" 9723

9724 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 24-Oct-2010 C. R. Nelson # 9724 67 photos: wet leaves in yard 9724

9725 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 31-Oct-2010 C. R. Nelson # 9725 67 photos: sunrise over Loafer and Nebo, from roof of house 9725

9726 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 07-Nov-2010 C. R. Nelson # 9726 67 photos: bowtie pasta and stroganoff. We live in a convergence of varied experiences in the the past, with a divergence of endless possibilities. What will we do with these endless possibilities? 9726

9727 USA: UTAH: Utah Co., Provo River, Provo, 2230 North Street bridge, N 40.26402 W 111.66380, 1409 m, 11-Nov-2010 C. R. Nelson# 9727 67 102proriv Limnephilidae, Skwala, Uenoidae Oligophlebodes, Brachycentrus, Baetis, Elmidae, Athericidae, Tipulidae, Simuliidae, Dixidae, snails three species and perhaps three genera. 9727

9728 USA: UTAH: Box Elder Co. Woods Creek, 2 mi South of Corinne N 41.51707 W 112.13976 1286 m 13-Nov-2010 C. R. Nelson# 9728 & J. K., A. J. Nelson 67 Cabin morning photos: Gunsight Peak, Little Mountain, Promontory Range, tundra swans flying, Tremonton hills, goose decoys, Black Peak, Willard Peak, Promontory Point, ducks flying, coots, harrier, reflections, boat, eared grebe, canada geese, gull, Tod Young; Kaye, Andrea, Tod, and Riley 9728

9729 USA: UTAH: Box Elder Co. Bear River Migratory Bird Refuge, 15 mi West of Brigham City, N 41.47791 W 112.33576 1281 m 13-Nov-2010 C. R. Nelson# 9729 & J. K., A. J. Nelson 67 googleearth photos: great blue heron, harrier, eared grebe, Promontory Point, Bonapartes gull, Phragmites, Salt Lake Valley, swans toward Little Mountain, red winged black birds, The Dike. 9729

9730 USA: UTAH: Box Elder Co. Canadian Goose Gun Club, 13 miles West of Brigham City, N 41.46949 W 112.17174 1287 m 13-Nov-2010 C. R. Nelson# 9730 & J. K., A. J. Nelson 67 googleearth photos: buildings in wheatgrass field 9730

9731 USA: UTAH: Box Elder Co. Bear River Migratory Bird Refuge, 2155 West Forest Street, Brigham City, N 41.50788 W 112.06945 1286 m 13-Nov-2010 C. R. Nelson# 9731 & J. K., A. J. Nelson 67 googleearth photos: Marsh and mallards 9731

9732 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 15-Nov-2010 C. R. Nelson # 9732 67 photos: Amy Nelson and Todd Smith after engagement to marry proposal. With diamond ring. 9732

9733 USA: UTAH: Utah Co., Provo, BYU, west steps of Eyring Science Center, N 40.24714 W 111.65067 elev. 1419 m, 17-Nov-2010 C. R. Nelson # 9733 & class 67 photos: Biology 100 class arranged by height on the steps, to demonstrate a normal distribution. Walk and talk about trees, seeds, and leaves. 9733

9734 USA: UTAH: Utah Co., Provo, BYU, Marriott Center, overlooking Hinckley Building, N 40.25300 W 111.64981, elev. 1425 m, 18-Nov-2010 C. R. Nelson # 9734 67 photos: sunset with Hinckley Building, taken with Fujifilm point and shoot camera. 9734

9735 USA: UTAH: Utah Co., Provo, BYU, Marriott Center, overlooking Hinckley Building, N 40.25300 W 111.64981, elev. 1425 m, 19-Nov-2010 C. R. Nelson # 9735 & J. K. Nelson 67 photos: sunset with Hinckley Building, taken with Nikon D1X 9735

9736 USA: UTAH: Utah Co., Right Fork Hobble Creek, 3 miles East of Kellys Grove, N 40.189617 W 111.443311, 1693 m 18-Nov-2010 C. R. Nelson # 9736 67 C. R. Nelson photographer, not present when Chris York of Springville captured the beaver, gps from google earth. photos: beaver beetles on trapped beaver, Leiodidae Platypsyllus castoris. 9736

9737 USA: UTAH: Utah Co., Provo, East Bay Golf Course, N 40.19913 W 111.64873, 1369 m 01-Dec-2010 C. R. Nelson # 9737 67 C. R. Nelson photographer, not present when Chris York of Springville captured the beaver, gps from google earth. 7-8 dead in 100% ethanol. One photographed alive in separate vial of 100% ethanol. photos: beaver beetles on piece of fur of trapped beaver, Leiodidae Platypsyllus castoris. 9737

9738 USA: UTAH: Salt Lake Co. Sandy, Living Planet Aquarium, 725 East 10600 South, N 40.55931 W 111.87099 1384 m, 5 December 2010, C. R. Nelson # 9738 & family 67 With Kaye, Sherry Wheeler, Amy Nelson, Todd Smith. photos: bluehead sucker?, razorback sucker, lake trout, tiger trout, red spotted toads, least chub, woundfin minnow, june sucker, black crappie, black bullhead catfish, green sunfish (signs labeled as bluegill), raccoon butterflyfish, spotted puffer, Chrysaora sp. sea nettles jellyfish, moon jellyfish, lined sea horses, whites seahorses, dwarf seahorses, American lobster, skunk cleaner shrimp, banded pipefish, x butterfly fish, anemones and corals, lion fish, giant clam, star fish, cardinal fish, Mono, lare chromis-like fish, stripey eel, camel shrimp, horseshoe crab, pencil sea urchin, hermit crab, purple spiny lobster, stone crab, gentoo penguins, people, family, rubber eels caecilians Typhlonectus natans, red eyed frog Agalychnis callidryas, surinam toad Pipa pipa, red belly pacu Colossoma macropomum, barred sorubim catfish Pseudoplatystoma fasciatum, silver arowana Osteoglossum bicirrhosum, pirarucu Arapaima gigas, Tucunare peacock bass Cichla ocellaris or near, red tail catfish pirarara Phractocephalus hemiliopterus, Abramites hypselonotus, Anostomus anostomus, "yellow faced" catfish, black ghost knifefish Apterionotus albifrons, rummy nose tetra Hemigrammus rhodostomus, cardinal tetra, red bellied piranha Pygocentrus nattereri, side necked turtle Phrynops, oscar Astronotus ocellatus, four eyed fish Anableps anableps, hard head catfish, dwarf caiman Palaeosuchus palpebrosus, giant cave cockroach Blaberus giganteus, yellow anaconda Eunectes notaeus. 9738

9739 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.24625 W 111.64984 1425 m, 7 December 2010, C. R. Nelson # 9739 & student 67 Photo session with Jessie Breinholt. CRN not present during collecting. " photo voucher: Procamburus orcinus, FL, Leon Co. Apalachicola National Forest N of Wallace N 30.33534 W 84.34425, 18-19 November 2010, RD collector Paul Moler.

Crustacea Astacidae

photo voucher: *Procambarus franzi* 1 and 2, FL, Marion Co. Orange Lake Cave, N 29.4069 W 82.2049, 23-24 November 2010, type locality collector Paul Moler.

Crustacea Decapoda crayfish Family: Astacidae Genus: *Procambarus franzi*" 9739

9740 USA: UTAH: Utah Co., Provo, Provo Tabernacle, University Boulevard and 100 South, N 40.232234 W 111.658981 1385 m, 17 December 2010, C. R. Nelson # 9740 & A. L. Nelson 67 photos: burnt historic building, still burning at 9:00 am, started around 2:30 am, source unknown USA: UTAH: Utah Co. Provo, Provo Tabernacle, University Boulevard and 100 South, N 40.232234 W 111.658981, elev. 1385m., 17 December 2010, C. R. Nelson # 9740 & Amy Leah Nelson photos: burnt historic building, still burning at 9:00 am, started around 2:30 am, source unknown 9740

9741 USA: UTAH: Utah Co., Provo, BYU, Museum of Paleontology, N 40.2564 W 111.6567 1411 m, 17 December 2010, C. R. Nelson # 9741 & J. K. Nelson 67 wedding reception of Sophie Lee and Jeremy Spencer. She is daughter of Mary and Daryl Lee. I need to return to photograph exhibits 9741

9742 USA: UTAH: Salt Lake Co. Salt Lake City, Utah Museum of Natural History, N 40.7643 W 111.8511 1416 m, 18 December 2010, C. R. Nelson # 9742 & family 67 with Kaye, Andrea, Amy, Kathy Wheeler; Spencer, D. J., James Altling; Devon and Tessa Watson. photos: Dimetrodon, Allosaurus fighting, Camptosaurus, kids with dinosaur puppets, Euryops, Allosaurus skull showing reconstructions, Camarasaurus skull reconstruction, Uintatherium skull, Ichthyosaurus cast, Giant beaver skull *Castoroides ohioensis*. 9742

9743 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 19-Dec-2010 C. R. Nelson # 9743 67 with Riley, Kaye, Andrea, Amy, Todd Smith; Kristi, Ben, Logan, and Lincoln Parker. made peppernuts. photos group with peppernuts and Christmas cactus on chairs from farm (Rose and Amy's house?) 9743

9744 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 21-Dec-2010 C. R. Nelson # 9744 67 photos: early morning heavy snow, on day of solstice 9744

9745 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Dec-2010 C. R. Nelson # 9745 & J. K. Nelson 67 photos: family Christmas: Todd Smith, Amy, Andrea, Kaye, and Riley 9745

9746 USA: UTAH: Kane Co., Mount Carmel, N 37.2426 W 112.6701 1615 m 28-Dec-2010 C. R. Nelson # 9746 & J. K. Nelson 67 photos: white cliffs across from Maynard Dixon's house. It reminded me of his painting, Diana's Throne. 9746

9747 USA: UTAH: Kane Co., Big Water, looking to Page, N 37.0837 W 111.6775 1289 m 28-Dec-2010 C. R. Nelson # 9747 & J. K. Nelson 67 photos: smoke stacks and haze of Navajo Power Plant 9747

9748 USA: ARIZONA: Maricopa Co. Phoenix, Paradise Valley, N 35.5965 W 111.9830 421 m 29-Dec-2010 C. R. Nelson # 9748 & J. K. Nelson 67 photos: onions turn clockwise in Costco display. Sign in Costco. With Brandy and Jason Nelso. 9748

9749 USA: ARIZONA: Maricopa Co. Scottsdale, Breakfast Club, N 33.5000 W 111.9263 386 m 30-Dec-2010 C. R. Nelson # 9749 & J. K. Nelson 67 photos: at breakfast with Jesse Wheeler. Brandy and Jason. 9749

9750 USA: ARIZONA: Maricopa Co. Phoenix, Mystery Castle, N 33.3565 W 112.0622 407 m 30-Dec-2010 C. R. Nelson # 9750 & J. K. Nelson 67 Photos: quirky architecture and art of Boyce Luther Gulley and his daughter Mary Lou Gulley. Brandy and Jason. 9750

9751 USA: ARIZONA: Maricopa Co. Glendale, Deer Valley Rock Art Center, N 33.6765 W 112.1526 408 m 30-Dec-2010 C. R. Nelson # 9751 & J. K. Nelson 67 Photos: rock art. Brandy and Jason Nelson 9751

9752 USA: ARIZONA: Maricopa Co. Phoenix, Chinese Cultural Center, N 33.4554 W 111.9886 353 m 30-Dec-2010 C. R. Nelson # 9752 & J. K. Nelson 67 Photos: catfish and crabs in sotre aquarium. Brandy and Jason Nelson 9752

9753 USA: ARIZONA: Maricopa Co. Sycamore Creek, 1.25 miles North of Hwy 87 and Sunflower, N 33.88175 W 111.47536 1066 m 31-Dec-2010 C. R. Nelson # 9753 & J. K. Nelson 67 108syc sand for pictures and red jasper to Brandy. Brandy and Jason Nelson Ephemeroptera nymph; photos on 2 Jan 2011 of Hydrophilidae 2 genera Tropisternus and Hydrochara?. 9753

9754 USA: ARIZONA: Maricopa Co. Sycamore Creek, Hwy 87, 5 miles South of Sunflower, N 33.79676 W 111.49470 701 m 31-Dec-2010 C. R. Nelson # 9754 & J. K. Nelson 67 108low Got sticks for cockatiel bird perches for Brandy and Jason's birds Gorthag, Josephine, and Kiwi. Kept a few rocks, one with a crystal line through it, another bigger one with a red jasper piece in a matrix of limestone? Brandy and Jason Nelson looked in creek for insects at dusk, none found, recent flood 9754

9755 USA: ARIZONA: Maricopa Co. Hwy 87, 12 miles North of Saguaro Lake, N 33.74791 W 111.50234 676 m 31-Dec-2010 C. R. Nelson # 9755 & J. K. Nelson 67 google earth Brandy and Jason Nelson photos: sunset and saguaro cactus 9755

9756 USA: ARIZONA: Maricopa Co. Mesa, LDS Temple, N 33.41314 W 111.81962 378 m 31-Dec-2010 C. R. Nelson # 9756 & J. K. Nelson 67 google earth photos: choir, Christmas lights, Temple, and Brandy and Jason Nelson 9756

9757 USA: ARIZONA: Maricopa Co. Phoenix, 4502 East Paradise Village Parkway South, Paradise Trails Apartments #3025 85032 N 33.5965 W 111.9830 421 m 01-Jan-2011 C. R. Nelson # 9757 & J. K. Nelson 67 google earth photos: Brandy and Jason's apartment, cats and birds. 9757

9758 USA: ARIZONA: Mohave Co. Burro Creek Campground, 1.5 miles West of Hwy 93, 15 miles South of Wickiup, N 34.53646 W 113.45324 539 m 01-Jan-2011 C. R. Nelson # 9758 & J. K. Nelson 67 108burro photos: site and bridge. No good water at Date Creek, about 40 miles south, Santa Maria River Crossing flooded out. Hasseyampa River Preserve south of Wickenburg looked good for lowland stuff. photos on 2 jan 2011: Mesocapnia nymphs, 1 adult; Tricorythodes, Baetidae: Plauditus?; Stratiomyidae; Naucoridae. Photos of Mesocapnia adult taken later at home in Provo.

Also other Baetidae

no photo beetles, Carabidae including Brachinus 9758

9759 USA: ARIZONA: Mohave Co. Hwy 93, 23 miles Southeast of Hoover Dam, Detrital Valley, N 35.81614 W 114.54830 693 m 01-Jan-2011 C. R. Nelson # 9759 & J. K. Nelson 67 photos and video: alluvial fan, playa, bajada. 9759

9760 USA: NEVADA: Clark Co. Logandale, Wheeler Home, 1985 Lou Adams Avenue, N 36.61859 W 114.48595 429 m 01-Jan-2011 C. R. Nelson # 9760 & J. K. Nelson 67 photos: Wheeler grandchildren with insects from Burro Creek; home of Kathy and Paul Wheeler. 9760

9761 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 05-Jan-2011 C. R. Nelson # 9761 67 photos: house finch, one with one eye; junco; spotted towhee; scrub jay; Stella the cat; four species sitting in the bush. 9761

9762 USA: UTAH: Box Elder Co. Brigham City Cemetery, N 41.50228 W 112.00924 1373 m, 06-Jan-2011 C. R. Nelson # 9762 67 photos: graveside services of Renee Olsen. Olsen family photos. burial of Renee Olsen. 9762

9763 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95623 W 111.26763 elev. 1829 m, 08-Jan-2011 C. R. Nelson # 9763 & family 67 Riley, Kaye, Andrea, Amy, and Todd Smith. photos: white long tailed weasel with cottontail rabbit prey; people. 9763

9764 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 15-Jan-2011 C. R. Nelson # 9764 67 photos: birds at feeder 9764

9765 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.26405 W 111.66376 1341 m 15-Jan-2011 C. R. Nelson # 9765 67 108pr First 100s and small net samples. photos: people and river 9765

9766 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 16-Jan-2011 C. R. Nelson # 9766 67 photos: birds at feeder, Jack Sparrow the one eyed finch; mountain chickadee; sharp-shinned hawk. 9766

9767 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95623 W 111.26763 elev. 1829 m, 17-Jan-2011 C. R. Nelson # 9767 & family 67 snowmobile trip; Riley, Kaye; Paul Ashton and David? Bair cleared driveway; Amy Nelson, Todd Smith, Debby Smith, Trisha (Smith) and kids Olivia about 10 years and Gavin 2 years; Tamara, Daniel, and Jane (age 2) Parker. Clear day , wet deep snow. I took videos with Daniel's camera. 9767

9768 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.6 mi S of Vivian Park & Hwy 189, N 40.34770 W 111.54757 1640 m 22-Jan-2011 C. R. Nelson# 9768 & students 67 479SFK photos: scenery, Tristan McKnight and Craig Martin. Met Bio 100 student Elizabeth Portanova. Nemouridae, Zapada nymphs; Capniidae Capnia nana adults, Capnia gracilaria adults. 9768

9769 USA: UTAH: Utah Co., Little North Fork Creek at Timp Lodge, 0.5 mi North of Sundance Ski Area, N 40.38920 W 111.58580 1934 m 22-Jan-2011 C. R. Nelson# 9769 & students 67 102timplod Tristan McKnight and Craig Martin. photos: Timp Lodge, creek, and ice. Nemouridae: Zapada; Leuctridae Paraleuctra; Blephariceridae Bibiocephala; Megarcys. 9769

9770 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 01-Feb-2011 C. R. Nelson # 9770 67 photos: American goldfinch. 9770

9771 USA: UTAH: Utah Co., Provo, BYU, Monte L. Bean Life Science Museum, N 40.253336 W 111.647426, 1439m 01-Feb-2011 C. R. Nelson # 9771 67 photos: dead mounts. Shasta the Liger; Marco Polo Sheep; Altai Argali Sheep; Khangai Argali Sheep; California Bighorn Sheep; Mongolian Argali Sheep. Museum drawers of Reduviidae. 9771

9772 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 03-Feb-2011 C. R. Nelson # 9772 67 photos: stuffed coyote in my sunroom. 9772

9772.5 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 05-Feb-2011 C. R. Nelson # 9772.5 67 photos: sunset 9772.5

9773 USA: UTAH: Utah Co., Rock Canyon, East of Provo N 40.26462 W 111.62970 1564 m 05-Feb-2011 C. R. Nelson # 9773 & students 67 031ROCKTRH Tanner Entomology Club outing. Tristan McKnight president; Nick Davis, Hope Shaw Wertz. photos: Trichoceridae; Boreidae *Boreus coloradensis*; snail; people, scenery. 9773

9774 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 15-Feb-2011 C. R. Nelson # 9774 67 Trichoceridae in swarm of about 30 individuals. some papered, some in 100% ethanol. 9774

9775 USA: UTAH: Salt Lake Co. Sandy, Living Planet Aquarium, 725 East 10600 South, N 40.55931 W 111.87099 1384 m, 19 February 2011, C. R. Nelson # 9775 & J. K. Nelson 68 With Kaye photos: fish and other animals. 9775

9776 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 26-Feb-2011 C. R. Nelson # 9776 68 photos: birds at feeder; rufous sided towhee, house finch, white crowned sparrow. 9776

9777 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 01-Mar-2011 C. R. Nelson # 9777 68 video: Trichoceridae in flight 9777

9778 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 08-Mar-2011 C. R. Nelson # 9778 68 Heiva the cat caught a junco bird. I saved its feet. Happy birthday. 9778

9779 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 08-Mar-2011 C. R. Nelson # 9779 68 photos: street to church, across to lake, aspens in catkins, apricot buds, lilac buds, oak buds, juniper cones, walnut buds, onions, apple prunings, Stella the cat. 9779

9779.5 USA: UTAH: Utah Co., Provo, BYU, Smoot Building N xx m 23-Mar-2011 C. R. Nelson # 9779.5 & J. K. Gelhaus. 68 photos: people and scenery 9779.5

9779.7 USA: UTAH: Utah Co., Provo, Eastlawn Cemetery, N xx m 23-Mar-2011 C. R. Nelson # 9779.7 & J. K. Gelhaus. 68 photos: people and scenery, Mount Timpanogos, Utah Valley. 9779.7

9780 USA: UTAH: Utah to California airline flight, Salt Lake City to Los Angeles, Delta Airline N xx m 26-Mar-2011 C. R. Nelson # 9780 & J. K. Nelson 68 photos: scenery 9780

9781 USA: HAWAII: Island of Hawaii view from airplane N xx m 26-Mar-2011 C. R. Nelson # 9781 & J. K. Nelson 68 photos: scenery, Kona Coast. 9781

9782 USA: HAWAII: Island of Hawaii Kohala District, Waimea, mahukona, Upolu Point, Hawi, Keokea Beach, Pololu Valley Viewpoint, N xx m 27-Mar-2011 C. R. Nelson # 9782 & J. K. Nelson 68 photos: scenery earwig at Keokea Beach, 9782

9783 USA: HAWAII: Island of Hawaii Kohala District, Kona Coast, Waikoloa Beach Hilton, N xx m 27-Mar-2011 C. R. Nelson # 9783 & J. K. Nelson 68 photos: sunrise, sunset 9783

9784 USA: HAWAII: Island of Hawaii Kohala District, Kona Coast, Waikoloa Beach Hilton, south end, N xx m 28-Mar-2011 C. R. Nelson # 9784 & J. K. Nelson 68 photos: sea urchins 3 spp., sea cucumbers 2 spp., coral, poou 3 colors, paraharaha 4 spp., maito red rimmed 1 sp., vete, ahuru, manini, ume tare, red tailed maito, abdedefduf 2 spp., huehue, nanue, humuhumunukunukuapuaa, myna, dolphins, pilot whale, scenery, Kaye 9784

9785 USA: HAWAII: Island of Hawaii Kohala District, Kona Coast, Waikoloa Beach Hilton, south end, N xx m 29-Mar-2011 C. R. Nelson # 9785 & J. K. Nelson 68 photos: sunrise over Mauna Kea, Mauna Loa, Hualalai, Kohala Forest (Hawi Pololu; waves. 9785

9786 USA: HAWAII: Island of Hawaii Saddle Road, 5 miles East of Mauna Kea, Kaumana Trailhead, N 19.667246 W 155.34584 1600 m 29-Mar-2011 C. R. Nelson # 9786 & J. K. Nelson 68 110KAUmanA 110 at car. 109KA END (Kaumana Trail at end of baits) N 19.67022 W 155.34251 elev. 1491 m. The forest is best in the kipuka between milemarkers 16 and 24. This spot is at 20. Set out fermented banana baits for Drosophila, but it stayed foggy all the time. photos: Ohi'a lehua, moth, sedges, ferns, Vaccinium, Lycopodium. 9786

9787 USA: HAWAII: Island of Hawaii Waikoloa Road, between Waikoloa Beach to jct Saddle Road, N 19.92028 W 155.80333 343 m 30-Mar-2011 C. R. Nelson # 9787 & J. K. Nelson 68 111W5 photos: scenery

Trip from Waikoloa Beach to Puuoo kipuka on Saddle Road and back, W in GPS is for Waikoloa Road:

111W1, N 19.91430 W 115.83554, elev. 172 m. photos: Mauna Loa below Waikoloa Village. mileage 468.5 mi.

111W2, N 19.92106 W 155.80179, elev. 277m. photos of grassland and mountains. mileage 470.8 mi.

then Waikoloa Village, no gps, mileage 472.2 mi, see also 111W5.

111W3, N 19.91479 W 155.77724, elev. 372m. photos of mountains. mileage 473.6 mi.

111W4, N 19.905910 W 155.75142, elev. 497m. photos of donkey sign. no mileage. trip continued up Saddle Road to Kaumana Trail and back, then

111W5, N 19.902028 W 155.80333, elev. 343m. photos of Waikoloa, acacia, savanna, and then coral graffiti on lava. 9787

9788 USA: HAWAII: Island of Hawaii Saddle Road between Mauna Kea and Mauna Loa, to Kaumana Trailhead, N 19.69275 W 155.48174 2032 m 30-Mar-2011 C. R. Nelson # 9788 & J. K. Nelson 68 111S4 photos: scenery

Trip from Waikoloa Beach to Puuoo kipuka on Saddle Road and back, S in GPS is for Saddle:

111S1, N 19.90247 W 155.67575, elev. 1019 m. photo wild turkey. mileage 486.2 mi.

111S2, N 19.82876 W 155.63806, elev. 1685 m, photos green hills, yellow aster. mileage 492.3 mi.

111S3, N 19.80380 W 155.62979, elev. 1744m, photos Mauna Loa, storksbill plant.

111S4, N 19.69275 W 155.48174, elev. 2032m, photos pahoe-hoe lava. mileage 507.6 mi.

111S5, N 19.67246 W 155.34584, elev. 1600m, photos Kaumana Trail, mileage 516.9 mi.

Used gps of yesterday, 110KAUmanA. milemarker 20.

many photos, few flies, flash malfunction due to wet.

111S6, N 19.67712 W 155.38431, elev. 1771 m, photos Puuoo Trailhead. mileage 519.6.

9788

9789 USA: HAWAII: Island of Hawaii Hamakua District, Waipi'o Valley Overlook, N 20.11790 W 155.58418 281 m 31-Mar-2011 C. R. Nelson # 9789 & J. K. Nelson 68 112WAPIO photos: scenery

notes from later in Hilo about Verna's drive in: If no can, no can, if can Verna's, later that night ate at Tex's in Honokaa, then next at Kuhio's Grill in Hilo. Kuhio's was great.

9789

9790 USA: HAWAII: Island of Hawaii Hamakua District, Laupahoehoe Point, N 19.99315 W 155.24121 0, reads 37 m 31-Mar-2011 C. R. Nelson # 9790 & J. K. Nelson 68 112LAUPAHO took stick of aito, Casuarina; poro 'ati seeds; photos banyan tree; cemetery, tidal wave of 1946. 9790

9791 USA: HAWAII: Island of Hawaii Hilo District, Akaka Falls near Honomu, N 19.85406 W 115.15237 375 m 31-Mar-2011 C. R. Nelson # 9791 & J. K. Nelson 68 112AKAKA photos Falls and plants. 9791

9792 USA: HAWAII: Island of Hawaii Hilo District, Peepee Falls and Boiling Pots, N xx W xx xx m 31-Mar-2011 C. R. Nelson # 9792 & J. K. Nelson 68 photos Falls and plants. 9792

9793 USA: HAWAII: Island of Hawaii Hilo District, Rainbow Falls, Anuenue Falls, N 19.71938 W 155.10838 134 m 31-Mar-2011 C. R. Nelson # 9793 & J. K. Nelson 68 112ANUENUE photos Falls and plants. 9793

9794 USA: HAWAII: Island of Hawaii Puna District, Mauna Loa Macadamia Nut Factory, N 19.65232 W 155.02216 79 m 31-Mar-2011 C. R. Nelson # 9794 & J. K. Nelson 68 112Max C photos: Macadamia orchard 9794

9795 USA: HAWAII: Island of Hawaii Ka'u District, Naalehu, N 19.06174 W 155.58601 155 m 01-Apr-2011 C. R. Nelson # 9795 & J. K. Nelson 68 112PUNALUU photos: Mustang car, pineapple, 9795

9796 USA: HAWAII: Island of Hawaii Ka'u District, Punaluu Black Sand Beach, N 19.13402 W 155.50572 0, read -33 m 01-Apr-2011 C. R. Nelson # 9796 & J. K. Nelson 68 112PUNABEA Punaluu Bakery. photos: saffron finch, black sand beach 9796

9797 USA: HAWAII: Island of Hawaii Ka'u District, Hawaii Volcanoes National Park, Jaggar Museum, Kilauea Crater Overlook, N 19.42013 W 155.28882 1213 m 01-Apr-2011 C. R. Nelson # 9797 & J. K. Nelson 68 112KILAUEA photos: scenery, vents, lava photos: 'oh'ia 9797

9798 USA: HAWAII: Island of Hawaii Puna District, Hawaii Volcanoes National Park, end of the road, Holei Sea Arch, N 19.29630 W 155.09561 68 m 01-Apr-2011 C. R. Nelson # 9798 & J. K. Nelson 68 112LAVAEND photos: scenery, pahoe-hoe lava, buried sign, crashing waves, arch photos: ferns 9798

9799 USA: HAWAII: Island of Hawaii Ka'u District, Hawaii Volcanoes National Park, Holei Pali, Holei Cliffs, N 19.30326 W 155.15335 219 m 01-Apr-2011 C. R. Nelson # 9799 & J. K. Nelson 68 112HOLEI rain photos: 9799

9800 USA: HAWAII: Island of Hawaii Ka'u District, Hawaii Volcanoes National Park, Thurston Lava Tube, N 19.41365 W 155.23892 1191 m 01-Apr-2011 C. R. Nelson # 9800 & J. K. Nelson 68 113THURS rain photos: tree ferns, 'ohi'a canopy, scenery, rat 9800

9801 USA: HAWAII: Island of Hawaii Puna District, Mauna Loa Macadamia Nut Factory N 19.65232 W 155.02216 79 m 01-Apr-2011 C. R. Nelson # 9801 & J. K. Nelson 68 112Max C photos: factory workers photos: Macadamia flowers, nuts, and trees. Proteaceae: *Macadamia integrifolia*. 9801

9802 USA: HAWAII: Island of Hawaii Helicoptera Ride from Waikoloa to Saddle Road, Kilauea and Kohala Forest Valleys, N 19.82361 W 155.47083 4206 m 01-Apr-2011 C. R. Nelson # 9802 & J. K. Nelson 68 on-line list photos: scenery.

Use summit of Mauna Kea as the gps point. Pilot Jason from Blue Hawaiian Helicopters.
With two tourists: mother Erin, and 10 year old son Mack. 9802

9803 USA: HAWAII: Island of Hawaii Kohala District, Kona Coast, Waikoloa Beach Hilton,
hotel room, N 19.92665 W 155.88518 63 m 02-Apr-2011 C. R. Nelson # 9803 & J. K.
Nelson 68 110HOTELRM photos: sunset from north Point, past Buddha Point to golf course,
view to Mauna Kea and Maui. GPS of our hotel room, not the golf course. photos: sea
turtles in hotel lagoon, south reef, 9803

9804 USA: HAWAII: Island of Hawaii Kohala District, Waialea Beach near Hapuna Beach
State Park, N 19.92665 W 155.88518 63 m 03-Apr-2011 C. R. Nelson # 9804 & J. K. Nelson
68 GoggleEarth photos: playing on the beach; beach near shade of tamarisk and other
trees photos: odd cardinal nest, house sparrows 9804

9805 USA: HAWAII: Island of Hawaii Hapuna Beach State Park, N 19.99131 W 155.82461
0 m 03-Apr-2011 C. R. Nelson # 9805 & J. K. Nelson 68 GoggleEarth photos: people beach,
open white sand, much activity. Not much interest for me. head south to Waialea, better.
9805

9806 USA: HAWAII: Island of Hawaii Kona District, Kailua-Kona, Kona LDS Temple, N
19.64172 W 155.98566 71 m 03-Apr-2011 C. R. Nelson # 9806 & J. K. Nelson 68
113TEMPLE photos: rainbow; Kaye and Riley photos: Hibiscus, mongoose, fan palm,
Plumeria, Traveler's palm Ravenala Madagascariensis, in the Strelitziaceae it is like a fan
banana. 9806

9807 USA: UTAH: Salt Lake Co. West Jordan, LDS Church, 8151 Echo View Drive, N
40.60300 W 112.03923 1492 m 09-Apr-2011 C. R. Nelson # 9807 & J. K. Nelson 68
GoogleEarth photos: baby blessings of Chloe Marlene Watson and Chase Wheeler Watson,
twins of Loni and Matt Watson. 9807

9808 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 19-Apr-2011 C. R. Nelson # 9808 68 photos: mountain chickadee on
feeder. 9808

9809 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95623 W
111.26763 elev. 1829 m, 20-Apr-2011 C. R. Nelson # 9809 & family 67 photos people:
INHUT reunion, Riley Nelson, Erin McGuire, Christina Nelson, Jonathan Nelson, and Robin
Gleaves (friend of Jonathan). 9809

9810 USA: UTAH: Utah Co., Provo, BYU, 123 Widtsoe Lab 20-Apr-2011 9810 68 photos:
lab students, Tristan McKnight, Craig Martin, Paul Edmonds, McAllister "Callie" Hall, Ryan
Widdison, Jared Elder, and Derek Larsen. 9810

9811 USA: UTAH: Utah Co., Provo, BYU, outside Museum of Art N 40.25049 W 111.64855 1420 m, 22-Apr-2011 9811 68 photos: graduation of Amy Leah Nelson and A. Todd Smith. and family members, Jill Kaye Nelson, Francis Shirlene Wheeler, Andrea Jill Nelson, Debbie Smith. Grandparents also Trisha, Olivia, and Gavin Davis. James Smith. Wife? 9811

9812 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 22-Apr-2011 C. R. Nelson # 9812 68 Graduation party for A. Todd Smith and Amy Leah Nelson. photos: many family and friends, Marva Apostol, Grace Berrett, Pam & Gordon Oborn, family of 9811, Rona and Jim Jurgens, Ben Parker. 9812

9813 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 23-Apr-2011 C. R. Nelson # 9813 68 photos: Astling boys, Spencer, DJ, and James. 9813

9814 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 23-Apr-2011 C. R. Nelson # 9814 68 photos: junco at feeder 9814

9815 USA: UTAH: Summit Co., Park City, Three Kings Drive, N 40.65809 W 111.51503 2094 m 24-Apr-2011 C. R. Nelson # 9815 68 photos: Easter Party with Smiths 9815

9816 USA: UTAH: Utah Co., South Fork, Conrad Ranch, 3.5 miles South of Vivian Park, springs, N 40.33854 W 111.52750 1715 m 25-Apr-2011 C. R. Nelson # 9816 68 photos: Amy's wedding, Amy and Todd Smith. photos: Leuctridae, *Perlomyia utahensis*, 1 female. 9816

9817 USA: UTAH: Utah Co., Springville, magleby's Restaurant, 200 South and main Street, N 40.16407 W 111.61094 1396 m 25-Apr-2011 C. R. Nelson # 9817 68 photos, wedding breakfast: Amy and Todd Smith. 9817

9818 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 26-Apr-2011 C. R. Nelson # 9818 68 photos: dark eyed juncos, house finches and Purple or Cassin's finch (Cassins! 10 June 2011 CRN); pine siskin, mountain chickadee. 9818

9819 USA: UTAH: Utah Co., Provo, BYU, Ellsworth Building, N 40.26445 W 111.66038, 1413 m, 28-Apr-2011 9819 & D. M. Larsen. 68 Tipulidae 9819

9820 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 30-Apr-2011 C. R. Nelson # 9820 68 photos: snow on glass, shadows, photos: Cassin's finch female; green aspen leaves with snow, junco, house finch male. 9820

9820 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 01-May-2011 C. R. Nelson # 9820 68 family dinner with Hyrum, Becky, Lydia, and Autumn Rose Wheeler. photos: cat, Heiva in the garden, in a bucket, dandelion, english walnut bud, spruce buds, 9820

9821 USA: UTAH: Utah Co., Provo, Eastlawn Cemetery, N 40.298280 W 111.649165 1552 m, 04-May-2011 C. R. Nelson # 9821 & J. K. Nelson 68 photos: valley views, Sheeprock Mountains. 9821

9823 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 04-May-2011 C. R. Nelson # 9823 68 photos: house, street, Kaye 9823

9824 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 10-May-2011 C. R. Nelson # 9824 68 Sultan the Bengal house cat visits our house, owner is Delbert Pearson in the ward.

11 May 2011: bird walk with Gavin McKay for Cub Scouts, to cemetery. photos: black headed grosbeak female at feeder. 9824

9825 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 15-May-2011 C. R. Nelson # 9825 68 pocket gopher caught by cat, frozen to give to Duke Rogers. Tipulidae, *Tipula oleracea*, invasive species to send to Jon Gelhaus. 9825

9826 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 19-May-2011 C. R. Nelson # 9826 68 photos: black headed grosbeak at feeder. 9826

9827 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 20-May-2011 C. R. Nelson # 9827 68 Clayton White gave me an old cabinet from BYU Zoology used to store dissections in anatomy from days of C. Lynn Hayward and Vasco Tanner (1950-1970?). It has a removable front door and is made of cheap plywood carefully painted with false graining. I cleaned up some of it at home. It is in rough shape. I found a stained 1961 silver Roosevelt dime in it. photos: black headed grosbeak at feeder.

Tipulidae *Tipula oleracea* 9827

9828 USA: UTAH: Utah Co., South Fork, Conrad Ranch, 3.5 miles South of Vivian Park, springs, N 40.33854 W 111.52750 1715 m 21-May-2011 C. R. Nelson # 9828 68 Wedding reception for Amy and A. Todd Smith. 9828

9829 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 22-May-2011 C. R. Nelson # 9829 68 Tipulidae Nephrotoma 9829

9830 USA: UTAH: Utah Co., Provo, Y Mountain Trail, east of BYU, first switchback, N 40.24289 W 111.62442 1639 m 25-May-2011 C. R. Nelson # 9830 & Derek Larsen, matthew Otis. 68 113MTSWIT N 40.24292 W 111.62463, 1585 m. photos: scenery. 9830

9831 USA: UTAH: Utah Co., Timp Lodge, 0.5 mi North of Sundance Ski Area, N 40.38925 W 111.58591 1923 m 25-May-2011 C. R. Nelson # 9831 68 114timplod photos: scenery. Scheduler: Janae Pickard, BYU 801-422-7927; Caretaker: Duaine Brinkerhoff;, 801-361-3071.

Timp Lodge telephone: 801-225-8585 Taenionema , Zapada, Rhyacophila 9831

9832 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-May-2011 C. R. Nelson # 9832 68 photos: Tipulidae Tipula oleracea female and Nephrotoma female 9832

9833 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 28-May-2011 C. R. Nelson # 9833 68 photos: Dysdera crocata spider eating isopoda in garden; cats with Kaye on bed. 9833

9834 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95623 W 111.26763 elev. 1829 m, 28-May-2011 C. R. Nelson # 9834 & family 68 photos people: bug hunting with Kaden Wheeler, son of Dee and matt Wheeler ants, box elder bug, leaf footed bug, Calliphoridae, and spiders. 9834

9835 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 31-May-2011 C. R. Nelson # 9835 68 photos: neighborhood, talk with Mary Mostert, age 82? 9835

9836 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95623 W 111.26763 elev. 1829 m, 02-Jun-2011 C. R. Nelson # 9836 68 gps given at house; spring is: N 39.95883 W 111.26775 elev. 1860 m Triznaka at spring; photos: yellow chat bird on creek 9836

9837 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 04-Jun-2011 C. R. Nelson # 9837 68 photos: Coniopterygidae and Diaspididae on Picea pungens 9837

9838 USA: UTAH: Salt Lake Co. Liberty Park, Tracy Aviary, N 40.74307 W 111.87487 1298 m 04-Jun-2011 C. R. Nelson # 9838 & family 68 picnic with Kaye, Amy, Todd, and Andrea, later joined by Jordan photos: Opilionida, box elder bark, family, scenery, birds: king vulture, golden eagle, turkey vulture, bald eagle, southern ground hornbill, chaco

chachalaca, black throated magpie jay, *Tragopan temminckii*, northern flicker, kookaburra, red tailed hawk named Storm, Aplomado falcon, northern saw whet owl, western screech owl, short eared owl, long eared owl, great horned owl, barn owl, brewer's blackbird, sun conure, scarlet ibis, ? duck, ruddy duck, red head, northern shoveler, northern pintail, green wing teal, blue wing teal, cinnamon teal, golden pheasant female, Canada goose, chattering, common goldeneye, girl in a pink tutu on a bike. 9838

9839 USA: UTAH: Utah Co., hillside above Squaw Peak Orem Overlook, N 40.74307 W 111.87487 1298 m 4-9 June 2011 C. R. Nelson # 9839 & J. K. Nelson, & G. Dalem. 68 4 June 2011: went with Greg Dalem and Kaye, set up malaise trap in open area exposed to view from road to the north, near *Balsamorhiza sagittata*. Collected some.

5 June 2011: went with Kaye and emptied trap at 8:00 pm, moved trap about 15 m to a spot behind some big toothed maple trees. Around 8:00 pm.

9 June 2011: Greg Dalem retrieved the trap and catch. Shared with NADS group.

Squaw Peak summit of 25 May 2010: 032sqaw N 40.27114 W 111.61694, 2396 m. 5 June 2011: Tipulidae (Limoniidae: *Dicranomyia* sp. to Jon Gelhaus), Mycetophilidae, Empididae 9839

9840 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 06-Jun-2011 C. R. Nelson # 9840 68 7:00 am, before sun rose above the mountains: Coniopterygidae flying in *Picea pungens*, 11 pinned, 52 in 100% ethanol. 9840

9841 USA: UTAH: Davis Co. Antelope Island, Buffalo Point, N 41.03299 W 112.26408 1464 m 08-Jun-2011 C. R. Nelson # 9841 & NADS 68 113buf Big group in two vans and more cars, from North American Dipterists' Society meetings. photos: scenery, Tachinidae, Stenopogon, Bombyliidae; Crassulaceae *Lewisia*, gopher snake, plateau whiptail, people. Saw mormon racer snake. 9841

9842 USA: UTAH: Davis Co. Antelope Island, Whiterock Bay Campground, N 41.02447 W 112.25549 1315 m 08-Jun-2011 C. R. Nelson # 9842 & NADS 68 113white Big group in two vans and more cars, from North American Dipterists' Society meetings. photos: dried foam patterns near shoreline, dead eared grebes; people.

The shore flies, Ephydriidae were not totally abundant on the main shore. A few patches of them were near the freshwater pools. Dolichopodidae large on salt flats; Asilidae Stenopogon; Bombyliidae. 9842

9843 USA: UTAH: Davis Co. Antelope Island, Bridger Bay Campground, N 41.04778 W 112.25023 1317 m 08-Jun-2011 C. R. Nelson # 9843 & NADS 68 113bridg Big group in two

vans and more cars, from North American Dipterists' Society meetings. Histeridae, Abronia (sand verbena) in bloom, Astragalus in bloom. No major Ephydriidae on shore of lake. 9843

9844 USA: UTAH: Utah Co., Orem, 800 North and about 500 East, near Stratford Park Businesses, N 40.31194 W 111.68511 1468 m 08-Jun-2011 C. R. Nelson # 9844 & NADS 68 site of rear end accident in van, photos: van bumper after wreck. Riley Nelson, Tristan McKnight, Greg Dalem, Paul Bedell, Bill Grogan, John Stireman, Keith Bayless. 9844

9845 USA: UTAH: Utah Co., Goshen Warm Springs and ponds, near south end Utah Lake, N 39.95967 W 111.85538 1363 m 09-Jun-2011 C. R. Nelson # 9845 & NADS 68 113gosh photos: scenery, people: Shelah Morita, Steve Marshall, photographer. People present: Riley Nelson, Tristan McKnight, Ryan Widdison, Shelah Morita, Steve Marshall, Keith Bayless, Li Shi, Mauren Turcatel, Wayne Mathis, Dianne Mathis, Andrew Fasbender, and Greg Courtney. Tipula oleracea, Angurotipula, Amphiagrion, Syrphidae, Sciomyzidae, Ephydriidae. Photos: Veliidae Rhagovelia distincta, Tachinidae Cylindromyia sp. with Steve. photos on 12 June of Braconidae pupae and "Noctuidae" caterpillar. Tristan McKnight and Keith Bayless had caught the same on 9 June 2011 and photographed the larvae emerging from the caterpillar. 15 June 2011: 8 adults emerged from cocoons (no camera). 16 June 2011: photos one adult from yesterday, two adults emerging! Great photos. then three more emerged by 4:30pm. 9845

9846 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, spring, N 39.95883 W 111.26775 elev. 1860 m, 09-Jun-2011 C. R. Nelson # 9846 68 & NADS, Riley Nelson, Tristan McKnight, Ryan Widdison, Shelah Morita, Steve Marshall, Keith Bayless, Li Shi, Mauren Turcatel, photos: Anthoridae, Scirtidae, Cynipidae, Muscidae Lispe?, Lycosidae pale, Chrysomelidae flea beetle, Chironomidae, Oedemeridae? 9846

9847 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95883 W 111.26775 elev. 1860 m, 09-Jun-2011 C. R. Nelson # 9847 & NADS 68 & NADS, Riley Nelson, Tristan McKnight, Ryan Widdison, Shelah Morita, Steve Marshall, Keith Bayless, Li Shi, Mauren Turcatel, 9847

9847.5 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 09-Jun-2011 C. R. Nelson # 9847.5 & NADS 68 & NADS, Riley Nelson, Tristan McKnight, Ryan Widdison, Shelah Morita, Steve Marshall, Keith Bayless, Li Shi, Mauren Turcatel, Nephrotoma, given to Jon Gelhaus. galls of Agromyzidae Hexomyza schineri on branches of Populus tremuloides given to Li Shi, from same tree as those given a few years ago to Sonja Scheffer. 9847.5

9848 USA: UTAH: Utah Co., Timp Lodge, 0.5 mi North of Sundance Ski Area, N 40.38925 W 111.58591 1923 m 10-Jun-2011 C. R. Nelson# 9848 68 114timplod photos: scenery on 8 June 2011.

Group shot of NADS, 9 June 2011, without Greg Courtney.

NADS 2011: Row 1, Brad Sinclair, John Stireman, Mauren Turcatel, Riley Nelson, Vanessa Christensen, Shelah Morita, Li Shi. Row 2, Monty Wood, Grace Wood, Wayne Mathis, Dianne Mathis, Ryan Widdison, Jon Gelhaus, Chris Thompson, Betty Thompson, Faye Whitworth, Terry Whitworth, Bill Grogan, Paul Bedell. Row 3, Tristan McKnight, Keith Bayless, Andrew Fasbender, Martin Hauser, Jim Hogue, Isaac Winkler, Greg Dahlem, and Steve Marshall. Absent from photo Kaye Nelson, Ken Collins, Greg Courtney, and Rene Rivera.

Remember contacts:

Scheduler: Janae Pickard, BYU 801-422-7927; Caretaker: Duaine Brinkerhoff;, 801-361-3071.

Timp Lodge telephone: 801-225-8585 photos an video: Empididae Rhamphomyia, on puddle under swings photos: Zapada or Podmosta?, wingless sphaeroceridae from spring, turkey mother with babies, fern frond unfolding. Smooth green snake from nearby, photo by Vanessa Christensen sent to Dr. Jack Sites for a photo voucher record in the Bean Museum. 9848

9848.5 USA: UTAH: Utah Co., Little North Fork Creek, Timp Lodge, 0.5 miles North of Sundance Ski Area, N 40.38925 W 111.58591 1923 m 10-Jun-2011 C. R. Nelson# 9848.5 & J. K. Gelhaus. 68 114cascade photos: Sweltsa borealis, malenka californica, Zapada cinctipes, Paraleuctra occidentalis m & f, Machilidae. 9848.5

9849 USA: UTAH: Wasatch Co. Cascade Springs, 7 miles East of Alpine Loop, Hwy 192, N 40.45825 W 111.54890 1924 m 10-Jun-2011 C. R. Nelson# 9849 & J. K. Gelhaus. 68 114cascade Springs beautiful but vegetation not blooming (saw one Mimulus blossom). The Alpine Loop is not open for the season so we came from the Heber City side on the Soldier Hollow Road, route well-marked with signs near the golf course. Passed semi trucks of cattle on the way down. Photos: Ptychopteridae Ptychoptera, Chloroperlidae Sweltsa coloradensis, Nemouridae malenka californica, Tipulidae several spp. (Molophilus?, Limonia?, and Pedicia?, Limnephilidae, Ichneumonidae, Empididae Platypalpus, and Curculionidae. Micropezidae, 9849

9850 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 12-Jun-2011 C. R. Nelson # 9850 68 photos: Muscidae, large with yellow abdomen. 9850

9851 USA: UTAH: Utah Co., Sundance Ski Area, lift, N 40.39148 W 111.57881 1857 m 15-Jun-2011 C. R. Nelson # 9851 & J. K. Nelson 68 Google Earth photos: with McKay family: Bruce, Callie, Kajsia, and Gavin. Kaye and Riley 9851

9852 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, spring, N 39.95883 W 111.26775 elev. 1860 m, 17-Jun-2011 C. R. Nelson # 9852 68 photos at home: Bombyliidae Thevenemyia, Empididae. 9852

9853 USA: UTAH: Utah Co., Sixth Water Creek, Sheep Creek Road, new bridge, 18.3 miles North of Hwy 6, N 40.15123 W 111.30113 elev. 2021 m, 17-Jun-2011 C. R. Nelson # 9853 68 114six same site as CRN8709.

Mileage: 931-913=18 Ptychopteridae Ptychoptera sp.; Pteronarcella nymphs; Drunella grandis nymphs. 9853

9854 USA: UTAH: Utah Co., Three Forks Trailhead, jct Diamond Fork River and Sixth Water Creek, N 40.08438 W 111.35504 elev. 1688 m, 17-Jun-2011 C. R. Nelson # 9854 68 114three same site as CRN8028 most collecting on Diamond Fork at bridge. Photos: Pteronarcella badia abundant, Isoperla fulva abundant, photos at home: Perlodidae Isogenoides zionensis. Pteronarcys californica 1 f.

Sixth Water at jct: photos: Pteronarcella badia abundant. Isoperla fulva; photos: large Trichoptera adult Arctopsyche?. Didn't sample third fork, Cottonwood Creek. Tipulidae Hexatoma female 9854

9855 USA: UTAH: Utah Co., Diamond Fork River, 0.5 mi below Dry Canyon Trailhead, N 40.07864 W 111.36980 elev. 1652 m, 17-Jun-2011 C. R. Nelson # 9855 68 Google Earth 114DRY is below Dry Fork and below the site sampled. This is a large pull off on northside of road. I actually stopped further up at first pulloff on right and walked upstream for access.

Notes: new book, home 17 June 2011, Nephrotoma mating pair Photos: Pteronarcys californica abundant, Pteronarcella badia abundant, saw Isoperla fulva. 9855

9856 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 17-Jun-2011 C. R. Nelson # 9856 69 18 June 2011: photos: Logan Parker with giant stonefly, Pteronarcys californica from Three Forks, CRN9854. photos: Nephrotoma mating pair, sumac, grape, wheat stamens, Allium flowers, Aphids on Chrysothamnus (Ericameria) nauseosus, columbine, catnip, Chrysanthemum. 9856

9857 USA: UTAH: Utah Co., Diamond Fork River, 0.5 miles North of Hwy 6, N 40.03372 W 111.49669 1525 m 18-Jun-2011 C. R. Nelson # 9857 & students 69 115diamlow with T. A. McKnight and Sproul family: John, Liz, George age 3, and Pearl 10 months?. I took video of the stoneflies flying with John and Liz's camera. photos: *Pteronarcella badia* abundant. *Pteronarcys californica*, *Isoperla fulva*. Photos: *Isogenoides zionensis*, Chrysomelidae Donaciinae *Plateumaris nitida*, Tipulidae *Limonia cana*?, Ephydriidae *Ochthera* sp. female, Trichoptera small pinned. *Pteronarcella* was extremely abundant. A few, less than 1% were short winged males, which I photographed 9857

9858 USA: UTAH: Utah Co., Diamond Fork River, 0.5 mi below Dry Canyon Trailhead, N 40.07864 W 111.36980 elev. 1652 m, 18-Jun-2011 C. R. Nelson # 9858 & students 69 Google Earth same site as previous day. Retrieved my aerial net that I dropped and forgot while in awe of the amazing emergence of stoneflies. with T. A. McKnight and Sproul family: John, Liz, George age 3, and Pearl 10 months?. *Pteronarcys californica* abundant, *Pteronarcella badia* abundant, *Isoperla fulva*, *Isogenoides zionensis*. Asilidae *Lasiopogon* 1 female, Tristan caught it. Videos on Liz's camera of flying stoneflies over the stream. 9858

9859 USA: UTAH: Utah Co., Diamond Fork River, 0.2 mi below Dry Canyon Trailhead, N 40.07900 W 111.36611 elev. 1664 m, 18-Jun-2011 C. R. Nelson # 9859 & students 69 Google Earth with T. A. McKnight and Sproul family: John, Liz, George age 3, and Pearl 10 months?. photos: people; *Pteronarcys californica* abundant, *Pteronarcella badia* abundant, *Isoperla fulva*, *Senecio*, *Rhus trifoliata*, Sarcophagidae, Ichneumonidae, Pentatomidae on *Rhus*. 9859

9860 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 19-Jun-2011 C. R. Nelson # 9860 69 photos: Nematomorpha, horsehair worms, in garden after rain, on pots with new potting soil from Home Depot: Hyponex Corporation, Marysville, Ohio. (I'm not sure this is important.) Not sure if the worms came from the new potting soil or from insects in my garden. 9860

9861 USA UTAH: Utah Co., Squaw Peak Overlook, Squaw Peak Trail, N 40.301271 W 111.625767 2030 m, 21-Jun-2011 C. R. Nelson # 9861 69 Summer solstice evening. photos: scenery, Provo, Kaye and Riley Nelson. 9861

9862 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 22-Jun-2011 C. R. Nelson # 9862 69 photos: small Araneidae orb weaving spider on its orb web in our doorway, "Some Pig." memory of Charlotte's Web. 9862

9863 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 22-Jun-2011 C. R. Nelson # 9863 69 Tipulidae female. 9863

9864 USA: UTAH: Utah - Idaho - Washington; Delta Airline Flight: Salt Lake City to Seattle, 27-Jun-2011 C. R. Nelson # 9864 & T. A. McKnight. 69 photos: scenery. 9864

9865 MONGOLIA: Tov Aimag, Ulaan Baatar Soum, Ulaan Baatar, Zaluuchuud Hotel near National University of Mongolia, N 47.92965 E 106.92181, 1342 m, 28-Jun-2011 C. R. Nelson # 9865 & T. A. McKnight. 69 photos: 30 June 2011, taking down of statue of Choibalsan at National University of Mongolia. First insect: Tipulidae Tipula (Vestiplex) in room; Syrphidae; Muscidae No MAIS number. 9865

9866 MONGOLIA: Tov Aimag, Lun Soum, mandal Guanz on Hwy A0301, near Lun, N 47.89037 E 105.33498, 1059 m, 01-Jul-2011 C. R. Nelson # 9866 & T. A. McKnight & MAIS team. 69 Start of western leg, Khangai leg, of 2011 expedition. Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) Asilidae: Kytr sp. No MAIS number. 9866

9867 MONGOLIA: Tov Aimag, Lun Soum, Tuul Gol at Lun, N 47.86872 E 105.19593, 992 m, 01-Jul-2011 C. R. Nelson # 9867 & T. A. McKnight & MAIS team. 69 115LUN photos: site up and down stream by CRN. No benthics, No water chemistry. Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) photos: baby bird, Asilidae four genera photos: Antiphrisson, Stichopogon, not Leptogaster or Tolmerus. photos: toad. Sweepings, Ephydriidae, Ulidiidae, Chloropidae, no stoneflies, Baetidae. MAIS 2011070101 9867

9868 MONGOLIA: Arkhangay Aimag, Khashaant Soum, Tarnay Gol, Mongol Els, 24 km West of Rashaant, N 47.35471 E 103.62062, 1234 m, 01-Jul-2011 C. R. Nelson # 9868 & T. A. McKnight & MAIS team. 69 116TARN photos: site up and down stream by CRN. scenery and people.

Camped night of 1-2 July 2011.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) Photos: Asilidae Stenopogon (out of order at 9872). Spider in hole; photos morning 2 July: Stratiomyidae, Hemerobiidae, Pompilidae, Ichneumonidae, Braconidae, Tabanidae Chrysops and Hematopota, Curculionidae.

Sweepings, Syrphidae, Dolichopodidae, Scatophagidae, Baetidae, Lygaeidae.

MAIS 2011070102 9868

9869 MONGOLIA: Ovorkhangay Aimag, Olziyt Soum, outflow stream of Sanguiyin Dalay Nuur, 25 km NW of Olziyt, 61 km NE of Arvaykheer, N 46.68523 E 103.29318, 1708 m, 02-Jul-2011 C. R. Nelson # 9869 & T. A. McKnight & MAIS team. 69 116SANG photos: site up and down stream by CRN.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) Ephydriidae, Stratiomyidae, Sciomyzidae, Chironomidae, Tipulidae, Chrysomelidae, Pentatomidae. Asilidae Tolmerus mating pair photo out of order at 9872. Coenagrionidae, Lepto? Sweepings.

MAIS 2011070201 9869

9870 MONGOLIA: Ovorkhangay Aimag, Olziyt Soum, East side of Sanguiyin Dalay Nuur, 62 km NE of Arvaykheer, N 46.67575 E 103.30890, 1707 m, 02-Jul-2011 C. R. Nelson # 9870 & T. A. McKnight & MAIS team. 69 116SANGNUU photos: along shore by CRN.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) photos: swans, people,

scenery. Chironomidae, Stratiomyidae, Asilidae, Tipulidae, Ephydriidae, Dolichopodidae, Ichneumonidae.

Sweepings.

MAIS 2011070202 9870

9871 MONGOLIA: Ovorkhangay Aimag, Zuunbayan Ulaan Soum, Hwy A0301, 52 km N of Arvaykheer, N 46.58455 E 103.06615, 1878 m, 02-Jul-2011 C. R. Nelson # 9871 & T. A. McKnight & MAIS team. 69 116SHOCK Shock absorber broke on rear driver's side of our jeep, removed in 10 minutes, back on road. replaced at no MAIS charge in evening.

$450 - 410 = 40 + 12 = 51$

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) Asilidae Tolmerus or Antiphrisson. No MAIS. 9871

9872 MONGOLIA: Ovorkhangay Aimag, Taragt Soum, Ongi Gol, 0.5 km SE of Hwy A0301, 12 km N of Arvaykheer, N 46.38386 E 102.83688, 1757 m, 02-Jul-2011 C. R. Nelson # 9872 & T. A. McKnight & MAIS team. 69 116ONGI photos: site up and down stream by CRN? check when labeling photos?.

Camped night of 2-3 July 2011.

3 July 2011, some gas in Arvaykheer MNT 59650 enter in black book.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) Bibionidae. photos Isoperla, Brachycentridae, Curculionidae 2 spp., Chloropidae 2 spp., Anthomyiidae? Muscidae?, Baetidae, Vespidae Eumenidae, Pentatomidae, Tenebrionidae, Halictidae, Chrysomelidae Alticinae, Tenthredinidae read & black, #2 skinny no voucher. MAIS 2011070203 9872

9873 MONGOLIA: Ovorkhangay Aimag, Khayrkhandulaan Soum, Khayrkhandulaan, N 45.95582 E 102.06258, 1870 m, 03-Jul-2011 C. R. Nelson # 9873 & T. A. McKnight & MAIS

team. 69 116harhan end pavement 40552 km on Byambaa's odometer, UB near 40000 km. cross road took north green road at 40565. Some photos along road, Arvaykheer. bad camera line! Gas in Khayrkhandulaan MNT187920.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) saw a griffon at 40580. No MAIS number. 9873

9874 MONGOLIA: Ovorkhangay Aimag, Khayrkhandulaan Soum, Muruyn Gol, 16.3 km N of Khayrkhandulaan, N 46.09992 E 101.99244, 1973 m, 03-Jul-2011 C. R. Nelson # 9874 & T. A. McKnight & MAIS team. 69 116muruy photos: up and down stream with both cameras cuz Nikon is bad.

Sweepings.

One stream: hoped for three tributaries (from maps) got main from north, pools in drainage from NW, dry bed from E.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) photos: iris with fuji. Ephydriidae, Dolichopodidae, Saldidae, Chloropidae, Ulidiidae, Asilidae Stenopogon 1m Antiphrisson 1f. Baetidae, Tipulidae 2 spp. Bibionidae, Stratiomyidae, Syrphidae. Carabidae bumby tiger, Sciaridae, Limnephilidae larvae not kept. Heptageniidae larvae. MAIS 2011070301 9874

9875 MONGOLIA: Bayankhongor Aimag, Bayan Ovoo Soum, Tuyn Gol, 5 km N of Bayankhongor, N 46.24419 E 100.71994, 1907 m, 03-Jul-2011 C. R. Nelson # 9875 & T. A. McKnight & MAIS team. 69 116tuyn gol photos: up and down stream with both cameras cuz Nikon is bad.

Camped night of 3-4 July 2011.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight

(Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) photos: Arcynopteryx. Opilionidae, Saldidae, Isoperla?, sweepings, Stratiomyidae, Dixidae, Ptychopteridae, Tipulidae, Hydrophilidae, Dytiscidae, Ephydriidae, Dolichopodidae, Syrphidae. MAIS 2011070302 9875

9876 MONGOLIA: Bayankhongor Aimag, Olziyt Soum, Tuyn Gol at Bayankhongor bridge, N 46.18071 E 100.73071, 1881 m, 04-Jul-2011 C. R. Nelson # 9876 & T. A. McKnight & MAIS team. 69 116tuynbr photos: up and down stream. Video! Nematomorpha - Tulgaa ate part of it, long funny story. BH is at 829

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) photos & video: Arcynopteryx abundant. Tipulidae, Empididae. MAIS 2011070401 9876

9877 MONGOLIA: Bayankhongor Aimag, Erdenesogt Soum, Erdenesogt, N 46.41531 E 100.82418, 2097 m, 04-Jul-2011 C. R. Nelson # 9877 & T. A. McKnight & MAIS team. 69 117erdene gas: MNT12760. Tried to show a naturalist our permit for the Khangai Mountains. He wasn't in the office.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) photos: colts staked in a row. No MAIS number 9877

9878 MONGOLIA: Bayankhongor Aimag, Erdenesogt Soum, Janjin, 13 km East of Erdenesogt, N 46.42876 E 100.92766, 2247 m, 04-Jul-2011 C. R. Nelson # 9878 & T. A. McKnight & MAIS team. 69 117janjin Sat at head table of Naadam celebration with Batsgeral from Ulaan Baatar. He offered me snuff in a beautiful blue bottle. I smelled it and complimented him then passed it back. Wrestling, chess, yak races. We moved on before

too long.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) photos: yaks ready for a race. No MAIS number 9878

9879 MONGOLIA: Bayankhongor Aimag, Erdenesogt Soum, Khujirtin Davaa East of Janjin, N 46.37641 E 101.07967, 2576 m, 04-Jul-2011 C. R. Nelson # 9879 & T. A. McKnight & MAIS team. 69 117davaa Crossed divide for major branches of the Tuyn Gol. photos: group, scenery.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) No MAIS number 9879

9880 MONGOLIA: Bayankhongor Aimag, Erdenesogt Soum, Shargaljuut Spa area, Shargaljuut Rashaan Hot springs, 32 km SE of Erdenesogt, N 46.33341 E 101.22737, 2150 m, 04-Jul-2011 C. R. Nelson # 9880 & T. A. McKnight & MAIS team. 69 117janjin Saw people helping disabled get to these famous healing springs. Also many families in cars coming for a vacation.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) photos: steam rising from springs. Asilidae No MAIS number 9880

9881 MONGOLIA: Bayankhongor Aimag, Erdenesogt Soum, Shargaljuut Gol, 10 km NE of Shargaljuut Rashaan Hot Spring, jct Ugalzyn Gol, N 46.35902 E 101.27559, 2186 m, 04-Jul-2011 C. R. Nelson # 9881 & T. A. McKnight & MAIS team. 69 117shargal Photos: up and

down stream.

Heading deep into the Khangai Mountains now.

Camped night of 4-5 July 2011.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) photos: Perlodidae Arcynopteryx, Tipulidae Limoniinae Dicranomyia dark. MAIS 2011070402 9881

9882 MONGOLIA: Bayankhongor Aimag, Erdenesogt Soum, Ugalzyn Gol, 10 km NE of Shargaljuut Rashaan Hot Spring, jct Shargaljuut Gol, N 46.35874 E 101.27338, 2189 m, 04-Jul-2011 C. R. Nelson # 9882 & T. A. McKnight & MAIS team. 69 117wshar Photos: up and down stream ?check to make sure?.

Sampled in the rain.

Camped nearby night of 4-5 July 2011.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) Empididae, Simuliidae, Tipulidae. MAIS 2011070403 9882

9883 MONGOLIA: Bayankhongor Aimag, Erdenesogt Soum, first pass North of Shargaljuut Gol, West of Salkhit Uul (Peak), N 46.50388 E 101.33199, 2703 m, 05-Jul-2011 C. R. Nelson # 9883 & T. A. McKnight & MAIS team. 69 1171davaa photos: scenery, snow, morning. This is the first of several passes we tried to cross to get to Tamchiin Gol. Roads became impossible.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) No MAIS number. 9883

9883.5 MONGOLIA: Bayankhongor Aimag, Erdenesogt Soum, first pass North of Shargaljuut Gol, West of Salkhit Uul (Peak), N 46.53462 E 101.29130, 2784 m, 05-Jul-2011 C. R. Nelson # 9883.5 & T. A. McKnight & MAIS team. 69 1171davaa2 photos: scenery, afternoon, second of several passes we tried to cross to get to Tamchiin Gol, a tributary of the Orkhon Gol. Roads became impossible.

also: second pass, photos: scenery, afternoon. 118davaa2 N

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) No MAIS number.

9883.5

9884 MONGOLIA: Bayankhongor Aimag, Erdenesogt Soum, upper crossing of Khokh Go, 44 km NE of Erdenesogt, N 46.58961 E 101.32958, 2523 m, 05-Jul-2011 C. R. Nelson # 9884 & T. A. McKnight & MAIS team. 69 117kok photos: scenery, snow.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) No MAIS number. 9884

9885 MONGOLIA: Bayankhongor Aimag, Erdenesogt Soum, gers of Khurelsu family, Khokh Gol, 6.5 km SW of jct, Erkhethkhayrkhan Gol, 46 km NE of Erdenesogt, N 46.61741 E 101.39173, 2523 m, 05-Jul-2011 C. R. Nelson # 9885 & T. A. McKnight & MAIS team. 69 117kherger photos: yogurt, family, MAIS, Ger. Spoke of ranching and life. sheep wool MNT30/kg; cashmere MNT70000/kg. winter of Shargaljuut Gol, within 30 km in year. Winters -50C, three felt layers on ger, then.

snow.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas

(Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) No MAIS number. 9885

9886 MONGOLIA: Bayankhongor Aimag, Erdenesogt Soum, stopped at base of switchbacks above Erkhethayrkhan Gol, base of Erkhethayrkhan Peak (Uul), 3535 m, 48 km NE of Erdenesogt, N 46.66038 E 101.33358, 2660 m, 05-Jul-2011 C. R. Nelson # 9886 & T. A. McKnight & MAIS team. 69 117endsnow End of our road, very snowy day, slipped trying to climb switchbacks in the snow. Turned back.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) No MAIS number. 9886

9887 MONGOLIA: Bayankhongor Aimag, Erdenesogt Soum, Erkhethayrkhan Gol, crossing to Khokh Gol, 48 km NE of Erdenesogt, N 46.62626 E 101.36736, 2500 m, 05-Jul-2011 C. R. Nelson # 9887 & T. A. McKnight & MAIS team. 69 117erkgol photos: up and down stream. people on horse and motorcycle, scenery.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) Tipulidae, Carabidae, Lycosidae, Dolichopodidae, Baetidae, Simuliidae, Muscidae, Chironomidae. No Plecoptera. MAIS 2011070501 9887

9888 MONGOLIA: Bayankhongor Aimag, Erdenesogt Soum, Khokh Gol drainage basin, small stream below first davaa separating Khokh Gol from Shargaljuut Gol, 38 km NE of Erdenesogt, N 46.54552 E 101.27991, 2613 m, 05-Jul-2011 C. R. Nelson # 9888 & T. A. McKnight & MAIS team. 69 117stream2 photos: up and down stream.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas

(Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) photos: Tipulidae Prionocera. Trollius sibiricus flower (near lake). Muscidae. Empididae, Trichoptera 1 brown adult, Sciaridae, Dolichopodidae, Ephydriidae?, Chironomidae. MAIS 2011070502 9888

9889 MONGOLIA: Bayankhongor Aimag, Erdenesogt Soum, Khokh Gol drainage basin, lake below small stream MAIS 2011070502 below first davaa separating Khokh Gol from Shargaljuut Gol, 38 km NE of Erdenesogt, N 46.54568 E 101.28436, 2604 m, 05-Jul-2011 C. R. Nelson # 9889 & T. A. McKnight & MAIS team. 69 117lake3 photos: across lake. panorama to stitch of lake. Lake about 300m x 300m.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) Collembola, sort carefully!, Muscidae, Trichoptera 1 brown adult, gammarus. Photos: Empididae Empis. Dolichopodidae. Chironomidae; photos Tipulidae emerging from pupal skin Nephrotoma erebus. Silphidae larva. MAIS 2011070503 9889

9890 MONGOLIA: Bayankhongor Aimag, Erdenesogt Soum, Shargaljuut Gol near Salkhit Uul and forested hillside; 48 km E of Erdenesogt, N 46.47630 E 101.43793, 2414 m, 05-Jul-2011 C. R. Nelson # 9890 & T. A. McKnight & MAIS team. 69 118sharup photos: up and down stream.

Camped night of 5-6 July 2011. Snowed hard, about 4 inches, at night.

Camped in area where several braids from a north canyon joined a deeply entrenched main stream. Chose to count as a single number despite all the streams.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) Tipulidae Vestiplex; photos Philodoria Arctotipula Nephrotoma erebus on snow. Carabidae; Trichoceridae. photos Tipula Pterelachisus female. MAIS 2011070504 9890

9891 MONGOLIA: Bayankhongor Aimag, Erdenesogt Soum, headwaters of Shargaljuut Gol, near base of Taatsyn Davaa to Taatsyn Gol, 53 km East of Erdenesogt, N 46.46332 E 101.51730, 2519 m, 06-Jul-2011 C. R. Nelson # 9891 & T. A. McKnight & MAIS team. 69 118sharhed photos: up and down stream. Check!

Stopped at base of pass of Taatsyn Davaa. Turned around! Rats! Need to go around a long distance to get to Taatsyn Gol.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) Capniidae adults some nymphs kept to rear. 1 reared, all died by 12 July 2011. Nemouridae; Opilionida; Carabidae; Tipulidae. MAIS 2011070601 9891

9892 MONGOLIA: Ovorkhangai Aimag, Uyanga Soum, Taatsyn Gol, 8 km NE of Jargalant, N 46.31367 E 101.75494, 2119 m, 06-Jul-2011 C. R. Nelson # 9892 & T. A. McKnight & MAIS team. 69 119taatsin photos: up and down and middle stream.

Camped night of 6-7 July 2011. windy evening. windy morning. Too cold and windy to sweep.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) photos: earwig Dermaptera, Limnephilidae, Carabidae 2 spp. Nebria? Bembidion. Rhyacophilidae, Muscidae, Perlodidae. Last Nikon photos here: bird nest, short toed skylark?; photos: skylark with fuji camera. MAIS 2011070602 9892

9893 MONGOLIA: Ovorkhangai Aimag, Uyanga Soum, Khangai Mountains, Khar Mori Davaa? (Black Horse Pass), 4 km S of Nayman Nuur entrance station on Shuranga Gol, N 46.44664 E 101.87178, 2692 m, 07-Jul-2011 C. R. Nelson # 9893 & T. A. McKnight & MAIS team. 69 119KHARMOR photos: scenery. 5C, cold, very windy. Looking for access to Shireet Nuur in Nayman Nuur region.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) No MAIS Number 9893

9893.2 MONGOLIA: Ovorkhangai Aimag, Uyanga Soum, Khangai Mountains, another pass to consider, 4 km South of Nayman Nuur Entrance station on Shuranga Gol, N 46.44419 E 101.85835, 2656 m, 07-Jul-2011 C. R. Nelson # 9893.2 & T. A. McKnight & MAIS team. 69 1192dav another pass looking for access to Nayman Nuur Strictly Protected Area. Rugged, difficult cross country travel. No way down.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) No MAIS Number 9893.2

9893.4 MONGOLIA: Ovorkhangai Aimag, Uyanga Soum, Khangai Mountains, home, ger on Shuranga Gol, 2.7 km SE of Nayman Nuur Entrance Station, N 46.45888 E 101.89767, 2408 m, 07-Jul-2011 C. R. Nelson # 9893.4 & T. A. McKnight & MAIS team. 69 119ger Asking directions for access to Nayman Nuur Strictly Protected Area. Good directions given to us, finally.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) No MAIS Number 9893.4

9893.6 MONGOLIA: Ovorkhangai Aimag, Uyanga Soum, Khangai Mountains, Khuysiyn Naiman Nuur Entrance Ger, 30 km West of Uyanga, N 46.47990 E 101.87638, 2472 m, 07-Jul-2011 C. R. Nelson # 9893.6 & T. A. McKnight & MAIS team. 69 119NNENTRA Finally

access to Nayman Nuur Strictly Protected Area. Met the ranger.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) No MAIS Number 9893.6

9894 MONGOLIA: Ovorkhangai Aimag, Uyanga Soum, Khangai Mountains, "Shireet Nuur" Davaa, West of entrance to Khuysiyn Naiman Nuur Strictly Protected Area, 32 km West of Uyanga, N 46.47990 E 101.87638, 2472 m, 07-Jul-2011 C. R. Nelson # 9894 & T. A. McKnight & MAIS team. 69 119shirdav On top of the world access to Nayman Nuur Strictly Protected Area.

photos on arrival before descending 2 km to Shireet Nuur (Lake) on foot. scenery then at end group photo, snowman, snow angel video, group shot by Sigitas Podenas.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) No MAIS number. 9894

9895 MONGOLIA: Ovorkhangai Aimag, Uyanga Soum, Khangai Mountains, Khuysiyn Naiman Nuur Strictly Protected Area, streams entering east side of Shireet Nuur (Lake), down from davaa (pass), 33 km West of Uyanga, N 46.51908 E 101.84940, 2446 m, 07-Jul-2011 C. R. Nelson # 9895 & T. A. McKnight & MAIS team. 69 119shirstr photos: up and down stream, halfway down from davaa to lake. photos: scenery, Trollius flower. photos in tent out of order at CRN9897: Empididae Empis male shot CRN9896 shot after Tipulidae 9897, photos Muscidae? (no, Oestridae det in lab 2 August 2011 with Tristan) odd red lined calypterate, Cyrtopogon. Photos out of order in tent at 9897.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver

one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) Mycetophilidae, Empididae, Simuliidae, Tipulidae, sweepings.

photos: Trollius flower. photos in tent out of order at CRN9897: Empididae Empis male shot CRN9896 shot after Tipulidae 9897, photos Muscidae? (no, Oestridae Oestroderma potanini Portschinsky det in lab 2 August 2011 with Tristan) odd red lined calypterate, Cyrtopogon. Photos out of order in tent at 9897.

much diversity in pine/larch forest; no aquatics though in the beautiful stream. No Plecoptera. must be temporary. MAIS 2011070701 9895

9896 MONGOLIA: Ovorkhangai Aimag, Uyanga Soum, Khangai Mountains, Khuysiyn Naiman Nuur Strictly Protected Area, east side of Shireet Nuur (Lake), down from davaa (pass), 34 km West of Uyanga, N 46.52455 E 101.83469, 2439 m, 07-Jul-2011 C. R. Nelson # 9896 & T. A. McKnight & MAIS team. 69 119SHLK2+ photos: several site photos of lake, many scenery photos. Monitoring site was 119SHLK2+

Another spot to west: 119SHLK1 N 46.52216 W 101.83369, elev. 2449 m.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) Chironomidae, Empididae, Dolichopodidae, photos: Limoniinae Idioptera? mot in middle of 9897, in bog near lake. MAIS 2011070702 9896

9897 MONGOLIA: Ovorkhangai Aimag, Uyanga Soum, Khangai Mountains, Shuranga Gol, just outside entrance to Khuysiyn Naiman Nuur Strictly Protected Area, 30 km West of Uyanga, N 46.47528 E 101.88175, 2451 m, 07-Jul-2011 C. R. Nelson # 9897 & T. A. McKnight & MAIS team. 69 119SHURANG photos: site up and downstream. Camped night of 7-8 July 2011. First morning air temperature 3C, water 4C. Hard frost on the tent. Yaks content.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas

(Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) Tipulidae, Therevidae larva, sweepings, photos: Capniidae 4 females. Ephydriidae, Empididae Weidemannia?. Photos: Tipulidae/Limoniidae colored wings from here 9896 Idioptera, Chloroperlidae. MAIS 2011070703 9897

9898 MONGOLIA: Ovorkhangai Aimag, Uyanga Soum, Uyanga town, N 46.46746 E 102.26739, 2013 m, 08-Jul-2011 C. R. Nelson # 9898 & T. A. McKnight & MAIS team. 69 121UYANGA photos: town and people.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) No MAIS number. 9898

9899 MONGOLIA: Ovorkhangai Aimag, Uyanga Soum, mines, 6 km North of Uyanga town, N 46.51019 E 102.29590, 2055 m, 08-Jul-2011 C. R. Nelson # 9899 & T. A. McKnight & MAIS team. 69 122MINE photos: mining impacts. Ninja (freelance) miners. bad conditions.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) No MAIS number. 9899

9900 MONGOLIA: Ovorkhangai Aimag, Uyanga Soum, davaa above mines, 15 km North of Uyanga town, N 46.60323 E 102.30447, 2372 m, 08-Jul-2011 C. R. Nelson # 9900 & T. A. McKnight & MAIS team. 69 122MINEDAV photos: valleys and mines.

Calculations figuring out where we are. Incorrect and erased from map. Add good ones later.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas

(Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) No MAIS number. 9900

9901 MONGOLIA: Ovorkhangai Aimag, Uyanga Soum, Ovtiyn Gol, 20 km SE of Bat-Olziy, N 46.64265 E 102.30885, 2069 m, 08-Jul-2011 C. R. Nelson # 9901 & T. A. McKnight & MAIS team. 69 122GOLD0801 photos: site up and down stream.

Rained, collecting messy. Found most nemouridae in a very small, rocky upwelling spring.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) Photos: Nemouridae 2 spp., Perlodidae Arcynopteryx, Sialidae. Tipulidae, Ephydriidae, Dolichopodidae, Muscidae,

forest: Mycetophilidae, photo: weevil Curculionidae, photo: Rhyacophila. MAIS 2011070801 9901

9902 MONGOLIA: Ovorkhangai Aimag, Uyanga Soum, Ovtiyn Gol, forest, 20 km SE of Bat-Olziy, N 46.64265 E 102.30885, 2069 m, 08-Jul-2011 C. R. Nelson # 9902 & T. A. McKnight & MAIS team. 69 122GOLD0801 forest near 9902

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) Mycetophilidae, photo: weevil Curculionidae, photo: Rhyacophila. Tipulidae Empididae. MAIS 2011070802 9902

9903 MONGOLIA: Ovorkhangai Aimag, Bat-Olziy Soum, Ovtiyn Gol, 10 km SE of Bat-Olziy, N 46.75972 E 102.30905, 1847 m, 08-Jul-2011 C. R. Nelson # 9903 & T. A. McKnight & MAIS team. 69 122BAT photos: up and downstream.

Camped night of 8-9 July 2011. Very rainy and wet.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight

(Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) Photos: Limoniidae, Mycetophilidae 2 spp., Cantharidae. Dead dog or wolf, black and large in woods. MAIS 2011070803 9903

9904 MONGOLIA: Ovorkhangai Aimag, Khujirt Soum, Tsagaan Gol, near jct with Orkhon Gol, 13 km East of Bat-Olziy, N 46.88157 E 102.34163, 1654 m, 09-Jul-2011 C. R. Nelson # 9904 & T. A. McKnight & MAIS team. 69 123orkhon photos: up and downstream.

The was a wet, rainy 15 minute stop. We thought we were on the Orkhon River, this tributary was quite large, but proceeding downstream we saw that the Orkhon was already huge at this point and consulting maps back home showed we were on Tsagaan Gol. The rain also lead to confusion numbering in my field notebook. Use this site as CRN9904 because it preceded the visit to Kharkhorin CRN9905 by a couple hours. Check the field labels for this site and correct if necessary.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) Carabidae, Saldidae, Nephrotoma, Dicranomyia 1 m MAIS 2011070901 9904

9905 MONGOLIA: Ovorkhangai Aimag, Kharkhorin Soum, Kharkhorin, Erdene Zuu Monastery, N 47.20249 E 102.84286, 1463 m, 09-Jul-2011 C. R. Nelson # 9905 & T. A. McKnight & MAIS team. 69 123kharho photos: historical site in the rain. Old Khaan capital destroyed and the materials used to build the oldest monastery in Mongolia.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) Carabidae, Saldidae, Nephrotoma, Dicranomyia 1 m No MAIS number. 9905

9906 MONGOLIA: Tov Aimag, Argalant Soum, Moltsoog Els (Dunes) Ger Camp, sand dunes, N 47.82722 E 105.87231, 1235 m, 10-Jul-2011 C. R. Nelson # 9906 & T. A. McKnight & MAIS team. 69 123kharho photos: gers and signs. Company was called Moltsoog Els Gers, cost was \$18 per person per night. We needed drying out.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) No MAIS number. 9906

9907 MONGOLIA: Tov Aimag, Argalant Soum, Khustai National Park, headquarters ger camp, N 47.76358 E 105.87862, 1340 m, 10-Jul-2011 C. R. Nelson # 9907 & T. A. McKnight & MAIS team. 69 Google Earth, made 124hushq photos: gers and signs. The camp was full, but would have cost \$30/person.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) No MAIS number. 9907

9908 MONGOLIA: Tov Aimag, Argalant Soum, Khustai National Park, 12 km S of headquarters, 4.5 km W at junction, N 47.76358 E 105.87862, 1340 m, 10-Jul-2011 C. R. Nelson # 9908 & T. A. McKnight & MAIS team. 69 124takhi First sighting (coordinates from Google Earth made 124takfir N 47.69515 E 105.92383 elev. 1364 m.

Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) second sighting: photos and video: wild horses, asses, takhi, Przewalski's Horse (Pronounced Sheh-VAL-ski; play / É...®Ààv√¶lski/ or /z...®Ààv...ëÀêlskiÂê/; Polish: [p Ç...ôÀàvlski]; Equus ferus przewalskii, Mongolian: -ç-∞—Ö—å, Takhi)[2] or Dzungarian Horse, at a distance. Endangered species/conservation biology success story. At this spot we got closer up and Sigita Podenas got even better photos. No MAIS number. 9908

9909 MONGOLIA: Tov Aimag, Argalant Soum, Khustai National Park, 5.5 km S of headquarters,

N 47.72126 E 105.91423, 1398 m, 10-Jul-2011 C. R. Nelson # 9909 & T. A. McKnight & MAIS team. 69 124takhi2 Mongolian Aquatic Insect Survey participants: Suvdaa (Suvdtsetseg Chuluunbaat, manager and Trichoptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) third sighting, returning north: wild horses, asses, takhi, Przewalski's Horse (Pronounced Sheh-VAL-ski; play / É...®Àà√¶lski/ or /z...®Ààv...ëÀêlskiÂê/; Polish: [p ̣...õÀàvalski]; Equus ferus przewalskii, Mongolian: -ᠮᠤᠯᠠᠭᠤᠨᠲᠠᠬᠢᠰᠢ, Takhi)[2] or Dzungarian Horse, at a distance. Endangered species/conservation biology success story. No MAIS number. 9909

9910 MONGOLIA: Tov Aimag, Ulaan Baatar Soum, Ulaan Baatar, mandukhai Hotel near State Department Store, N 47.91687 E 106.90391, 1295 m, 11-Jul-2011 C. R. Nelson # 9910 & T. A. McKnight & MAIS team. 69 Google Earth, made 125man photos: hotel room and views, city scenes.

Riley Nelson, Tristan McKnight, Sigitas Podenas, and Virginija Podeniene. No MAIS number. 9910

9911 MONGOLIA: Tov Aimag, Ulaan Baatar? Soum, Nalaikh, N 47.74605 E 107.40021, 1451 m, 11-Jul-2011 C. R. Nelson # 9911 & T. A. McKnight & MAIS team. 69 124nalaikh photos: ger and family of Byambaa's father-in-law.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van) No MAIS number. 9911

9912 MONGOLIA: Tov Aimag, Erdene Soum, Gorkhi Terelj National Park, stream 0.5 km N of Gorkhi Davaa (Pass), N 47.94981 E 107.45511, 1593 m, 11-Jul-2011 C. R. Nelson # 9912 & T. A. McKnight & MAIS team. 69 124gorkhi Camped night of 11-12 July 2011. Site of Naadam feast.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight

(Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Also Oyuna, Suvdaa and son Chingun. Pick and dip site was 124gor1101: N 47.94867 E 107.44991, elev. 1621 m.

High rock above Praying Lama Rock, 124lam N 47.93950 E 107.46011, elev. 1757 m. photos: Tipulidae Ctenophora m & f, Syrphidae Merodon?, Mycetophila, macrocera, Stratiomyidae, Asilidae Stenopogon, Empididae. Tipulidae Asilidae Choerades and Antiphrisson. photos later Capniidae! MAIS 2011071101 9912

9913 MONGOLIA: Tov Aimag, Erdene Soum, Gorkhi Terelj National Park, seepy valley bog and hanging garden rock, 0.1 km N of Gorkhi Davaa (Pass), near pass and Praying Lama Rock, N 47.94042 E 107.44968, 1640 m, 12-Jul-2011 C. R. Nelson # 9913 & T. A. McKnight & MAIS team. 69 124dactyl photos: view to hanging garden rock. This spot is not a stream. This was on the side tilting road where we considered camping yesterday, but moved north. Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Limoniidae Dactylobius larvae, Rhagionidae, Dolichopodidae, Chrysomelidae, Hemerobiidae; photos Asilidae Antiphrisson?, Cyrtopogon. Saw Choerades. This spot is not a stream. This was on the side tilting road where we considered camping yesterday, but moved north. MAIS 2011071201 9913

9914 MONGOLIA: Tov Aimag, Erdene Soum, Gorkhi Terelj National Park, seep stream 2.2 km S of Gorkhi Davaa (Pass), N 47.91736 E 107.44845, 1559 m, 12-Jul-2011 C. R. Nelson # 9914 & T. A. McKnight & MAIS team. 69 126hetero Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). photos Limoniidae Heterangaeus, Ptychopteridae, Photos Cyrtopogon, Stenopogon, Parnassius and others, Libellulidae, saw

Aeshnidae, Sciomyzidae, Chrysomelidae, Chironomidae, Tipulidae, Dolichopodidae. MAIS 2011071202 9914

9915 MONGOLIA: Tov Aimag, Erdene Soum, Chinggis Khaan silver Statue, 23 km West of Erdene, N 47.80437 E 107.523898, 1514 m, 12-Jul-2011 C. R. Nelson # 9915 & T. A. McKnight & MAIS team. 69 126hetero photos: Giant silver Chinggis Khaan statue. On Aimag border with Khentii.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). No MAIS number. 9915

9916 MONGOLIA: Tov Aimag, Erdene Soum, Erdene town, N 47.71289 E 107.80606, 1563 m, 12-Jul-2011 C. R. Nelson # 9916 & T. A. McKnight & MAIS team. 69 126erdene photos: kid with Mongolian flag on cheek.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Monochamus Cerambycidae; Tipula Vestiplex virgatula. No MAIS number. 9916

9917 MONGOLIA: Tov Aimag, Erdene Soum, head of Bayan Gol, no water, Bulnayn Tsagaan Khotol (hill pass), N 47.95411 E 107.98373, 1774 m, 12-Jul-2011 C. R. Nelson # 9917 & T. A. McKnight & MAIS team. 69 126bayan Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Asilidae No MAIS number. 9917

9918 MONGOLIA: Tov Aimag, Erdene Soum, steppes of Bulnayn Gol, 32 km West of Mongonmorit, N 48.10169 E 108.02373, 1666 m, 12-Jul-2011 C. R. Nelson # 9918 & T. A. McKnight & MAIS team. 69 126tree Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera,

Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). photo: Lone tree on a plain with a rock. No MAIS number. 9918

9919 MONGOLIA: Tov Aimag, Erdene Soum, Galttayn Gol, jct Bulnayn Gol, 33 km West of Mongonmorit, N 48.12726 E 108.02094, 1597 m, 12-Jul-2011 C. R. Nelson # 9919 & T. A. McKnight & MAIS team. 69 126galttay photos: up and down stream.

Camped night of 12-13 July 2011.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). photos: Nemouridae, voucher escaped, see others in bulk sample, photos Chloroperlidae. Empididae, Dolichopodidae, Asilidae, Tipulidae, Chrysomelidae, Trichoptera, Tabanidae, Therevidae. MAIS 2011071203 9919

9920 MONGOLIA: Tov Aimag, Erdene Soum, Bulnayn Gol, jct Galttyn Gol, 33 km West of Mongonmorit, N 48.12563 E 108.02163, 1596 m, 12-Jul-2011 C. R. Nelson # 9920 & T. A. McKnight & MAIS team. 69 126gattrib photos: up and down stream, moon.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). I checked next few sites later and found all soums correct as Erdene. Chloroperlidae, Dolichopodidae, Tipulidae, Muscidae, Cerambycidae. MAIS 2011071204 9920

9921 MONGOLIA: Tov Aimag, Erdene Soum, sparse larch forest above Bulnayn Gol, jct Galttyn Gol, 33 km West of Mongonmorit, N 48.12312 E 108.02218, 1637 m, 13-Jul-2011 C. R. Nelson # 9921 & T. A. McKnight & MAIS team. 69 126bforest Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae

adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Tachinidae, Sarcophagidae, Asilidae Cyrtopogon male, Chrysidae, Empididae, Therevidae, Rhagionidae, Cerambycidae. no MAIS number. 9921

9922 MONGOLIA: Tov Aimag, Erdene Soum, Shar Bulag, Yellow Spring, 26 km West of Mongonmorit, N 48.14814 E 108.07956, 1629 m, 13-Jul-2011 C. R. Nelson # 9922 & T. A. McKnight & MAIS team. 69 127kharbul Sulfur tasting famous cold water spring. Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Dolichopodidae, Ephydriidae, Syrphidae beautiful, Tipulidae, Tabanidae. MAIS 2011071301 9922

9923 MONGOLIA: Tov Aimag, Erdene Soum, dead end road hunting and logging camp, 22.5 km West of Mongonmorit, N 48.17280 E 108.17719, 2049 m, 13-Jul-2011 C. R. Nelson # 9923 & T. A. McKnight & MAIS team. 69 127logdava Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Cerambycidae, Cyrtopogon, Tipulidae, Syrphidae. No MAIS number. 9923

9924 MONGOLIA: Tov Aimag, Erdene Soum, route across plateau and down mountain, difficult passage, around 22.5 km West of Mongonmorit, N 48.14979 E 108.20376, 1909 m, 13-Jul-2011 C. R. Nelson # 9924 & T. A. McKnight & MAIS team. 69 127passmud 127monridg N 48.15783 W 108.22346 elev. 1867m open view to valley, lost road, decision to descend steep hillside to winter sheds and valley. 127flyturn N 48.16432 E 108.23331 elev. 1873 m, 17.5 km SW of Mongonmorit, during descent to winter sheds. 127foxfurn N 48.16420 E 108.24344 elev. 1733m. turned down valley near sheds, saw a fox, 17 km SW of Mongonmorit. 128road N 48.16143 E 108.27741 elev. 1642m, 16.5 km SW of Mongonmorit. GPS indicated road crossing, down right in bigger valley. We tried going downstream and ran out of dry road. many bogs.

128cross N 48.15977 E 108.28065 elev. 1636m, 16 km SW of Mongonmorit. road on south side bogs out, can't cross left stream to get to better road, retrace up valley.

128cross N 48.17418 E 108.26605 elev. 1646m, 16.5 km SW of Mongonmorit. Build a crossing, jeep OK, van stuck, haul gear to high ground, dig out van using larch poles and wood from winter corral. 2 hours to dig out. Camped nearby.

128camp N 48.17470 E 108.26580 elev. 1639m, impromptu camp at dark after crossing, relief at safety! make an official MAIS site for 14 July 2011. Happy Bastille Day, Tiurai. small hand drawn map of adventure.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). broad pass plateau, tunnel of trees, bog risks. photos of Stenopogon No MAIS number. 9924

9925 MONGOLIA: Tov Aimag, Erdene Soum, Zuun Baydlag Gol, 15 km SW of Mongonmorit, N 48.17390 E 108.26500, 1641 m, 14-Jul-2011 C. R. Nelson # 9925 & T. A. McKnight & MAIS team. 69 129zuun photos up and down stream, also toward mountain we descended. Camped night of 13-14 July 2011.

Sigitas Podenas also took a gps reading nearby: N 48.17452 E 108.26613 elev. 1648 m.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). photos: Phryganeidae? or Limnephilidae?, Tipulidae Vestiplex wingless female. Sialidae, Dolichopodidae, Empididae, Rhagionidae, small Nemouridae in benthic sample, Tabanidae, Culicidae, Muscidae. MAIS 2011071401 9925

9926 MONGOLIA: Tov Aimag, Mongonmorit Soum, Zuun Baydlag Gol, downstream, 15 km SW of Mongonmorit, N 48.10818 E 108.36736, 1475 m, 14-Jul-2011 C. R. Nelson # 9926 & T. A. McKnight & MAIS team. 69 129zuunlow photos up and down stream. First of a small braid, then mainstream which was made site. Two stream photos, then. Good site. Return here. Box Elder Creek sized, 2-3 order.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight

(Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Chloroperlidae, photos Nemouridae. Sialidae, Empididae, Dolichopodidae, Syrphidae, Cerambycidae, Buprestidae, Tipulidae including photos: Ctenophora adults and larvae! hooray for larvae in birch log. Asilidae photos: Laphria m, Choerades m f, Cyrtopogon f. Stenopogon, Antiphrisson and others. photos: Siricidae. MAIS 2011071402 9926

9927 MONGOLIA: Tov Aimag, Mongonmorit Soum, Mongonmorit town, N 48.20232 E 108.47569, 1445 m, 14-Jul-2011 C. R. Nelson # 9927 & T. A. McKnight & MAIS team. 69 129mongon photos: town, drunks, bought gas, no saw to buy to cut logs when stuck. Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Cerambycidae No MAIS number. 9927

9928 MONGOLIA: Tov Aimag, Mongonmorit Soum, Burkhin Gol, 4.5 km NW of Mongonmorit, N 48.25508 E 108.48447, 1475 m, 14-Jul-2011 C. R. Nelson # 9928 & T. A. McKnight & MAIS team. 69 129burkhin photos up and down stream.

Camped night of 14-15 July 2011.

Good site, return here! Provo River sized, 3-4 order. photos of stream ends series after Eutolmus.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). saw Sirex Siricidae; Blephariceridae, Chloroperlidae, Nemouridae, Empididae, Dolichopodidae, Tipulidae, Asilidae Tolmerus & photos Eutolmus. Cerambycidae, Libellulidae, Aeshnidae, Papilionidae Parnassius, Micropezidae, Sciomyzidae. photos Tipulidae Dictenidia 2 spp. MAIS 2011071403 9928

9929 MONGOLIA: Tov Aimag, Mongonmorit Soum, Kherlen Gol, 16 km SE of Mongonmorit, N 48.13212 E 108.63913, 1376 m, 15-Jul-2011 C. R. Nelson # 9929 & T. A. McKnight &

MAIS team. 69 129HER1501 photos up and down stream.

thick vegetation near lunch site, walked upstream to get access to a gravel bar.

Also tried to cross at 129hernox (no crossing made) Too deep. N 48.14577 E 10863782 elev. 1388 m.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Chloroperlidae, Perlodidae Isoperla, photos: Perlidae Agnetina? at 9931 out of order. Lestidae, Coenagrionidae, Libellulidae, Saldidae, Dolichopodidae (including large short winged female out of order at 9931). Tipulidae, Ephydridae, Empididae, photos: Sesiidae out of order at 9931. MAIS 2011071501 9929

9930 MONGOLIA: Tov Aimag, Mongonmorit Soum, Kherlen Gol, 17 km SE of Mongonmorit, crossing of the big Kherlen, deep, to top of wheels! N 48.08595 E 108.63255, 1374 m, 15-Jul-2011 C. R. Nelson # 9930 & T. A. McKnight & MAIS team. 69 129hercross video and photos of crossing, including of Lexus SUVs, Toyota Land Cruiser, and our two Uaz jeep/vans.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). No MAIS number. 9930

9931 MONGOLIA: Khentii Aimag, Omnodelger Soum, Khurkhiyn Gol, 39 km NE of Tsenkhermandal, N 48.04989 E 109.32549, 1364 m, 15-Jul-2011 C. R. Nelson # 9931 & T. A. McKnight & MAIS team. 69 129hurh photos up and down stream. sweepings. morning yellow pans. arrived 6:45pm.

Camped night of 15-16 July 2011. Nice forest on north facing slope, too far to walk today!

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Alloverla 1 in evening, wet sweeping; Empididae very rich, Dolichopodidae, Tipulidae, Muscidae,

Glossosomatidae, Apataniidae, Leptoceridae, Tenthredinidae, small fish, duck egg in stream. horse bones in stream. MAIS 2011071502 9931

9932 MONGOLIA: Khentii Aimag, Batshireet Soum, Binderiyin Ovoo, 45 km South of Batshireet, N 48.37923 E 110.29050, 1134 m, 16-Jul-2011 C. R. Nelson # 9932 & T. A. McKnight & MAIS team. 69 129binovoo stop at the ovoo on a small pass.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). photos: ovoo with mouse squirrel and people No MAIS number. 9932

9933 MONGOLIA: Khentii Aimag, Batshireet Soum, Batshireet, N 48.69213 E 110.19247, 1132 m, 16-Jul-2011 C. R. Nelson # 9933 & T. A. McKnight & MAIS team. 69 130batshir photos: hospital, Doko gets a shot fro bronchitis; man with insect tatoo, Pscoptera?. Video: cow in charge of emergencies at the gas station.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). No MAIS number. 9933

9934 MONGOLIA: Khentii Aimag, Batshireet Soum, Onon Gol, jct Eg Gol, 8 km NE of Batshireet, N 48.71879 E 110.27852, 1087 m, 16-Jul-2011 C. R. Nelson # 9934 & T. A. McKnight & MAIS team. 69 130ONONFIR First look at the mighty Onon Gol. arrived 4:15pm, soon raining after I talked to Chinggis Khaan at his birthplace . . . Celebrated the rain and arriving at the big Onon River! many swam and bathed.

Camped night of 16-17 July 2011. Originally called the trib Tsegeen Hondoliy Gol but locals call it Eg Gol. An amazingly beautiful place.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). photos 2 Chloroperlidae 4? spp. photos: Perlodidae Isoperla. Therevidae, Ephemeroptera,

Cerambycidae, Chrysomelidae, Dolichopodidae, Cercopidae abundant!, Cicindelidae, photos Asilidae Holopogon. Tried photos of Baetidae not good. Acroceridae, Conopidae. MAIS 2011071601 9934

9935 MONGOLIA: Khentii Aimag, Batshireet Soum, Eg Gol, jct Onon Gol, 8 km NE of Batshireet, N 48.71888 E 110.27771, 1080 m, 16-Jul-2011 C. R. Nelson # 9935 & T. A. McKnight & MAIS team. 69 130eg photos: up and down stream, and more.

Originally called this trib Tsegeen Hondoliy Gol but locals call it Eg Gol. An amazingly beautiful place. Warm water, perhaps 10deg warmer than Onon, which is warm as well. Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Perlidae, Perlodidae, Leuctridae 1f and nymphs, Dolichopodidae, Empididae, Ephhydridae, Glossosomatidae abundant, Aeshnidae, Coenagrionidae, photos: Libellulidae Sympetrum and Corduliidae. MAIS 2011071602 9935

9936 MONGOLIA: Khentii Aimag, Batshireet Soum, pine forest above Eg Gol, jct Onon Gol, 8 km NE of Batshireet, N 48.71888 E 110.27771, 1080 m, 16-Jul-2011 C. R. Nelson # 9936 & T. A. McKnight & MAIS team. 69 130eg

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Chloroperlidae 3 spp.? (no stream within 100 m) in the mossy transition from upland pine to riparian shrubs. Cerambycidae. Pines with abundant small cones, dry. Is this just *Pinus sylvestris*? Some of this species seen later had somewhat larger cones. Also found a big seeded pine cone cooked in fire remains on the beach of Onon. No MAIS number. 9936

9937 MONGOLIA: Khentii Aimag, Binder Soum, Onon Gol, jct Khurkh Gol, 6.5 km SE of Binder, N 48.58405 E 110.67959, 1039 m, 17-Jul-2011 C. R. Nelson # 9937 & T. A. McKnight & MAIS team. 69 130ONONBIN Arrived at 5:45pm. photos: up and downstream (after CRN9938).

Camped night of 17-18 July 2011. On the open steppe. many locals came through our camp to get water from the Onon Gol at the confluence with Khurkh Gol.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Chloroperlidae, Perlidae Agnetina at light, Paragnetina under tent. Tipulidae, Ephydriidae, Dolichopodidae, Asilidae, Ephemeroptera. Paragnetina drumming on my tent in the morning. I wish I had recorded it. MAIS 2011071701 9937

9938 MONGOLIA: Khentii Aimag, Binder Soum, Khurkh Gol, jct Onon Gol, 6.5 km SE of Binder, N 48.58354 E 110.67884, 1038 m, 17-Jul-2011 C. R. Nelson # 9938 & T. A. McKnight & MAIS team. 70 130HURHBIN photos: up and downstream (before CRN9937).

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Chloroperlidae, Perlodidae, Tetrigidae, Tentrediniidae, Ephemeroptera adults in swarm, Cercopidae abundant, Dolichopodidae, Ephydriidae, Tipulidae. MAIS 2011071702 9938

9939 MONGOLIA: Khentii Aimag, Bayan Adarga Soum, steppe log home of Lkhagee, 12 km SW of Bayan Adarga, N 48.48309 E 110.94785, 1038 m, 18-Jul-2011 C. R. Nelson # 9939 & T. A. McKnight & MAIS team. 70 130lagee photos: home of Lkhagee (Lkhan Lkhagee), Khandaa's sister, Doko's sister. She was last year's assistant cook. photos hay cutting and raking equipment, horse pulled.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). No MAIS number. 9939

9940 MONGOLIA: Khentii Aimag, Bayan Adarga Soum, Ikh Khatadiin Urgoo, Nine Queens Museum, Bayan Adarga, N 48.55404 E 111.07005, 1045 m, 18-Jul-2011 C. R. Nelson # 9940 & T. A. McKnight & MAIS team. 70 130queen photos: new museum, months old, Nine

Queens of Mongolia.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Perlidae Agnetina flav? big yellow! this site is at least 1-2 km from Onon River. Must have big lights on this building at night; saw big Laphria, thought was Andrenosoma. missed it so ate lunch at next spot to catch it. No MAIS number. 9940

9941 MONGOLIA: Khentii Aimag, Bayan Adarga Soum, Archaeological tomb dig, Duureig Nars, forest near Bayan Adarga, N 48.53829 E 111.07648, 1058 m, 18-Jul-2011 C. R. Nelson # 9941 & T. A. McKnight & MAIS team. 70 130dig photos: dig of tomb by Koreans in a Pinus sylvestris forest. Ate lunch.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Laphriinae robber flies 1m 1 f, Ctenodontina? Laphria?, photographed at CRN9950. Cerambycidae. No MAIS number. 9941

9942 MONGOLIA: Khentii Aimag, Bayan Adarga Soum, Onon Gol, ferry crossing, 20 km NE of Bayan Adarga, N 48.69172 E 111.24953, 1017 m, 18-Jul-2011 C. R. Nelson # 9942 & T. A. McKnight & MAIS team. 70 130ferry1 photos: ferry crossing, 130ferry1 on south bank, 130ferry2 on north bank, different soum? N 48.69191 E 111.24858 elev. 1015 m.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). No MAIS number. 9942

9943 MONGOLIA: Khentii Aimag, Dadal Soum, Dadal town, N 49.01955 E 111.61438, 977 m, 18-Jul-2011 C. R. Nelson # 9943 & T. A. McKnight & MAIS team. 70 130dadal border permit station.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and

Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). No MAIS number. 9943

9944 MONGOLIA: Khentii Aimag, Dadal Soum, Balj Gol, 4.6 km N of Dadal, , N 49.06556 E 111.60281, 916 m, 18-Jul-2011 C. R. Nelson # 9944 & T. A. McKnight & MAIS team. 70 130balj photos: up and down stream. Met a 23 year old from Dadal, he'll email me to send him some photos of him I took.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). photos: frog. Chloroperlidae, Perlidae, Asilidae, Tipulidae, Mycetophilidae, Trichoptera. MAIS 2011071801 9944

9945 MONGOLIA: Khentii Aimag, Dadal Soum, pine forest above Balj Gol, 4.1 km N of Dadal, , N 49.05075 E 111.58395, 956 m, 19-Jul-2011 C. R. Nelson # 9945 & T. A. McKnight & MAIS team. 70 130baljfor Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). photos: Pinus sylvestris/Betula forest and meadow. Asilidae Eutolmus, Laphria or Choerades. Missed Laphria gibbosa. Ephemera. No MAIS number. 9945

9946 MONGOLIA: Khentii Aimag, Dadal Soum, log home near Balj Gol, 5.8 km NE of Dadal, , N 49.05650 E 111.55927, 959 m, 19-Jul-2011 C. R. Nelson # 9946 & T. A. McKnight & MAIS team. 70 130buria We happened to stop at the cabin of an older worker for IMH (Institute of Meteorology and Hydrology) while seeking directions about crossing rivers. He uses our methods and those of The Asia Foundation in monitoring aquatic macroinvertebrates in this area. I took photos of him, his house, bees, animals, and boat. He showed me a copy of a nice book: The upper reaches of the Amur, by Viktor Yashinov, and gave me an email address for the author: sochondo@rambler.ru so I can check into

getting a copy.

Boloroo knows this IMH man's name and I need to get it from her so I can send him some photos.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). No MAIS number. 9946

9947 MONGOLIA: Khentii Aimag, Dadal Soum, Balj Gol, near ferry crossing, 5.8 km NE of Dadal, N 49.05865 E 111.56134, 930 m, 19-Jul-2011 C. R. Nelson # 9947 & T. A. McKnight & MAIS team. 70 130baljcro Photos: Up and down stream.

IMH local manager helped us find this spot, his permanent sampling spot.

Boloroo knows this IMH man's name and I need to get it from her so I can send him some photos. His address in cyrillic is on this field notes page.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Chloroperlidae Alloperla, Perlidae nymphs, Leuctridae nymphs, Dolichopodidae, Empididae, Ephydriidae, Micropezidae. MAIS 2011071901 9947

9948 MONGOLIA: Khentii Aimag, Dadal Soum, Uuts Gol, 30 km NE of Dadal, N 49.24091 E 111.84976, 904 m, 19-Jul-2011 C. R. Nelson # 9948 & T. A. McKnight & MAIS team. 70 131uuts Photos: Up and down stream.

Mongolians taught me the word for China or Chinese: khyatad

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver

one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). sweeping; Asilidae Eutolmus and 2 others; Perlidae; Chloroperlidae; Aeshnidae. MAIS 2011071902 9948

9949 MONGOLIA: Khentii Aimag, Dadal Soum, pine forest above Uuts Gol, 30 km NE of Dadal, N 49.25409 E 111.82114, 929 m, 19-Jul-2011 C. R. Nelson # 9949 & T. A. McKnight & MAIS team. 70 131uutsf Byambaa drove me to this forest for a few minutes while others sampled lower on the Uuts.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Asilidae Eutolmus and Genus 2; Buprestidae No MAIS number. 9949

9950 MONGOLIA: Khentii Aimag, Dadal Soum, Onon Gol, three islands (my informal name), 12.5 km East of Dadal, N 48.99395 E 111.78079, 915 m, 19-Jul-2011 C. R. Nelson # 9950 & T. A. McKnight & MAIS team. 70 131ONONDAD photos: up and down stream.

Camped night of 19-20 July 2011.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Asilidae, photos: Perlidae. Potamanthidae; Scarabaeidae; Tephritidae; Saldidae; Ephydriidae; Dolichopodidae; photos: Steatoda or Ctenodonta out of order, from CRN9941. saw marijuana growing, Mongolian: lantane. Photos: yellow dog barks and man fetching water. MAIS 2011072001 9950

9951 MONGOLIA: Khentii Aimag, Norovlin Soum, Onon Gol, bridge, 7 km S of Burenkhaan, N 48.84023 E 111.64495, 939 m, 19-Jul-2011 C. R. Nelson # 9951 & T. A. McKnight & MAIS team. 70 131ONONBR photos: up and down stream. wet, 30 minute collecting. Then lunch.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas

(Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Chloroperlidae adults, Perlidae nymph, Tenthredinidae, Chrysomelidae Donacia, Tipulidae. MAIS 2011072002 9951

9952 MONGOLIA: Dornod Aimag, Norovlin Soum, Ulz Gol, 20 km SW of Bayan Uul, N 48.97700 E 112.35746, 956 m, 20-Jul-2011 C. R. Nelson # 9952 & T. A. McKnight & MAIS team. 70 132ULZ photos: up and down stream. Grazed lowland steppe stream. Camped night 20-21 July 2011.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Apataniidae, Tipulidae, Empididae, Dolichopodidae, Glossosomatidae, Chironomidae, Tenthredinidae, Ctenuchidae, Chrysomelidae, Perlidae.

Saw a wolf between Norovlin and here. MAIS 2011072003 9952

9953 MONGOLIA: Dornod Aimag, Bayn Uul Soum, Bayan Uul town, N 49.13389 E 112.65629, 916 m, 21-Jul-2011 C. R. Nelson # 9953 & T. A. McKnight & MAIS team. 70 132BAYANUL Photos: border post Uaz 66 truck & people while waiting for permit clearance. Tire size: 320-457 12.00 - 18/ made in USSR.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). No MAIS number. 9953

9954 MONGOLIA: Dornod Aimag, Bayn Uul Soum, Ulikhan Deed Ulikhan town, border, N 49.50511 E 112.58286, 840 m, 21-Jul-2011 C. R. Nelson # 9954 & T. A. McKnight & MAIS team. 70 132RUS Photos: road.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas

(Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). No MAIS number. 9954

9955 MONGOLIA: Dornod Aimag, Bayn Uul Soum, Onon Gol, 0.5 km SW of Russian border, 2 km NW of Ulikhan Deed Ulikhan town, border, N 49.51321 E 112.55703, 817 m, 21-Jul-2011 C. R. Nelson # 9955 & T. A. McKnight & MAIS team. 70 132ONONBOR Photos and video: Up and down stream. Good spot, arrived in rain, dried quite quickly.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Perlidae 3 spp, Chloroperlidae 2 spp., Perlodidae 1 sp., Tipulidae, Asilidae Eutolmus (i mating pair with large Syrphidae prey, yellow legs genus, Leptogaster, Potamanthidae, Chrysomelidae. MAIS 2011072101 9955

9956 MONGOLIA: Dornod Aimag, Bayn Uul Soum, pine forest, 2 km South of Ulikhan Deed Ulikhan town, N 49.49401 E 112.56936, 853 m, 21-Jul-2011 C. R. Nelson # 9956 & T. A. McKnight & MAIS team. 70 Google Earth, made 132tunn Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Photo: tunnel of trees, people, peace on the road. MAIS 2011072101 9956

9957 MONGOLIA: Khentii Aimag, Norovlin Soum, Ulz Gol, 45 km SW of Bayan Uul, N 48.86579 E 112.20216, 963 m, 21-Jul-2011 C. R. Nelson # 9957 & T. A. McKnight & MAIS team. 70 132ULZUP Photos: up and down stream.

Camped night of 21-22 July 2011.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). sweepings in the evening MAIS 2011072102 9957

9958 MONGOLIA: Khentii Aimag, Norovlin Soum, Norovlin town, N 48.69337 E 111.99289, 1052 m, 22-Jul-2011 C. R. Nelson # 9958 & T. A. McKnight & MAIS team. 70 132NORV Photos: town drunks, short and me tall for contrasts.

bought meat and fish.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). No MAIS number. 9958

9959 MONGOLIA: Khentii Aimag, Norovlin Soum, Ulz Gol, near headwaters, 13 km SW of Norovlin, N 48.62560 E 111.87044, 1056 m, 22-Jul-2011 C. R. Nelson # 9959 & T. A. McKnight & MAIS team. 70 132ULZHIGH Photos: up and down stream.

small valley slough stream. Jeep gas line troubles. 10 km outside of Bat-Norov.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Coenagrionidae, Lestidae, Libellulidae, Aeshnidae seen, Sciomyzidae, Empididae, Dolichopodidae. MAIS 2011072201 9959

9960 MONGOLIA: Khentii Aimag, Batnorov Soum, Batnorov town, N 47.94522 E 111.50537, 1050 m, 22-Jul-2011 C. R. Nelson # 9960 & T. A. McKnight & MAIS team. 70 133BATNORV Photos: gas station area

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). No MAIS number. 9960

9961 MONGOLIA: Khentii Aimag, Kherlen Soum, lake one, shallow, 35 km NE of Ondorkhaan, N 47.60405 E 110.90146, 1085 m, 22-Jul-2011 C. R. Nelson # 9961 & T. A. McKnight & MAIS team. 70 133LAKE Photos: site photos across lake. Also many scenery photos.

Camped night of 22-23 July 2011. I called this spot lake 1.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Tadpole shrimp, Notostraca; brine shrimp, Anostraca; clam shrimp, Conchostraca. Some of these in 100% ethanol. Ephydriidae, Dolichopodidae, Ceratopogonidae, Asilidae Kytr, Cicindelidae. MAIS 2011072202 9961

9962 MONGOLIA: Khentii Aimag, Kherlen Soum, lake two, shallow, 35 km NE of Ondorkhaan, N 47.60811 E 110.90462, 1087 m, 22-Jul-2011 C. R. Nelson # 9962 & T. A. McKnight & MAIS team. 70 133LAKE2 Photos: site photos across lake. Also many scenery photos.

I called this spot lake 2.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Tadpole shrimp, Notostraca; brine shrimp, Anostraca; clam shrimp, Conchostraca. Some of these in 100% ethanol. Ephydriidae, Dolichopodidae, Ceratopogonidae, Psychodidae, Asilidae Kytr and Leptogaster, Tipulidae 3 spp.. MAIS 2011072203 9962

9963 MONGOLIA: Khentii Aimag, Kherlen Soum, highlands between two shallow lakes, 35 km NE of Ondorkhaan, N 47.60811 E 110.90462, 1087 m, 22-Jul-2011 C. R. Nelson # 9963 & T. A. McKnight & MAIS team. 70 133LAKE2 highlands between lakes, use gps of 9962, 133LAKE2

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Asilidae Stichopogon; Microhymenoptera; Chrysomelidae. MAIS 2011072203 9963

9964 MONGOLIA: Khentii Aimag, Kherlen Soum, Ondorkhaan City, N 47.32377 E 110.65517, 1026 m, 23-Jul-2011 C. R. Nelson # 9964 & T. A. McKnight & MAIS team. 70

133ONDORKH Photos: people and town. Government check day.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). No MAIS number. 9964

9965 MONGOLIA: Khentii Aimag, Kherlen Soum, Kherlen River, 5.5 km SW of Ondorkhaan, N 47.27707 E 110.62825, 1032 m, 23-Jul-2011 C. R. Nelson # 9965 & T. A. McKnight & MAIS team. 70 133HERSITE Photos: up and down stream.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Perlidae Paragnetina lighter species; Gomphidae; Libellulidae; Coenagrionidae; Lestidae; Chrysomelidae; Ephydriidae; Dolichopodidae; Scathophagidae; Asilidae Kytr. MAIS 2011072301 9965

9966 MONGOLIA: Khentii Aimag, Moron Soum, Moron Gol, Hwy A0501, 6 km West of Moron, 29 km West of Ondorkhaan N 47.39837 E 110.28445, 1095 m, 23-Jul-2011 C. R. Nelson # 9966 & T. A. McKnight & MAIS team. 70 133MORON Photos: up and down stream. Stream is flowing sludge. Horses were standing and dropping feces right in the stream and it floated by as we sampled. Not pleasing site. Arrived 2:40 pm

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Ephydriidae, Dolichopodidae, Stratiomyidae, Syrphidae, Asilidae Ktyr Antiphrisson Tolmerus Eutolmus, Scatophagidae, Ulidiidae. MAIS 2011072302 9966

9967 MONGOLIA: Khentii Aimag, Tsenkhermandal Soum, mines 9.5 km North of Tsenkhermandal, N 47.83066 E 109.05103, 1620 m, 23-Jul-2011 C. R. Nelson # 9967 & T. A. McKnight & MAIS team. 70 133TSEMINE Photos: mining.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight

(Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). No MAIS number. 9967

9968 MONGOLIA: Khentii Aimag, Tsenkhermandal Soum, spring headwaters Tsenkher Gol, 29 km North of Tsenkhermandal, N 47.92564 E 109.16114, 1589 m, 23-Jul-2011 C. R. Nelson # 9968 & T. A. McKnight & MAIS team. 70 134TSEHEAD Photos: up and down stream. Forested, closed canopy.

Camped night of 23-24 July 2011.

Nice place in the forest with a tiny stream and another tributary (9969) wiht very deep holes, 4 feet or so deep. Full summer now, lots of flies to bother.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Asilidae Cyrtopogon 2 spp. Laphria/Choerades red legs "gilva", Tachinidae, Sarcophagidae, Capniidae abundant!, Empididae, Tipulidae. MAIS 2011072303 9968

9968 MONGOLIA: Khentii Aimag, Tsenkhermandal Soum, spring headwaters Tsenkher Gol, 29 km North of Tsenkhermandal, N 47.92564 E 109.16114, 1589 m, 23-Jul-2011 C. R. Nelson # 9968 & T. A. McKnight & MAIS team. 70 134TSEHEAD Photos: up and down stream. Forested, closed canopy.

Camped night of 23-24 July 2011.

Nice place in the forest with a tiny stream and another tributary (9969) wiht very deep holes, 4 feet or so deep. Full summer now, lots of flies to bother.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigitas Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Asilidae Cyrtopogon 2 spp. Laphria/Choerades red legs "gilva", Tachinidae, Sarcophagidae, Capniidae abundant!, Empididae, Tipulidae. MAIS 2011072303 9968

9969 MONGOLIA: Khentii Aimag, Tsenkhermandal Soum, open canopy pool headwaters Tsenkher Gol, 29 km North of Tsenkhermandal, N 47.92825 E 109.16688, 1579 m, 23-Jul-2011 C. R. Nelson # 9969 & T. A. McKnight & MAIS team. 70 134TSE2 Photos: up and down stream. open pools, open canopy.

(last photos from this camp)

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Nemouridae; Asilidae Eutolmus, Leptogaster on hillside, Holopogon on hillside. Empididae; Dolichopodidae; Phryganeidae?; Ephrydridae; Syrphidae; Libellulidae Sympetrum red base male; Tipulidae. MAIS 2011072304 9969

9970 MONGOLIA: Tov Aimag, Bayandelger Soum, Kherlen Gol, 2 km South of Hwy A0501 bridge, 13 km SE of Baganuur, N 47.68544 E 108.46274, 1308 m, 24-Jul-2011 C. R. Nelson # 9970 & T. A. McKnight & MAIS team. 70 134HERLEN Photos: up and down stream. Arrived 6:30 pm.

Camped night of 24-25 July 2011. Photos: horses and scenery at river. In the morning paid a MNT 1300 toll at Baganuur, enter in black book.

Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas (Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Horses at river, scenery; Perlidae; Ceratopogonidae; Ephrydridae; Dolichopodidae; also at temporary pools near base of cliff: Rhagionidae larva; Helophoridae.; Notostraca, Conchostraca, Culicidae. MAIS 2011072401 9970

9971 MONGOLIA: Tov Aimag, Mongonmorit Soum, Zuun Baydlag Gol, 4 km SW of Mongonmorit, N 48.09511 E 108.38592, 1452 m, 25-Jul-2011 C. R. Nelson # 9971 & T. A. McKnight & MAIS team. 70 134ZUBAYL Photos: up and down stream. Near site, downstream from earlier in expedition; 2 km SE of 129ZUUNLOW (CRN9926; MAIS2011071402), Mongolian Aquatic Insect Survey participants: Boloroo (Bolortsetseg Erdene), manager and Ephemeroptera), Riley Nelson (leader, Plecoptera, Asilidae, photography), Tristan McKnight (Asilidae, site evaluation, yellow pans), Odchimeg (Odchimeg Nyamsuren, also known as Odnoo, Biomonitoring), Virginija Podeniene (Tipulidae immatures), Sigita Podenas

(Tipulidae adults), Doko, (Jigmed Dolgosuren, cook) Byambaa (Byambajar Olgidoi, driver one, Uaz jeep), Tulgaa (Battulgaa Erden-Ochir, driver two, Uaz van). Chloroperlidae 2 spp?; Nemouridae 2 spp.?; Dolichopodidae; Empididae; Ephydriidae; Asilidae: Eutolmus, Cyrtopogon, Choerades, Laphria, Antiphrisson, Ktyr; Tipulidae: Phyllolabis including larvae, endemic to Mongolia! MAIS 2011072501 9971

9972 MONGOLIA: Tov Aimag, Ulaan Baatar Soum, Ulaan Baatar, Zaluuchuud Hotel, N 47.92465 E 106.92181, 1342 m, 27-Jul-2011 C. R. Nelson # 9972 & T. A. McKnight & Podenas. 70 13ZALUU end. Photos: hotel room, with TA McKnight, S. Podenas, V. Podeniene.

Our favorite restaurant near IMH is called:
Nuuddelchin No MAIS number. 9972

9973 UNITED STATES: UTAH: xx Counties Sevier Lake, Rush Valley, Lehi manning Canyon Shale, Kennecott Copper Mine, all from airline flight of Delta, N xx W xx, xx m, 28-Jul-2011 C. R. Nelson # 9973 & T. A. McKnight. 70 end. photos from the air. No MAIS number. 9973

9974 UNITED STATES: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 29-31 July 2011 C. R. Nelson # 9974 & family 70 Wheeler Family Reunion. Asilidae 9974

9975 UNITED STATES: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 06-Aug-2011 C. R. Nelson # 9975 & J. K. Nelson & friends 70 Stayed night of 5-6 August 2011 with USU friends: Riley, Kaye, Blair & Cynthia & Carly Parrish; Rexanne and Hank Pond. Cleaned sprinklers. Took 6 buckets of grainy soil home. Asilidae, saw Diogmites; scrub jay major feathers in driveway near cabin 9975

9976 UNITED STATES: UTAH: airline flights, Utah-Georgia-England 12-13 August 2011 C. R. Nelson # 9976 & J. K. Nelson 70 I forgot to reset my camera and GPS clocks to England time, so they are off 7-8 hours from GMT for the whole trip. 9976

9977 ENGLAND: LONDON: Borough of Westminster Hyde Park, BYU London Center, 27 Palace Court, N 51.51102 W 0.19218, 33 m 13-Aug-2011 C. R. Nelson # 9977 & J. K. Nelson 70 Google Earth other nearby spots, various tries with GPS in "concrete canyons" 139BYU N 51.50658 W 0.07611 7m; 139PALCOR1 N 51.50991 W 0.19126 43 m; 139PALCORT N 51.51003 W 0.19078 45 m; 139QUMOSC crossing of Moscow Road and Queensway N 51.51281 W 0.18772 14 m. With John Bennions 9977

9978 ENGLAND: LONDON: Borough of Westminster South Kensington, Science Museum area, N 51.51102 W 0.19218, 19 m 13-Aug-2011 C. R. Nelson # 9978 & J. K. Nelson 70 Google Earth other nearby spots, various tries with GPS in "concrete canyons" 139BYU N 51.50658 W 0.07611 7m; 139PALCOR1 N 51.50991 W 0.19126 43 m;

139PALCORT N 51.51003 W 0.19078 45 m; 139QUMOSC crossing of Moscow Road and Queensway N 51.51281 W 0.18772 14 m. With John Bennions. 9978

9979 ENGLAND: LONDON: Borough of Westminster Westminster, Big Ben, Parliament. N 51.49944 W 0.12481, 15 m 13-Aug-2011 C. R. Nelson # 9979 & J. K. Nelson 70 Google Earth Parliament, Downing Street, Trafalgar Square, Nelson Monument, The Oratory, St. Martins-in-the-fields, National Gallery, Double Decker bus. With John Bennion 9979

9980 ENGLAND: LONDON: Borough of Westminster South Kensington, Victoria and Albert Museum N 51.49620 W 0.17192, 19 m 14-Aug-2011 C. R. Nelson # 9980 & J. K. Nelson 70 Google Earth With John Bennion 9980

9981 ENGLAND: LONDON: Borough of Westminster Paddington Station area N 51.51574 W 0.17582, 35 m 15-Aug-2011 C. R. Nelson # 9981 & J. K. Nelson 70 Google Earth photos: riot damaged stores open for business as usual. Christensen apartment. Tower of London, ravens, funeral on the Thames of boatman Benjamin Woolacott; architecture, St. Pauls Cathedral, the original statue, Tate Modern Art Museum, Globe Theatre)139GLOBE N 51.50837 W 0.09684 elev. 7 m. With Christensens and Blakes. later Bennions ravens 9981

9982 ENGLAND: LONDON: Borough of Westminster Westminster, N 51.49944 W 0.12481, 15 m 16-Aug-2011 C. R. Nelson # 9982 & J. K. Nelson 70 Google Earth Big Ben, Westminster Abby, Charles Darwin tomb, Churchill Museum, London Eye, steps and leaf, Thames Cruise (139TOWER N 50684 W 0.07690 elev. 9 m); feet, Tower Bridge, Mind the Gap (google earth N 51.50570 W 0.07525 elev. 4m); I marked 139THAMESG under Tower Bridge! N 51.50908 W 0.09471 elev. 21 m. With Christensens and Blakes. 9982

9983 ENGLAND: LONDON: Borough of Richmond upon Thames Kew Royal Botanic Gardens, N 51.47894 W 0.29002, 10 m 17-Aug-2011 C. R. Nelson # 9983 & J. K. Nelson 70 Google Earth spirits, fabric, street, Kew Gardens, ampersand, carp, Palm House, Victoria lily pads, lotus, Sarracenia pitcher plants with flies, sundews with flies; venus fly trap, Darlingtonia, mangrove, pufferfish skin, wooden sphinx moth, tangled bank, coffee, water lilies, helix DNA. Kaye's camera: sugar cane, oak, Palm House inside, Echinoderm, plant compost, thinking?, courting?, sweet chestnut, english oak, canopy walk. John Bennion, Christensens and Blakes. 9983

9983.5 ENGLAND: LONDON: Borough of Westminster Natural History Museum, Cromwell Road, N 51.49587 W 0.17638, 17 m 17-Aug-2011 C. R. Nelson # 9983.5 70 Google Earth Photos: Glyptodont, ground sloth, ichthyosaurs, plesiosaurs, dodo, hummingbird cabinet, dinosaurs, grand hall, Richard Owen, Tree - sagittal section, Huxley, Darwin. 9983.5

9984 ENGLAND: LONDON: Borough of Hounslow Hatton Cross Station N 51.44652 W 0.42329, 24 m 18-Aug-2011 C. R. Nelson # 9984 & J. K. Nelson 70 Google Earth subway video, man and hand. Sixt Car Rental agency. 9984

9985 ENGLAND: Kent: Downe, Down House, home of Charles and Emma Darwin, Luxted Road, N 51.33151 W 0.053439, 174 m 18-Aug-2011 C. R. Nelson # 9985 & J. K. Nelson 70 Google Earth Kaye, Sandwalk with Kaye, tangled bank on the sandwalk, flat stones for laps, view to canopy, roads diverging, blue string blocks one road photos: orchard, plants and produce, formal garden, windows on the world, patch of diversity, worm stone, greenhouse, hollyhocks, carnivorous plants, sun dews, orchids, honey bees, potting room, Kaye, tennis court - irregular shape, fern in the wall, lichens, vegetable garden - lettuce, squash, beans, sweet chestnuts, lichens on shrub, Verbascum 2 spp., milk thistle? artichoke?, chard, 9985

9986 ENGLAND: Surrey: London LDS Temple, Newchapel, Lingfield, N 51.16281 W 0.005221, 62 m 19-Aug-2011 C. R. Nelson # 9986 & J. K. Nelson 70 Google Earth Temple with jet to eternity. 139TEMPLE N 51.16280 W 0.05269 elev. 41 m. portraits; slug, Kaye photographing slug, oak tree one, oak tree two, David O McKay memorial, Cicadellidae, Tachinidae, Asilidae with prey 9986

9987 ENGLAND: Hampshire: Portsmouth, Southsea N 50.77963 W 1.07612, 3 m 19-20 August 2011 C. R. Nelson # 9987 & J. K. Nelson 70 Google Earth photos: view from hotel, Best Western Royal Beach Hotel, Isle of Wight, pebble beach, view of hotel, beach, pier, barnacles, fishing through a hole, arson, Millie and Harold Hodgson, wire network hub, sunset, 10 pound note with Darwin. 9987

9988 ENGLAND: Wiltshire Salisbury, Salisbury Cathedral, N 51.06516 W 1.79813, 48 m 20-Aug-2011 C. R. Nelson # 9988 & J. K. Nelson 70 Google Earth photos: cathedral, Avon River. 139SALICAT cathedral N 51.06469 W 1.7984, paid car park area on Crane Street, N 51.06792 W 1.80048 elev. 30 m. 9988

9989 ENGLAND: Wiltshire Old Sarum, N 51.09318 W 1.80481, 112 m 20-Aug-2011 C. R. Nelson # 9989 & J. K. Nelson 70 Google Earth photos: castle remains, rain, Salisbury Plain, moats, steps, oak tree, Salisbury, yew, moss on the wall. 139SARUM N 51.09351 W 1.80504 elev. 109 m. 9989

9990 ENGLAND: Wiltshire Stonehenge, Amesbury N 51.17914 W 1.82659, 87 m 20-Aug-2011 C. R. Nelson # 9990 & J. K. Nelson 70 139STONE photos: stones, people, interactions, crows?, lichens at a distance >90 species; helicopter; reflections in Kaye's glasses; heel stone, heel stone and bus, shadows; stone 11 miles from Amesbury and 80? miles from London. 139HEEL, heel stone near road N 51.17923 W 1.82540 elev. 98 m; 139SOLSTIC

viewing spot opposite of heel stone N 51.17852 W 1.82685 elev. 91 m; Google Earth N 51.17898 W 1.82653 elev. 102 m. crows?, sheep on the Salisbury Plain. 9990

9991 ENGLAND: Wiltshire Durrington, Woodhenge, N 51.18939 W 1.78579, 89 m 20-Aug-2011 C. R. Nelson # 9991 & J. K. Nelson 70 139WOODHEN cement posts of wood pillar remains. photos: Kaye and Riley kiss, shadows; Kaye's camera: pictures on the road to Avebury, square road path, bridge, mirror. Google Earth N 51.18940 W 1.78578, elev. 97 m. 9991

9992 ENGLAND: Marlborough Avebury, Avebury Stone Circle, N 51.42821 W 1.85624, 152 m 20-Aug-2011 C. R. Nelson # 9992 & J. K. Nelson 70 139AVERY stone circles, cricket match, church, Kaye, countryside, house in a row. Google Earth N 51.42757 W 1.85420 elev. 158 m. goats with stones, wool on the ground, 9992

9993 ENGLAND: Bristol Bristol, Harborside, Bristol Marriott Royal Hotel, N 51.45209 W 2.59934, 41 m 20-Aug-2011 C. R. Nelson # 9993 & J. K. Nelson 70 139BRISHOT Kaye: rainbow and leprechauns, fountains - fangdons; Italian Restaurant. Google Earth N 51.45217 W 2.59879 elev. 16 m. 9993

9994 WALES: Chepstow Monmouthshire, Gwent Tintern Abby N 51.69772 W 2.67683, 9 m 21-Aug-2011 C. R. Nelson # 9994 & J. K. Nelson 70 Google Earth Tintern Abby ruins, hillsides, Wye River. 9994

9995 WALES: Chepstow Monmouthshire, Gwent Wye River Valley, Lower Wynccliffe Wood, 3.5 miles N of Chepstow, Eagles Nest View Area, 365 steps, N 51.67133 W 2.68573, 116 m 21-Aug-2011 C. R. Nelson # 9995 & J. K. Nelson 70 139WINDCLF Tangled bank; views to Severn; portraits Kaye and Riley; Two roads diverged. Eagles Nest from geocaching websites N 51.6734 W 2.6856. Seems it is mislocated using Google Earth. 9995

9996 WALES: Chepstow Gwent Chepstow, Sunday market, N 51.65358 W 2.69196, 91 m 21-Aug-2011 C. R. Nelson # 9996 & J. K. Nelson 70 139WINDCLF photos: market hawker. 9996

9997 ENGLAND: Somerset County, Bath, N 51.38446 W 2.35879, 27 m 21-Aug-2011 C. R. Nelson # 9997 & J. K. Nelson 70 139BATH Royal Crescent, Pultenay Bridge, duck in cement riffle. Google Earth at Pultenay Bridge N 51.38291 W 2.35822 elev. 28 m. 9997

9998 UNITED KINGDOM: Delta Airline flight, London Heathrow, over Wales and Ireland 22-Aug-2011 C. R. Nelson # 9998 & J. K. Nelson 70 photos: triangle delta in wing of plane; Severn River, Wales: Google Earth N 51.60957 W 2.63965 elev. 0 m. Coast of Wales, N 51.80883 W 5.44705 elev 0 m; Coast of Ireland, N 52.23037 W 6.41484 elev. 0 m. 9998

9999 UNITED STATES: Delta Airline flight, over Kansas near Dodge City, N 37.75154 W 100.01385, 779 m 22-Aug-2011 C. R. Nelson # 9999 & J. K. Nelson 70 photos and video: clouds 767 GPS. 9999

10000 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 23-Aug-2011 C. R. Nelson # 10000 69 photos: garden and home. 139HOMEGAR N 40.29309 W 111.64901 elev. 1446 m. There is no place like home. 10000

10001 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 26-Aug-2011 C. R. Nelson # 10001 70 photos: bee in squash blossoms 10001

10002 UNITED STATES: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 27-Aug-2011 C. R. Nelson # 10002 & J. K. Nelson 70 Stayed night of 27-28 August 2011 photos: Gryllidae Oecanthus. 10002

10003 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 29-Aug-2011 C. R. Nelson # 10003 70 photos: bull snake, gopher snake, blow snake, Pituophis catenifer. 10003

10004 USA: UTAH: Utah Co., Provo, BYU, Martin Building, N 40.24698 W 111.64914 1420 m 29-Aug-2011 C. R. Nelson # 10004 70 photos: students, first day of class. Entomology Bio 441 in Room 366; Biology 100 in room 455. 10004

10005 USA: UTAH: Utah Co., Provo River, Riverside Park, Provo, 2230 N near BYU Motion Picture Studio, N 40.26529 W 111.66370 1412 m 01-Sep-2011 C. R. Nelson # 10005 70 Google Earth photos: group and picking. Riley Nelson, Kirsten Pierce, Sarah Weeks, Ty Bennett, Jessica Hoag, Ross Christensen, Katie Fager. about 37 people total, 5-10 from Entomology, 25 or so from Biology, also visitors. Husband Jason of Janet Lee Pierce (my technician from GSENM) and 9 month old son David. Aquatic sampling: Pteronarcyidae, Perlodidae, Hydropsychidae, Limnephilidae, Chironomidae, Brachycentridae, Baetidae, Haliplidae, Oligochaeta 2 spp earthworms, Isopoda rolypoly Asellus, Elmidae, Hirudinea leech, Hydracarina mite, Athericidae, sculpin fish, Simuliidae, Gerridae, Gastropoda. Adults: Culicidae, Aeshnidae, Baetidae. 10005

10006 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 02-Sep-2011 C. R. Nelson # 10006 70 Chrysomelidae Blepharida on Rhus aromatica trilobata. Given to Shawn Clark. 10006

10007 UNITED STATES: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 2-3 September 2011 C. R. Nelson # 10007 & J. K. Nelson

70 watered lawns. Night with Rexanne and Hank Pond; Cynthia and Blair Parrish. saw Papilionidae caterpillar on narrow leaf cottonwood. 10007

10008 UNITED STATES: UTAH: Utah Co., Diamond Fork River, Springville Crossing, N 40.15407 W 111.33200, 1914 m, 03-Sep-2011 C. R. Nelson # 10008 & J. K. Nelson 70 with Rexanne and Hank Pond; Cynthia and Blair Parrish. monarch caterpillars and milkweed two thirds grown. Taken by Cynthia for her preschool class. Successfully reared by Cynthia back in Centerville. 10008

10009 UNITED STATES: UTAH: Utah Co., Diamond Fork Canyon, Sixth Water Creek, trail to Fifth Water Hot Springs, near Three Forks N 40.08438 W 111.35504, 1688 m, 03-Sep-2011 C. R. Nelson # 10009 & J. K. Nelson 70 114three photos: people and scenery. with Rexanne and Hank Pond; Cynthia and Blair Parrish. Tipulidae, Asilidae Lasiopogon saw big blue Tabanidae? Tachinidae? 10009

10010 UNITED STATES: UTAH: Utah Co., Fifth Water Creek, Falls, and Hot Springs, N 40.08264 W 111.31783, 1804 m, 03-Sep-2011 C. R. Nelson # 10010 & J. K. Nelson 70 142HOT photos & video: people and scenery. with Rexanne and Hank Pond; Cynthia and Blair Parrish. GPS mislabeled as 4 Sep 2011, actually 3 September 2011. video: underwater Simuliidae. Nemouridae malenka sp. 10010

10011 UNITED STATES: UTAH: Utah Co., Diamond Fork River, Dry Fork Campground, N 40.08067 W 111.36319, 1652 m, 03-Sep-2011 C. R. Nelson # 10011 & J. K. Nelson 70 142DRY picnic, good access to river. with Rexanne and Hank Pond; Cynthia and Blair Parrish. 10011

10011.5 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 03-Sep-2011 C. R. Nelson # 10011.5 & J. K. Nelson 70 photos: burglarized home, Provo police officer Bascom. not much taken, a few gold colored necklaces and a bracelet. 10011.5

10012 USA: UTAH: Utah Co., Provo River jct canyon with Provo Falls, N 40.34943 W 111.58672 1596 m 05-Sep-2011 C. R. Nelson # 10012 70 142PRFAL photos: rubber boa, scenery, water. 10012

10013 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 07-Sep-2011 C. R. Nelson # 10013 70 flies in the kitchen. photos: Drosophilidae on compost, Tephritidae Rhagoletis from walnut tree?; Culicidae male. Outside: Syrphidae, Dolichopodidae, Stratiomyidae, Anthomyiidae, saw Calliphoridae, Muscidae, Tachinidae, Agromyzidae, Tephritidae Rhagoletis on walnut leaf, Nitidulidae on rotten nectarine. 10013

10014 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 09-Sep-2011 C. R. Nelson # 10014 70 *Limax maximus*, great gray garden slug 10014

10015 UNITED STATES: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 09-Sep-2011 C. R. Nelson # 10015 & class 70 Riley Nelson, Katie Fager, Jason Pierce, David Clark, Nicole Leduc, Malia Groesbeck, Ryan Breneman, Sierra Hotchkiss, Jimmy Roberts, John Gibbons, Tabitha Brown, Amanda Leggett, Steven Nelson, Matt Otis, Anne Thompson, Jerry Whiting, Robert Williams. Rhipiceridae Jason Pierce; Acrididae; Thrips; Tachinidae; Chrysopidae; Asilidae Megaphorus. 10015

10016 UNITED STATES: UTAH: Utah Co., Wheeler Sawmill, spring, Hwy 6, 12 mi East of Thistle N 39.95883 W 111.26775 1860 m, 09-Sep-2011 C. R. Nelson # 10016 & class 70 Riley Nelson, Katie Fager, Jason Pierce, David Clark, Nicole Leduc, Malia Groesbeck, Ryan Breneman, Sierra Hotchkiss, Jimmy Roberts, John Gibbons, Tabitha Brown, Amanda Leggett, Steven Nelson, matt Otis, Anne Thompson, Jerry Whiting, Robert Williams. Limnephilidae, Hydropsychidae, Tipulidae Bellardina, Lunatipula? Sinotipula? and Dicranota? 10016

10017 UNITED STATES: UTAH: Wasatch Co. Hwy 224, Midway to Brighton, S of Guardsmans Pass, N 40.56441 W 111.49364 2066 m, 10-Sep-2011 C. R. Nelson # 10017 & J. K. Nelson 71 road kill, California sister butterfly, *Adelpha bredowii* or new name 10017

10018 UNITED STATES: UTAH: Utah Co., Provo, old Edgemont North Stake Center, N 40.28963 W 111.65455 1462 m, 10-Sep-2011 C. R. Nelson # 10018 & J. K. Nelson 71 photos: people at Dutch Oven Social of Edgemont 10th Ward, in White Church pavilion. 10018

10019 USA: UTAH: Utah Co., Provo, BYU, MacDonald Building, N 40.24554 W 111.64755 1405 m 14-Sep-2011 C. R. Nelson # 10019 71 Mantidae *Tenodera sinensis* male. 10019

10020 USA: UTAH: Utah Co., Mount Nebo Loop, Payson Lakes, Box Lake, Group Campground B, N 39.93381 W 111.64735 2370 m 17-Sep-2011 C. R. Nelson # 10020 & ward members 71 142PAYLK photos: Willam Windsor and *Oreohelix* snails & found tent stakes, people, scenery. Google Earth N 39.93417 W 111.64699 elev 2388 m. saw *Pseudacris triseriatus* northern chorus frogs, *Ambystoma tigrinum* salamander, Lestidae, Gastropoda, Physa snails. 10020

10021 USA: UTAH: Utah Co., Mount Nebo Loop, Utah Lake Overlook, N 39.90275 W 111.67600 2495 m 17-Sep-2011 C. R. Nelson # 10021 71 142NEBUTL photos: scenery of Utah Valley 10021

10022 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 17-Sep-2011 C. R. Nelson # 10022 & J. K. Nelson 71 photos: insects on rabbitbrush, *Ericameria* or *Chrysothamnus nauseosus*. Syrphidae 1 of 3 voucher. Tachinidae no voucher, Apidae, Halictidae, Gryllidae *Oecanthus*, Cerambycidae several, Elateridae, Ichneumonidae, Braconidae no voucher. 10022

10023 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 18-Sep-2011 C. R. Nelson # 10023 71 photos: insects on rabbitbrush *Chrysothamnus nauseosus*, Syrphidae, Apidae *Apis mellifera*, Cerambycidae *Tragidion*. More photos 19 September 2011. 10023

10024 USA: UTAH: Washington Co. Leeds Creek, 2 miles West of Leeds, Silver Reef Road, N 37.26491 W 113.36895 1216 m 22-Sep-2011 C. R. Nelson # 10024 71 21 people: Riley Nelson, matt Otis, Shawn Clark, David Muranyi (visitor from Hungary), Kate Beckstrand, Caitlin Sutherland, Malia Groesbeck, Muriel Longstaff, David Clark, Michael Johnson, Sierra Hotchkiss, Jerry Whiting, Amanda Leggett, Jason Pierce, Emily Burns, Jimmy Roberts, Steven Nelson, Robert Williams, Dana Blackburn, Danika Anczak, Tabitha Brown. Corydalidae, Tachinidae, Lestidae, Nymphalidae *Adelphia*, Noctuidae *Catocala*, photos: Asilidae *Promachus* yellow, . Scarabaeidae *Xyloryctes* matt Otis. 10024

10025 USA: UTAH: Washington Co. Leeds Creek, 5.6 miles West of Leeds, Silver Reef Road, N 37.29207 W 113.41286 1547 m 22-Sep-2011 C. R. Nelson # 10025 71 142LEEDSHI 21 people: Riley Nelson, matt Otis, Shawn Clark, David Muranyi (visitor from Hungary), Kate Beckstrand, Caitlin Sutherland, Malia Groesbeck, Muriel Longstaff, David Clark, Michael Johnson, Sierra Hotchkiss, Jerry Whiting, Amanda Leggett, Jason Pierce, Emily Burns, Jimmy Roberts, Steven Nelson, Robert Williams, Dana Blackburn, Danika Anczak, Tabitha Brown. Photos: Chrysomelidae on Rhamnaceae *Synetocephalus* sp. near *autumnalis* on *Ceanothus greggii*, mohave buckbrush. Empididae, Dolichopodidae, Phoridae, Photos: Pscoptera. Mutillidae. Vespidae. 10025

10026 USA: UTAH: Washington Co. Red Cliffs Campground, Quail Creek, 4 miles South of Leeds, N 37.22490 W 113.40514 979 m 22-Sep-2011 C. R. Nelson # 10026 71 143RED mileage: fun 49.6 miles, 48.2 camp, 52.0 Leeds, 54.7 freeway, from Lytle Ranch 94 miles. 21 people: Riley Nelson, matt Otis, Shawn Clark, David Muranyi (visitor from Hungary), Kate Beckstrand, Caitlin Sutherland, Malia Groesbeck, Muriel Longstaff, David Clark, Michael Johnson, Sierra Hotchkiss, Jerry Whiting, Amanda Leggett, Jason Pierce, Emily Burns, Jimmy Roberts, Steven Nelson, Robert Williams, Dana Blackburn, Danika Anczak, Tabitha Brown. photos: tarantula and tarantula hawk, gecko *Coleonyx*. gopher snake; Scarabaeidae, Leptoceridae, Hydropsychidae, Hemerobiidae, Therevidae, Theridiidae black widow spiders. 10026

10027 USA: UTAH: Washington Co. cattle troughs, 3 miles South of Welcome Spring, Beaver Dam Slope, N 37.05967 W 113.92015 1028 m 23-Sep-2011 C. R. Nelson # 10027 71 143TRO photos: people

21 people: Riley Nelson, matt Otis, Shawn Clark, David Muranyi (visitor from Hungary), Kate Beckstrand, Caitlin Sutherland, Malia Groesbeck, Muriel Longstaff, David Clark, Michael Johnson, Sierra Hotchkiss, Jerry Whiting, Amanda Leggett, Jason Pierce, Emily Burns, Jimmy Roberts, Steven Nelson, Robert Williams, Dana Blackburn, Danika Anczak, Tabitha Brown. creosote insects. Thysanura Lepismatidae Nicoletiidae. 10027

10028 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, N 37.14426 W 114.02390 836 m 23-Sep-2011 C. R. Nelson # 10028 71 143LYWASH photos: people
21 people: Riley Nelson, matt Otis, Shawn Clark, David Muranyi (visitor from Hungary), Kate Beckstrand, Caitlin Sutherland, Malia Groesbeck, Muriel Longstaff, David Clark, Michael Johnson, Sierra Hotchkiss, Jerry Whiting, Amanda Leggett, Jason Pierce, Emily Burns, Jimmy Roberts, Steven Nelson, Robert Williams, Dana Blackburn, Danika Anczak, Tabitha Brown. Pompilidae, Efferia albibarbis, Gelastocoridae, Libellula saturata, Carabidae bombardier beetle and Omophron, Leptohiphidae, Gryllidae Oecanthus, Cicindelidae, Ant lions Myrmeliontidae. 10028

10029 USA: UTAH: Kane Co., Coral Pink Sand Dunes, Ponderosa Grove Campground, N 37.08878 W 112.67249 1913 m 24-Sep-2011 C. R. Nelson # 10029 71 143PONDERO photos: people

21 people: Riley Nelson, matt Otis, Shawn Clark, David Muranyi (visitor from Hungary), Kate Beckstrand, Caitlin Sutherland, Malia Groesbeck, Muriel Longstaff, David Clark, Michael Johnson, Sierra Hotchkiss, Jerry Whiting, Amanda Leggett, Jason Pierce, Emily Burns, Jimmy Roberts, Steven Nelson, Robert Williams, Dana Blackburn, Danika Anczak, Tabitha Brown. Reduviidae, Apidae, Stenopelmatidae young with Tabitha, Machimus, Bombyliidae, Cleridae - Jimmy Roberts, Chrysomelidae. 10029

10030 USA: UTAH: Kane Co., Mount Carmel Junction, N 37.22279 W 112.68203 1586 m 24-Sep-2011 C. R. Nelson # 10030 71 143CARMEL photos: people

21 people: Riley Nelson, matt Otis, Shawn Clark, David Muranyi (visitor from Hungary), Kate Beckstrand, Caitlin Sutherland, Malia Groesbeck, Muriel Longstaff, David Clark, Michael Johnson, Sierra Hotchkiss, Jerry Whiting, Amanda Leggett, Jason Pierce, Emily Burns, Jimmy Roberts, Steven Nelson, Robert Williams, Dana Blackburn, Danika Anczak, Tabitha Brown. Scarabaeidae Dynastes granti, Phyllophaga decemlineata, Cerambycidae Prionus. females of Dynastes, from field placed in potting soil (high wood content) in Provo lab 26 September 2011, 3-5 gallon buckets with 4 inches of moist soil. owners: Malia Groesbeck, Tabitha Brown, and Jerry Whiting.

13 April 2012: First look after egg laying from last September. 26 larvae ranging about 3-5 cm.

15 February 2013: Sorted again on with matt Otis, Becca Clement, David Robinson, and Russell Anderson. Nine full-sized larvae in one bucket (Bucket 1) and 17 in another bucket (Bucket 2). All looked healthy, added some more compost. 100% survival to this stage! Read a bit more at CRN 10195. C. R. Nelson.

Bucket 1:

2 April 2013: 9 larvae.

9 October 2013: 9 larvae

28 December 2013: 3 adult males (one with bent horn), 2 adult male heads, 1 healthy, large larva, 1 female pupa accidentally killed then photographed 11 January 2014, CRN10937.

23 January 2014, moved 1 male (remaining from 28 December 2013) into a separate bottle/cage, photographed CRN10948, pinned nice male and bent horn male of 28 December 2013. Moved last, very large larva into Bucket 2. Cleaned both Bucket 1 and Bucket 2 and divided the 1 + 17 larvae between the buckets after photographs in cereal bowl 23 January 2014.

Accounted for 7 of the 9 large larvae, decided it is better to split the colony to avoid "cannibalism". Two disappeared.

23 January 2014: 9 larvae now.

20 February 2014: 1 pupa May be hurt (I removed it) and 8 larvae (1 unhealthy and 7 healthy).

CRN 10973

3 April 2014: 2 male pupae, 1 female pupa, 5 healthy larvae.

Bucket 2:

2 April 2013: 17 larvae.

9 October 2013: 17 larvae

28 December 2013: 17 larvae.

23 January 2014, Moved last, very large larva into Bucket 2. Cleaned both Bucket 1 and Bucket 2 and divided the 1 + 17 larvae between the buckets after photographs in cereal bowl 23 January 2014.

23 January 2014: 9 larvae now.

19 February 2014: 1 pupa and 8 healthy larvae.

CRN 10973

1 adult female, 3 male pupae, 1 female pupa, 4 larvae. 10030

10031 USA: UTAH: Kane Co., Orderville, Valley Elementary School, N 37.27544 W 112.63652 1652 m 24-Sep-2011 C. R. Nelson # 10031 71 143ORDER photos: people group.

21 people: Riley Nelson, matt Otis, Shawn Clark, David Muranyi (visitor from Hungary), Kate Beckstrand, Caitlin Sutherland, Malia Groesbeck, Muriel Longstaff, David Clark, Michael Johnson, Sierra Hotchkiss, Jerry Whiting, Amanda Leggett, Jason Pierce, Emily Burns, Jimmy Roberts, Steven Nelson, Robert Williams, Dana Blackburn, Danika Anczak, Tabitha Brown. Scarabaeidae, Dynastes granti, Phyllophaga decmlineata, others. tarantula. 10031

10032 USA: UTAH: Sevier Co. Salina, Moms Cafe, 10 East main Street, N 38.95748 W 111.85983 1574 m 24-Sep-2011 C. R. Nelson # 10032 71 Google Earth photos: people including waitress, David Muranyi from Hungary reading joke book, Understanding Women; Emily Burns.

21 people: Riley Nelson, matt Otis, Shawn Clark, David Muranyi (visitor from Hungary), Kate Beckstrand, Caitlin Sutherland, Malia Groesbeck, Muriel Longstaff, David Clark, Michael Johnson, Sierra Hotchkiss, Jerry Whiting, Amanda Leggett, Jason Pierce, Emily Burns, Jimmy Roberts, Steven Nelson, Robert Williams, Dana Blackburn, Danika Anczak, Tabitha Brown. 10032

10032 USA: UTAH: Salt Lake Co. Salt Lake City, Sugarhouse, Parker home, N 40.70953 W 111.85150 1353 m 25-Sep-2011 C. R. Nelson # 10032 71 Google Earth video, Camille Ann Parker on her blessing day. 10032

10034 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 30-Sep-2011 C. R. Nelson # 10034 71 tapeworm vomited by Heiva the cat. 10034

10035 USA: UTAH: Davis Co. Centerville, Parrish home N 40.91836 W 111.87532 1320 m 01-Oct-2011 C. R. Nelson # 10035 & J. K. Nelson 71 photos: birthday party for Cynthia Parrish, turns 50 on 3 October. 10035

10036 USA: UTAH: Utah Co., Provo, BYU, south hillside, N 40.24511 W 111.65109 1411 m 04-Oct-2011 C. R. Nelson # 10036 71 photos reticulated python. Joey Mugleston also gave me a start of a small Blaberidae cockroach colony, about 20 young individuals and one adult. 10036

10037 USA: UTAH: Utah Co., Provo, mouth Rock Canyon N 40.16459 W 111.63134 1549 m 05-Oct-2011 C. R. Nelson # 10037 71 photos: rabbitbrush and scenery 10037

10038 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 05-Oct-2011 C. R. Nelson # 10038 71 sections of wood, from my

woodpile, blue spruce, joshua tree from Beaver Dam Slope #9345, staghorn sumac, redwood, rose of sharon, plum, pear. 10038

10039 USA: UTAH: Utah Co., Provo, BYU northside of Eyring Science Center, N 40.24779 W 111.65013 1421 m 10-Oct-2011 C. R. Nelson # 10039 71 photos: acorns, harvested 200 acorns to plant, two berlese funnels run full of wood compost from under oak tree. 10039

10040 USA: UTAH: Utah Co., Provo, BYU area, N 40.250 W 111.646 1425 m 15-Oct-2011 C. R. Nelson # 10040 71 photos: hot air balloon, video near stadium. 10040

10041 USA: UTAH: Utah Co., Provo, Edgemont, N 40.273 W 111.651 1450 m 5 1October 2011 C. R. Nelson # 10041 71 photos and video: streets and Mount Timpanogos. 10041

10042 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 15-Oct-2011 C. R. Nelson # 10042 & J. K. Nelson & Sherry Wheeler 71 photos: people, Sherry Wheeler. 10042

10043 USA: UTAH: Carbon Co. Price, Hwy 6, exit, N 39.59801 W 110.82467, 1683 m, 15-Oct-2011 C. R. Nelson # 10043 & J. K. Nelson & Sherry Wheeler 71 photos: town 10043

10044 USA: UTAH: Emery Co. Ferron, stake center, N 39.08006 W 111.14057, 1810 m, 15-Oct-2011 C. R. Nelson # 10044 & J. K. Nelson & Sherry Wheeler 71 photos: Daisy Mae Mead baptism 10044

10045 USA: UTAH: Sanpete Co. Wasatch Plateau, Skyline Drive, intersection Road 56 to Joes Valley, N 39.31058 W 111.45056, 3012 m, 15-Oct-2011 C. R. Nelson # 10045 & J. K. Nelson & Sherry Wheeler 71 143sky photos: people 10045

10046 USA: UTAH: Sanpete Co. Mount Pleasant, ancestral home of Alexander Hamilton Poulson, 281 South 200 East, N 39.54276 W 111.45124, 1819 m, 15-Oct-2011 C. R. Nelson # 10046 & J. K. Nelson & Sherry Wheeler 71 photos: Sherry at her grandparents' house. 10046

10047 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 19-Oct-2011 C. R. Nelson # 10047 71 photos: fall leaves, cats 10047

10048 USA: UTAH: Uintah Co. Vernal, Utah Field House of Natural History, N 40.45518 W 109.51958 1616 m 20-Oct-2011 C. R. Nelson # 10048 & family 71 googleearth Riley Nelson, J. Kaye Nelson, Andrea J. Nelson, Callie McKay, Brigham McKay, Duncan McKay, Kajsa McKay, and Gavin McKay. photos: Uintatherium skeleton and model, wall of leaves, Protoreodon skeleton, Diplodocus skeleton, art of Ernest Untermann including a gorilla famiy contemplating a human skull, Edaphosaurus model, Utaraptor model, Stegosaurus

model, Tyrannosaurus model, Diplodocus model, Allosaurus model, Triceratops model with family, Moschops and people, Pteranodon. 10048

10049 USA: UTAH: Uintah Co. Dinosaur National Monument, Box Canyon, Josie Bassett Morris cabin, N 40.2545 W 109.17483 1634 m 20-Oct-2011 C. R. Nelson # 10049 & family 71 googleearth photos: scenery; videos: making and playing Equisetum flutes. Riley Nelson, J. Kaye Nelson, Andrea J. Nelson, Callie McKay, Brigham McKay, Duncan McKay, Kajsa McKay, and Gavin McKay. photos: scenery; videos: making and playing Equisetum flutes. 10049

10050 USA: UTAH: Uintah Co. Dinosaur National Monument, Lizard petroglyphs, N 40.42468 W 109.18713 1628 m 20-Oct-2011 C. R. Nelson # 10050 & family 71 googleearth photos: lizard petroglyphs, nine of them, Santa Claus (whimsical name by me), swirls, flute player, scenery, people, shadows - kids and Riley and Andrea. Riley Nelson, J. Kaye Nelson, Andrea J. Nelson, Callie McKay, Brigham McKay, Duncan McKay, Kajsa McKay, and Gavin McKay. photos: lizard petroglyphs, nine of them, Santa Claus (whimsical name by me), swirls, flute player, scenery, people, shadows - kids and Riley and Andrea. 10050

10051 USA: UTAH: Uintah Co. Dinosaur National Monument, Sheep/crane/ibis petroglyphs, N 40.41933 W 109.18833 1583 m 20-Oct-2011 C. R. Nelson # 10051 & family 71 googleearth photos: Gavin, pictographs sheep, ibis?, cranes?, geese?, swirls, vase with hydra, shamans. Riley Nelson, J. Kaye Nelson, Andrea J. Nelson, Callie McKay, Brigham McKay, Duncan McKay, Kajsa McKay, and Gavin McKay. photos: Gavin, pictographs sheep, ibis?, cranes?, geese?, swirls, vase with hydra, shamans. 10051

10052 USA: UTAH: Uintah Co. Dinosaur National Monument, Split Mountain boat ramp, Green River, N 40.44546 W 109.25251 1461 m 20-Oct-2011 C. R. Nelson # 10052 & family 71 googleearth photos: people and scenery. Riley Nelson, J. Kaye Nelson, Andrea J. Nelson, Callie McKay, Brigham McKay, Duncan McKay, Kajsa McKay, and Gavin McKay. 10052

10053 USA: UTAH: Uintah Co. Dinosaur National Monument, Swelter Shelter Petroglyphs, N 40.43668 W 109.29189 1477 m 20-Oct-2011 C. R. Nelson # 10053 & family 71 googleearth Riley Nelson, J. Kaye Nelson, Andrea J. Nelson, Callie McKay, Brigham McKay, Duncan McKay, Kajsa McKay, and Gavin McKay. photos: people, lichens, rock stains. photos later Asilidae Backomyia, first set photographed. 10053

10054 USA: UTAH: Uintah Co. Dinosaur National Monument, Visitors Center, N 40.43827 W 109.30757 1467 m 20-Oct-2011 C. R. Nelson # 10054 & family 71 googleearth Riley

Nelson, J. Kaye Nelson, Andrea J. Nelson, Callie McKay, Brigham McKay, Duncan McKay, Kajsa McKay, and Gavin McKay. photos: Stegosaurus model, building. 10054

10054.5 USA: UTAH: Uintah Co. Dinosaur National Monument, Visitors Center, N 40.43827 W 109.30757 1467 m 21-Oct-2011 C. R. Nelson # 10054.5 & family 71 googleearth Riley Nelson, J. Kaye Nelson, Andrea J. Nelson, Callie McKay, Brigham McKay, Duncan McKay, Kajsa McKay, and Gavin McKay. photos: morning, Stegosaurus sculpture, Camarasaurus? or Diplodocus? skull, donation booth., Purchased Allosaurus claw replica for BYU \$16.95, photo: Allosaurus poster from Madsen publication (cleaned up drawing at home on 23 Oct 2011, scenery, 10054.5

10055 USA: UTAH: Uintah Co. Vernal, Antlers Motel and pink dinosaur on east end of town, N 40.45547 W 109.53720 1634 m 21-Oct-2011 C. R. Nelson # 10055 & family 71 googleearth photos: pink dinosaur in swim suit, giant fishing fly, temple, church, radio tower, Vernal Mayor Gary Showalter at JB's Restaurant. photos: edge of town: Vernal, Utah's Dinosaurland, with Andrea. Riley Nelson, J. Kaye Nelson, Andrea J. Nelson, Callie McKay, Brigham McKay, Duncan McKay, Kajsa McKay, and Gavin McKay. 10055

10056 USA: UTAH: Uintah Co. Dinosaur National Monument, Wall of Bones Quarry, N 40.44056 W 109.30072 1521 m 21-Oct-2011 C. R. Nelson # 10056 & family 71 143wall Riley Nelson, J. Kaye Nelson, Andrea J. Nelson, Callie McKay, Brigham McKay, Duncan McKay, Kajsa McKay, and Gavin McKay. photos: Apatosaurus skull, Camarasaurus tooth, etc. Dr. Duane Jeffery and grandson near replica of Allosaurus jimmadseni, the wall of bones, list of dinosaurs at the monument 10 genera, little girl behind the fence. Ride back to Jensen, center pivot irrigation looks like dinosaur living in our age. 10056

10057 USA: UTAH: Uintah Co. Cowboy Canyon, Green River Shale quarry, 3.4 mi SE of Bonanza, N 40.00450 W 109.11732 1703 m 21-Oct-2011 C. R. Nelson # 10057 & family 71 143cowboy Riley Nelson, J. Kaye Nelson, Andrea J. Nelson, Callie McKay, Brigham McKay, Duncan McKay, Kajsa McKay, and Gavin McKay. fossil leaves and insects. Kaye found a particularly nice one centered in a big slab. photos: site and people, Andrea picking through stones. 10057

10058 USA: UTAH: Uintah Co. ridge 2.0 mi SE of Evacuation Creek Bridge, Hwy 45, 6 mi SE of Bonanza, Green River Shale quarry, N 39.94167 W 109.13489 1695 m 21-Oct-2011 C. R. Nelson # 10058 & family 71 143evac Riley Nelson, J. Kaye Nelson, Andrea J. Nelson, Callie McKay, Brigham McKay, Duncan McKay, Kajsa McKay, and Gavin McKay. fossil insects and plants. photos: living robber fly Asilidae Backomyia seminoensis, second set, after blue cap, site photos on Kaye's camera. 10058

10059 USA: UTAH: Salt Lake Co. Salt Lake City, Natural History Museum of Utah, N 40.76408 W 111.82283 1541 m 26-Oct-2011 C. R. Nelson # 10059 & family 71
googleearth photos: city lights, wall of diversity. Staff party with Andrea. 10059

10060 USA: UTAH: Utah Co., Provo, 1720 N Riverside Avenue, N 40.25682 W 111.66807 1404 m 29-Oct-2011 C. R. Nelson # 10060 71 photos: starlings on a wire 10060

10061 USA: UTAH: Utah Co., Provo, Deseret Industries, N 40.25308 W 111.67034 1400 m 29-Oct-2011 C. R. Nelson # 10061 71 photos: junk pot says "shop until you drop" even in the junk we see hints of rampant overconsumerism. 10061

10062 USA: UTAH: Salt Lake Co. Sandy, Living Planet Aquarium, 725 East 10600 South, N 40.55931 W 111.87099 1384 m, 29 October 2011, C. R. Nelson # 10062 & J. K. Nelson 68
With Kaye photos and video: flat fish *Pardachius pavorinus*, *Cynoglossus puncticeps*, mudskipper *Periophthalmus barbarus*, four eyed fish *Anableps*, gentoo penguins, spadefish, moray eel, green sea turtle, anemone, horseshoe crab *Limulus polyphemus*, hermit crabs two spp., anemone and anemone fish, anemone and corals, *Tridacna gigas* clam, anglerfish?, barberpole shrimp, american lobster *Homarus americanus*, giant pacific octopus, moon jelly, *Chrysaora* sea nettles, *Cassiopea* jellyfish, june sucker, leatherside chub, Bonneville cisco, Bonneville whitefish, razorback sucker *Xyrauchen texanus*, bonytail chub, utah chub, least chub, lake trout, bluehead sucker. 10062

10063 USA: UTAH: Utah Co., Provo, BYU, Marriott Center, overlooking Hinckley Building, N 40.25300 W 111.64981, elev. 1425 m, 01-Nov-2011 C. R. Nelson # 10063 & J. K. Nelson 71 photos: people waiting for the prophet in the rain, people in the Marriott Center. 10063

10064 USA: UTAH: Salt Lake Co. Salt Lake City, Natural History Museum of Utah, N 40.76408 W 111.82283 1541 m 03-Nov-2011 C. R. Nelson # 10064 & A. J. Nelson. 71
googleearth Examining cabinet systems. photos: cabinets, people, panoramas of town. Riley Nelson, Bean Museum: Ken Packer, Skip Skidmore, Shawn Clark. Spacesavers: Rob Lindquist, David Amidon. Delta cabinets: Bruce and Brett Danielson; Museum: Andrea Nelson. 10064

10065 USA: UTAH: Utah Co., Provo, Edgemont, N 40.29828 W 111.65456 1473 m 03-Nov-2011 C. R. Nelson # 10065 71 photos: Curculionidae *Sitophilus granarius* on rice. Later determined as zeamais because it was in bags of corn. C. R. Nelson not present when collected in Tamela Blake's mother's house. 10065

10066 USA: UTAH: Utah Co., Provo, BYU, south hillside, N 40.244026 W 111.653983 1392 m 14-Nov-2011 C. R. Nelson # 10066 71 photos: Diptera Asilide *Nicocles utahensis* male collected by Dana Blackburn from Entomology class. CRN not present when collected. Det: CRNelson 12 Dec 2011. 10066

10067 USA: UTAH: Utah Co., Provo, Edgemont, N 40.29828 W 111.65456 1473 m 14-Nov-2011 C. R. Nelson # 10067 71 same spot as 10065. photos: Curculionidae Sitophilus granarius or zeamais, in corn bags. zeamais because it was in bags of corn. C. R. Nelson not present when collected in Tamela Blake's mother's house. 10067

10068 USA: UTAH: Utah Co., Provo, BYU, MacDonald Building, N 40.24608 W 111.64850 1420 m 16-Nov-2011 C. R. Nelson # 10068 71 googleearth photos: scenery at sunset. 10068

10069 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 19-Nov-2011 C. R. Nelson # 10069 71 photos: first snow, house finch, black capped chickadee, snow on roof, Heiva the cat, Winston's World War II helmet and flag. 10069

10070 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 22-Nov-2011 C. R. Nelson # 10070 71 photos: hand on felt, Why do my fingers stop growing?; california quail, african violets. 10070

10071 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 24-Nov-2011 C. R. Nelson # 10071 71 Photos: Kaye Nelson, Riley Nelson, Andrea Nelson, David Szilvi Andras Muranyi family from Budapest, Hungary, Sherry Wheeler, Jan Gray, Keith and Brian Beavers from Rochester NY (Keith is in Bio 100 with me and Eric), Eric Davis from Independence, Missouri. photos: Zimbabwe the black cat, house finch, spotted towhee, magpie, scrub jay, black capped chickadee, people at Thanksgiving Dinner. 10071

10072 USA: UTAH: Utah Co., Provo, Edgemont, N 40.27700 W 111.65149 1454 m 23-Nov-2011 C. R. Nelson # 10072 71 roadkill scrub jay to give to Randy Larsen of Bean Museum. 10072

10072.5 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 24-Nov-2011 C. R. Nelson # 10072.5 & family 71 with Parker family black widow spider on our inside stairs on Thanksgiving Day. Visitors caught it for us. We'll keep it in a bottle as a pet. 10072.5

10073 USA: UTAH: Utah Co., Utah Lake, Provo River Marina, North Jetty, N 40.24046 W 111.74078 1369 m 24-Nov-2011 C. R. Nelson # 10073 & others, see field notes 71 photos: sunset scenery and people. With Andrea Nelson and David Muranyi. met my physician Dr. Wendy Payne and her husband, my student Bio 100 winter 2011 Harindranto Rasolo. 10073

10074 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 25-Nov-2011 C. R. Nelson # 10074 & J. K. & A. J. Nelson 71 photos: people on sidehill, spiral wood block (I made a bookend early in December) 10074

10075 USA: UTAH: Utah Co., Provo, Parker home, N 40.24068 W 111.68142, 1386 m, 25-Nov-2011 C. R. Nelson # 10075 & J. K. & A. J. Nelson 71 photos: Lincoln Parker 10075

10076 USA: UTAH: Weber Co. Uintah City near Ogden, Jerry & Sally Wright house, N 41.14511 W 111.91136, 1481 m, 26 November 2011 C. R. Nelson # 10076 & J. K. & A. J. Nelson 71 photos: twins: Jenna and Griffin. Jerry & Sally. Will, Henry, and Andrew. 10076

10077 USA: UTAH: Box Elder Co. Woods Creek, 3 mi South of Corinne N 41.51707 W 112.13976 1286 m 26-Nov-2011 C. R. Nelson # 10077 & J. K., A. J. Nelson 71 Cabin Gate Combinations: Ferrys 1891; Woods Creek 0325

Sometimes I say the cabin is 2 miles from Corinne other times 3 miles. Three miles from Hwy near the Golden Spike Cafe. photos: family, Tod & Kyle Young, swans, ducks, geese, and scenery 10077

10078 USA: UTAH: Box Elder Co. Singhs Slough, 1.75 mi Southwest of Corinne N 41.53848 W 112.13898 1288 m 26-Nov-2011 C. R. Nelson # 10078 & J. K., A. J. Nelson 71 Cabin Gate Combinations: Ferrys 1891; Woods Creek 0325
photos: young swan with Brigham City Temple and Tabernacle in the background. Distance from slough road to temple, 6.7 miles. 10078

10079 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 28-Nov-2011 C. R. Nelson # 10079 71 photo: mourning dove 10079

10080 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 29-Nov-2011 C. R. Nelson # 10080 71 photo: spotted towhee 10080

10081 USA: UTAH: Utah Co., Provo, BYU, Monte L. Bean Life Science Museum, N 40.253336 W 111.647426, 1439m 08-Dec-2011 C. R. Nelson # 10081 & J. K. Nelson 71 photos: people at Bean Museum Christmas Party. 10081

10082 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 10-Dec-2011 C. R. Nelson # 10082 & D. Muranyi 71 photos: people and scenery. Fossil fish, plants, and snail. from hillside east of spring road. 10082

10083 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95370 W 111.26500, 1807 m, 10-Dec-2011 C. R. Nelson # 10083 & D. Muranyi 71 photos: Soldier Creek with surface and anchor ice; people and scenery. Few insects, cold difficult collecting because of anchor ice. David began getting a migraine. Found some

antique barbed wire on the creek levee. I took it home and made a simple 18" "wreath".
Ephemerellidae *Drunella grandis*; Athericidae *Atherix*; Perlodidae *Isogenoides zionensis*.
10083

10084 USA: UTAH: Utah Co., Diamond Fork River, Diamond Fork Campground, N 40.07189
W 111.42849, 1534 m, 10-Dec-2011 C. R. Nelson # 10084 & D. Muranyi 71 144dia photos:
scenery and people. Loose dog followed us, a vizsla, a Hungarian breed. David was excited.
Pteronarcyidae *Pteronarcys californica*; Perlodidae *Isoperla*; Perlodidae *Skwala*
americana; Chironomidae *Diamesinae*; Ephemerellidae *Drunella grandis*; Athericidae
Atherix; Perlodidae *Isogenoides zionensis*. Took swallow nests from under bridge and ran
through Berlese funnel. Photos: Cimicidae *Oeciacus vicarius*, and Dermestidae larvae. I
gave the sample to David Muranyi and he extracted many mites to take to a friend in
Hungary. 10084

10085 USA: UTAH: Utah Co., Diamond Fork River, 0.5 miles North of Highway 6, N
40.03376 W 111.49507, 1474 m, 10-Dec-2011 C. R. Nelson # 10085 & D. Muranyi 71
144dialow photos: scenery and people. Too pictures of David with Swenson cowboys.
Pteronarcyidae *Pteronarcys californica*; Perlodidae *Isoperla*; Perlodidae *Skwala*
americana; Chironomidae *Diamesinae*; Ephemerellidae *Drunella grandis*; Athericidae
Atherix; Perlodidae *Isogenoides zionensis*; Perlidae *Claassenia sabulosa*; Hydropsychidae;
Elmidae; mixed small Plecoptera. 10085

10086 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 10-Dec-2011 C. R. Nelson # 10086 & J. K. Nelson 71 Living Christmas
Tree, Fraser fir, *Abies fraseri* in home, Bought today at Home Depot for \$30.00. Photos:
Party with Teaching assistants and Entomology students. Riley & Kaye Nelson with 24
guests: Kirsten Pierce, Ty Bennett, Caitlin Sutherland & friend, Anne Thompson with Cody
and Brock (6 months), Muriel Longstaff, Amanda Leggett, Emily Burns & Mel, Tabitha
Brown, Malia Groesbeck, Nicole LeDuc, Dana Blackburn & sister, David & Candace Clark,
matt Otis & wife, Jimmy Roberts & friend Ryan (from Bio 100 a few semesters back), Katie
Fager & friend Ryan. *Abies fraseri* Fraser fir. 10086

10063.5 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 02-Nov-2011 C. R. Nelson # 10063.5 71 photos: Geometridae 2 spp.
10063.5

10087 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 14-Dec-2011 C. R. Nelson # 10087 71 photo session: insects from
Cambodia: especially: CAMBODIA: Kampong Trach Province, near cattle pond, 11
November 2011, Amy Smith.

CR Nelson not present when collected. Curculionidae live and dead, with multicolored scales, mostly green; Scarabaeidae dead, color changes dramatically with angle. Chrysididae dead. 10087

10088 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 17-Dec-2011 C. R. Nelson # 10088 71 photos of people making peppernuts. Riley & Kaye Nelson; Daniel, Tamara, Jane, and Camille Parker; Ben, Kristi, Logan, and Lincoln Parker; Amy & Todd Smith; Heather & Greg Astill; Wayne Sandholtz and friend; Katie Giauque, Andrea Nelson, Jordan Christopher. photos: spotted towhee. 10088

10089 USA: UTAH: Salt Lake Co. Salt Lake City, LDS Conference Center, corner of 200 North and West Temple, N 40.773568 W 111.893770 1316 m 18-Dec-2011 C. R. Nelson # 10089 71 photos: Mormon Tabernacle Choir and organ for stage for Christmas Concert. Riley, Kaye Nelson; Amy & Todd Smith. 10089

10090 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building, N 40.246269 W 111.649291 1420 m 19-Dec-2011 C. R. Nelson # 10090 71 removed small part of stump of pfitzer, Juniperus chinensis, from near south door. I took it home and made longitudinal and crossectional table saw cuts of it to show the pretty grain pattern. 10090

10091 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Dec-2011 C. R. Nelson # 10091 71 photos: group family. Riley, Kaye, Andrea, Brandy, Jason Nelson; Jordan Christopher, Amy & Todd Smith, Sherry Wheeler. Ziggy the dog.

Gave a sugar pine cone to Wi Peterson, she is Married to Joseph, and from Cambodia. 10091

10092 USA: UTAH: Salt Lake Co. Natural History Museum of Utah N 40.764180 W 111.823198 1538 m 26-Dec-2011 C. R. Nelson # 10092 & family 71 photos: people and exhibits. Playing with grand nephews and nieces. Aileen and Winston Nelson family. Riley, Kaye, Brandy, Jason, Andrea, Lana, Rick, Chris, mandy, Rex, Guy, Ivy Nelson. Amy & Todd Smith. Sally, Jerry, William, Henry, Andrew, Genevieve, Griffin Wright. 10092

10093 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 27-Dec-2011 C. R. Nelson # 10093 71 photos: American Goldfinch male 10093

10094 USA: UTAH: Utah Co., Provo, Edgemont N 40.293491 W 111.654210 1471 m 28-Dec-2011 C. R. Nelson # 10094 71 photos: American Goldfinch male 10094

10095 USA: UTAH: Utah Co., Provo, Rock Canyon, N 40.264988 W 111.615918 1705 m
30-Dec-2011 C. R. Nelson # 10095 & J. S. Bennion. 71 hike in Rock Canyon go talk about
INHUT with John Bennion; kept a small calcite rock, z pattern in limestone. 10095

10096 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 07-Jan-2012 C. R. Nelson # 10096 71 photos: spotted towhee 10096

10097 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.26405 W
111.66376 1341 m 07-Jan-2012 C. R. Nelson # 10097 & students 71 108pr First 100s from
river and side spring run photos: people and river 10097

10098 USA: UTAH: Washington Co. Leeds Creek, 2 miles West of Leeds, Silver Reef Road,
N 37.26491 W 113.36895 1216 m 07-Jan-2012 C. R. Nelson # 10098 with David Muranyi
and Boris Kondratieff. 71 with David Muranyi and Boris Kondratieff.

Spent night of 7-8 January 2012 at Motel 6 in St. George.

One vial in lab. *Mesocapnia frisoni* m & f; photo, 1f

Zapada cinctipes m & f; photo, 1f

Capnia utahensis, 1m, photo

Pteronarcella nymph. 10098

10099 USA: CALIFORNIA: San Bernardino Co. San Gabriel Mountains, 3 miles S Cajon
Junction, Swarthout Canyon Road, N 34.27484 W 117.45277 822 m 08-Jan-2012 C. R.
Nelson # 10099 with David Muranyi, John Sandberg, and Boris Kondratieff. 71 145cajon
with David Muranyi, John Sandberg, and Boris Kondratieff.

Two vials home to lab, sorted 21 Jan 2012, need to update database (done 5 Feb 2012)

Photo: *Mesocapnia porrecta*? 1f,

Gerridae, Baetidae, Trichoptera. 10099

10100 USA: CALIFORNIA: San Bernardino Co. San Gabriel Mountains, Sheep Creek, Sheep
Canyon Truck Trail, 1.3 mi North of Lytle Creek, N 34.27917 W 117.49435 1013 m 08-Jan-
2012 C. R. Nelson # 10100 with David Muranyi, John Sandberg, and Boris Kondratieff. 71
149she with David Muranyi, John Sandberg, and Boris Kondratieff.

Mesocapnia nymph,

Dytiscidae, Bibionidae, specimens to Boris 10100

10101 USA: CALIFORNIA: San Bernardino Co. San Gabriel Mountains, Lytle Creek,
Applewhite Picnic Area, N 34.26011 W 117.49628 1029 m 08-Jan-2012 C. R. Nelson #
10101 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 149lytcal with David
Muranyi, John Sandberg, and Boris Kondratieff.

photos:

malenka biloba 2m 1f vouchers, 28m 19f

Taenionema , no, Perlomyia collaris but no CRN specimens, lost voucher hopefully other collectors have specimens,

Baetidae, Heptogeniidae, "Muscidae". Empididae. 10101

10102 USA: CALIFORNIA: San Bernardino Co. San Gabriel Mountains, Mount Baldy Road, San Antonio Creek, at San Antonio Falls, N 34.27313 W 117.63637 1942 m 08-Jan-2012

C. R. Nelson # 10102 with David Muranyi, John Sandberg, and Boris Kondratieff. 72

149antup with David Muranyi, John Sandberg, and Boris Kondratieff.

Two vials home to lab, sorted 24 Jan 2012. photos:

Capniidae: Capnia teresa 1 dark male voucher, 1 m not voucher;

Capnia palomar 1 m, no photo, darn!

Zapada none with crn.

Heptageniidae; 10102

10103 USA: CALIFORNIA: San Bernardino Co. San Gabriel Mountains, Mount Baldy Road, San Antonio Creek, 2 mi North of Mount Baldy Village, N 34.25425 W 117.64118 1618 m

08-Jan-2012 C. R. Nelson # 10103 with David Muranyi, John Sandberg, and Boris

Kondratieff. 72 149santdown with David Muranyi, John Sandberg, and Boris Kondratieff.

Spent night of 8-9 January 2012 at Motel 6 in San Bernardino, California.

I shot some 10099 vouchers in the San Bernardino motel after some 10103 (after field, then motel).

Site: 176; Mount Baldy Village 178.

Two vials home to lab, sorted 24 Jan 2012. photos:

Mesocapnia porrecta? 1f in one vial 1f in another., second shot, lost voucher in motel room, then found, white spot in wing;

Capnia teresa 1f first shot;

malenka californica 15m 6f

Zapada cinctipes 1m

Chrysomelidae, Tipulidae. 10103

10104 USA: CALIFORNIA: San Bernardino Co. San Bernardino Mountains, pull off, Hwy 18, scenic view point, 1.5 miles East of Crestline junction, N 34.22534 W 117.26951 1474 m

09-Jan-2012 C. R. Nelson # 10104 with David Muranyi, John Sandberg, and Boris

Kondratieff. 72 149pan with David Muranyi, John Sandberg, and Boris Kondratieff.

7:10 am. photos: scenery, Los Angeles view. No vials. 10104

10105 USA: CALIFORNIA: San Bernardino Co. San Bernardino Mountains, Seeley Creek, Hwy 138, Camp Seeley, Crestline, tributary of Mohave River, N 34.25470 W 117.30473 1334 m 09-Jan-2012 C. R. Nelson # 10105 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 149seeley with David Muranyi, John Sandberg, and Boris Kondratieff. After collecting into 70% ethanol I sorted the rest of the trip into 100%, finishing sorting on 5 February 2012.

Four vials home to lab, sorted 24 Jan 2012. photos:

Capnia coyote 3m 1f, non voucher 43m 11f, 10m 3f 1ny 1 skin direct to 100%

Dixidae escaped.

Mesocapnia lapwae. 1m 3f in 100%, another vial lapwae 2m; Mesocapnia porrecta 3 m 3 f moved to 100%, also vial of 15ny 15 skins some May be Capnia

Sweltsa 1 ny

Tipulidae Holorusia larva; Staphylinidae. Sciareidae, Baetidae subimago. 10105

10106 USA: CALIFORNIA: San Bernardino Co. San Bernardino Mountains, Sawmill Creek, crossing below Cedar Pines Park, N 34.26102 W 117.34245 1356 m 09-Jan-2012 C. R. Nelson # 10106 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 149sawpit with David Muranyi, John Sandberg, and Boris Kondratieff.

took a second gps reading: 149sawagin N34.26112 W117.34254 elev. 1365m.

Two vials home to lab, sorted 24 Jan 2012. Mesocapnia porrecta 14m 11 f, malenka probably biloba 3f,

Photo: Limnephilidae Psychoglypha. Tipulidae, Zapada not with crn, Calineuria nymphs not crn. Mycetophilidae 1f 10106

10107 USA: CALIFORNIA: San Bernardino Co. San Bernardino Mountains, East Fork of West Fork of Mohave River, Miller Canyon Road, off Hwy 138, N 34.27132 W 117.29157 1118 m 09-Jan-2012 C. R. Nelson # 10107 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 149efkmohave with David Muranyi, John Sandberg, and Boris Kondratieff. Pilot Rock Conservation Camp.

Two vials home to lab, sorted 24 Jan 2012. Photos:

Mesocapnia frisoni 1m, also 6m 7f.

Capnia coyote 1f, also 9m 7f.

Dolichopodidae, Ephydriidae, Ephemerellidae. 10107

10108 USA: CALIFORNIA: San Bernardino Co. San Bernardino Mountains, unnamed tributary of East Fork of West Fork of Mohave River, Hwy 138 N 34.26507 W 117.28699 1191 m 09-Jan-2012 C. R. Nelson # 10108 with David Muranyi, John Sandberg, and Boris

Kondratieff. 72 149 ef up with David Muranyi, John Sandberg, and Boris Kondratieff.
milemarker 31.72

No vials. Mesocapnia no crn. Looked for Boreidae on rock mosses, none found. 10108

10109 USA: CALIFORNIA: San Bernardino Co. San Bernardino Mountains, Snow Fork, Hwy 18, 3 miles West of Big Bear Lake, N 34.24503 W 117.02787 2185 m 09-Jan-2012 C. R. Nelson # 10109 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 John Sandberg & Google Earth with David Muranyi, John Sandberg, and Boris Kondratieff.
steep roadside waterfall/seep

Two vials home to lab, sorted 24 Jan 2012. Capnia 1 skin only crn, Zapada? larvae.
malenka?.

Photos: Thaumaleidae larva. Rhyacophila, Baetidae, Heptageniidae, Trichoptera adult, Hydropsychidae larva. 10109

10110 USA: CALIFORNIA: San Bernardino Co. San Bernardino Mountains, Metcalf Creek, Big Bear Lake Village, N 34.23704 W 116.93682 2064 m 09-Jan-2012 C. R. Nelson # 10110 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 150bigbear with David Muranyi, John Sandberg, and Boris Kondratieff.

photos: site, ferric oxide, surface film, yuck. In town near a community center of some sort, not worth revisiting. No vials.

No animlas seen, very nasty water. 10110

10111 USA: CALIFORNIA: San Bernardino Co. San Bernardino Mountains, Santa Ana River, Hwy 38, jct Wildhorse Creek, N 34.16837 W 116.81517 1954 m 09-Jan-2012 C. R. Nelson # 10111 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 150cienega with David Muranyi, John Sandberg, and Boris Kondratieff.

Fading light of evening. One vial home to lab, sorted 24 Jan 2012. Capnia teresa 3m 3f
Zapada cinctipes 1f

saw Diaspididae thick on willows. 10111

10112 USA: CALIFORNIA: San Bernardino Co. San Bernardino Mountains, Santa Ana River, Seven Oaks Road bridge, N 34.18610 W 116.91906 1591 m 09-Jan-2012 C. R. Nelson # 10112 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 150stana7 with David Muranyi, John Sandberg, and Boris Kondratieff.

Very last light of evening. This is a very nice 3 order stream, a highlight. Return here as often as you can. After trip back to Mount Baldy Village to get some of John Sandberg's stuff, we spent the night of 9-10 January 2012 at the same San Bernardino Motel 6 as last night. three vials home to lab, sorted 24 Jan 2012. photos:

Capnia teresa 4m vouchers, 66m 14f not vouchers: moved into 100% 3 vials: 22m 5f, 22m 5f, 22m, 4f., 29m 4f collected direct into 100%.

Zapada cinctipes 1m voucher.

10112

10113 USA: CALIFORNIA: Riverside Co. San Jacinto Mountains, Fuller Mill Creek, Hwy 243, Fuller Mill Creek Picnic Area, N 33.79893 W 116.74905 1561 m 10-Jan-2012 C. R. Nelson # 10113 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 150fuller with David Muranyi, John Sandberg, and Boris Kondratieff.

We hesitated collecting in streams of National Forest because of frog habitat disturbance signs. We drove to Idyllwild to get permission. No problems.

One vial home to lab. photos: frog signs keep out,

Capnia teresa 3m 6f, malenka biloba and other? no, californica 4m 2f, Zapada cinctipes 1m, Mycetophilidae, Sciaridae, Dixidae, Ichneumonidae, Limnephilidae Psychoglypha, Rhyacophilidae, Hemerobiidae. 10113

10114 USA: CALIFORNIA: Riverside Co. San Jacinto Mountains, Tahquitz Creek, Humber Park above Idyllwild, N 33.76439 W 116.68756 1963 m 10-Jan-2012 C. R. Nelson # 10114 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 150humber with David Muranyi, John Sandberg, and Boris Kondratieff.

marginal stream site at high elevation at base of Lily or Tahquitz Peak. Met a group of more than 30 Canadians. One vial home to lab. Zapada, Limonia 10114

10115 USA: CALIFORNIA: Riverside Co. San Jacinto Mountains, Coldwater Creek Canyon Trail, above Keenwild Ranger Station, off Hwy 243, N 33.70570 W 116.71574 1416 m 10-Jan-2012 C. R. Nelson # 10115 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 150keen with David Muranyi, John Sandberg, and Boris Kondratieff.

Walked a half mile or so from Forest Service fire/ranger station. marginal Marshy stream in wide chaparral canyon. Not a typical stonefly stream. One vial home to lab. Capniidae nymphs to rear;

Mesocapnia 1 teneral male with David Muranyi,

Acalypterates. Corydalidae Protochauiodes to Boris. Dytiscidae; Gerridae. 10115

10116 USA: CALIFORNIA: Riverside Co. San Jacinto Mountains, Hurkey Creek, Hwy 74, Hurkey Creek Campground, N 33.67990 W 116.68121 1380 m 10-Jan-2012 C. R. Nelson # 10116 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 150hurkey with David Muranyi, John Sandberg, and Boris Kondratieff.

Riverside County Park. Entrance fee \$12.00. This was a larger, but somewhat slow stream.

One vial home to lab. Capnia teresa 1m,

Mesocapnia?, yes, lapwae 4m 6f, one of the males looks like frisoni.

Taenionema 2 nymphs.

Capniidae nymphs.

Empididae, Simuliidae larvae adult, Gerridae, 10116

10117 USA: CALIFORNIA: Riverside Co. San Jacinto Mountains, panoramic view, Hwy 74, South Fork, N 33.69741 W 116.75957 1204 m 10-Jan-2012 C. R. Nelson # 10117 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 150sfpan with David Muranyi, John Sandberg, and Boris Kondratieff. No vials.

two panoramas of chaparral; Nelson self-portrait 10117

10118 USA: CALIFORNIA: Riverside Co. San Jacinto Mountains, Strawberry Creek, Hwy 74, 3 air miles West of Mountain Center, N 33.71085 W 116.76941 882 m 10-Jan-2012 C. R. Nelson # 10118 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 150strawlo with David Muranyi, John Sandberg, and Boris Kondratieff.

Site of large, hard granite boulders. Site visited with Connell Dunning (2 Mar 1999, CRN6892). Spent night of 10-11 January 2012 at Hemet Motel 6. One vial home to lab.

Capniidae 2 adults, Mesocapnia lapwae 1m 1f.

others caught males of Capnia teresa.

Taenionema 5 nymphs.

Cascades: Blephariceridae, Thaumaleidae no, Chironomidae, Simuliidae, Psychodidae Maruina, Rhyacophilidae, Empididae, Tipulidae Dicranota. 10118

10119 USA: CALIFORNIA: San Diego Co. Palomar Mountain, Fry Creek, Fry Creek Campground, Road S-6, N 33.34466 W 116.88013 1462 m 11-Jan-2012 C. R. Nelson # 10119 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 151fry with David Muranyi, John Sandberg, and Boris Kondratieff.

Didn't get a very firm fix with the gps. Later visited the Hale telescope Observatory. Five vials home to lab. Sorted 4 February 2012. photos:

Capnia valhalla 1m photo voucher 1,

Mesocapnia frisoni no lapwae 1f photo voucher 2 also photos emerging too, photo voucher to D. Muranyi.

Capnia paloMar 1m photo voucher 3, more with Boris. then 1m photo voucher 4!

malenka no CRN, Soyedina? no CRN Maybe with Boris, Tipulidae, Dixidae, Dolichopodidae, Mycetophilidae. 10119

10120 USA: CALIFORNIA: San Diego Co. Palomar Mountain, Iron Springs Creek, Road S-6, N 33.33277 W 116.87142 1467 m 11-Jan-2012 C. R. Nelson # 10120 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 150iron and 151iron with David Muranyi, John Sandberg, and Boris Kondratieff.

Two vials home to lab. Sorted 4 February 2012. photos:

malenka californica 1m, also 1m poor condition; Gryllidae.

Zapada,

Mesocapnia lapwae 3f, Tipulidae not CRN. 10120

10121 USA: CALIFORNIA: San Diego Co. Palomar Mountain, jct Road S-6 and S-7, N 33.31286 W 116.86636 1594 m 11-Jan-2012 C. R. Nelson # 10121 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 151S6S7 with David Muranyi, John Sandberg, and Boris Kondratieff.

photos: scenery, 2 panoramas, to remember the night of catching Capnia valhalla for the first time and descending through the clouds while seeing the island mountains to the west. No vials.

10121

10122 USA: CALIFORNIA: Orange Co. Laguna Beach, jct Hwy 133, N 33.54255 W 117.78838 51 m. sea level 11-Jan-2012 C. R. Nelson # 10122 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 151laguna with David Muranyi, John Sandberg, and Boris Kondratieff.

photos: scenery, people, tidepools, and birds. No vials, but pinned stuff. Coelopidae.

10122

10123 USA: CALIFORNIA: Orange Co. Santa Ana Mountains, Trabuco Creek, Trabuco Canyon at point of narrowing, N 33.67360 W 117.54151 419 m, 11-Jan-2012 C. R. Nelson # 10123 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 151trab with David Muranyi, John Sandberg, and Boris Kondratieff.

The road was well-graded, nicer than I've seen it in the past. We drove higher in the canyon than ever before. Now we can park on what is clearly signed as US Forest Service land.

Night in Motel 6 11-12 January 2012 in same motel in San Bernardino. One vial home to lab. Sorted 4 February 2012. Photo vouchers: Mesocapnia lapwae 3m 3f, Trichoptera.

Hemerobiidae not in vial?, malenka with Boris. 10123

10124 USA: CALIFORNIA: Los Angeles Co. San Gabriel Mountains, Placerita Canyon, East of I-5, City of Santa Clarita open area, sedge seep in grassland, N 34.38157 W 118.43496 578 m, 12-Jan-2012 C. R. Nelson # 10124 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 152placsee with David Muranyi, John Sandberg, and Boris Kondratieff.

Photos: scenery and pool (tiny). Location pointed out and suggested by Ranger Robert Reiss of Mountains Recreation and Conservation Authority. robert.reiss@mrca.ca.gov

Don't come back, except perhaps for Calileuctra. No vials. No Plecoptera. saw Dytiscidae larva, and Callibaetis larvae in temporary pools. 10124

10126 USA: CALIFORNIA: Los Angeles Co. San Gabriel Mountains, Arroyo Seco Creek, Switzer Campground, Hwy 2, N 34.26586 W 118.14425 1001 m, 12-Jan-2012 C. R. Nelson # 10126 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 152arsec with David Muranyi, John Sandberg, and Boris Kondratieff.

Very nice site. Plecoptera emerging and resting on the rocks. Four vials home to lab. Sorted 4 February 2012. photos:

Capnia gracilaria 2m, also non photo voucher 2m 1f.

Mesocapnia lapwae 1m 3f, also non pv 10m 15f.

malenka biloba 1m 1f, also non pv 4m 6f.

Baetis subimago 1m 1f.

Baetis female adult.

Trichoptera, Tipulidae *Holorusia* larva, Libellulidae larva, Gerridae. 10126

10125 USA: CALIFORNIA: Los Angeles Co. San Gabriel Mountains, Placerita Creek, East of I-5, Waterfall Trail, Placerita Canyon County Park, N 34.36963 W 118.44392 613 m, 12-Jan-2012 C. R. Nelson # 10125 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 152plafall with David Muranyi, John Sandberg, and Boris Kondratieff.

Photos: scenery. We came to this spot to find *Capnia spinulosa*. Not successful. Granted permission to collect in park by Superintendent Russell Kimura. He knew Frank Hovore who I met in Fort Davis Resort, Texas, years ago. 661-259-7721, rkimura@parks.lacounty.gov.

The gps got poor reception in the narrow canyon. One vial home to lab. Sorted 4 February 2012. *Mesocapnia* 4m 1f,

malenka biloba 1m 1f

Sciomyzidae no Heleomyzidae and others, Mycetophilidae, Syrphidae, Megaloptera *Neohermes* larva, Empididae 2 genera, Dolichopodidae, Scirtidae larva, Dixidae, Culicidae, Chalcidoidea, Sciaridae, Gerridae. 10125

10127 USA: CALIFORNIA: Los Angeles Co. San Gabriel Mountains, small stream, Hwy 2, 1.5 air miles East of Switzer Campground, N 34.26829 W 118.11785 1280 m, 12-Jan-2012 C. R. Nelson # 10127 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 152abvswit with David Muranyi, John Sandberg, and Boris Kondratieff.

photos: site, algae filled sidehill stream. No vials. *Baetis*, Beetles. 10127

10128 USA: CALIFORNIA: Los Angeles Co. San Gabriel Mountains, Sulphur Springs/Santa Clara Divide Road, 1 air mi West of Camp Valcrest, N 34.34522 W 117.99780 1821 m, 12-Jan-2012 C. R. Nelson # 10128 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 152val with David Muranyi, John Sandberg, and Boris Kondratieff.

No vials. photos: coulter pine & cones 10128

10129 USA: CALIFORNIA: Los Angeles Co. San Gabriel Mountains, Angeles Crest Trail, Newcomb Ranch near Chilao Visitors Center, red iron stream, N 34.32868 W 118.00230 1619 m, 12-Jan-2012 C. R. Nelson # 10129 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 152newc with David Muranyi, John Sandberg, and Boris Kondratieff. One vial home to lab. Sorted 4 February 2012. Dytiscidae, Limnephilidae, Mesocapnia 1 f & nymphs not with CRN. 10129

10130 USA: CALIFORNIA: Los Angeles Co. San Gabriel Mountains, Angeles Crest Trail, seep, 0.7 air miles East of Charlton Flat, N 34.29312 W 117.99589 1605 m, 12-Jan-2012 C. R. Nelson # 10130 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 152strat with David Muranyi, John Sandberg, and Boris Kondratieff. Spent night of 12-13 January 2012 in Motel 6 in Arcadia, California near the Santa Anita Racetrack. One vial home to lab. Sorted 4 February 2012. Stratiomyidae larva, Gerridae, Coulter pine cones, 10130

10131 USA: CALIFORNIA: Los Angeles Co. San Gabriel Mountains, Soldier Creek, Soldier Creek Trail, below Crystal Lake Campground, N 34.32034 W 117.83323 1637 m, 13-Jan-2012 C. R. Nelson # 10131 with D. Muranyi & Kondratieff. 72 153sold with D. Muranyi & Kondratieff. at Crystal Lake Cafe area. One vial home to lab. Sorted 4 February 2012. Mesocapnia lapwae 1f, Zapada not seen by CRN, malenka to others not seen by CRN, Calineuria nymphs. Mycetophilidae, Tipulidae, Trichoptera not with CRN, Miridae, Chironomidae 1m, Dixidae. 10131

10132 USA: CALIFORNIA: Los Angeles Co. San Gabriel Mountains, Soldier Creek, below Crystal Lake Recreation Area, Crystal Lake Road, 7 road miles North of Coldbrook Campground, N 34.31779 W 117.83659 1614 m, 13-Jan-2012 C. R. Nelson # 10132 with D. Muranyi & Kondratieff. 72 153soldlo with D. Muranyi & Kondratieff. mileage: Coldbrook 44.7, site 38.8 Dry Timema colony, 1 wet preserved 15 Jan 2012, others later. One vial home to lab. Sorted 4 February 2012. Mesocapnia porrecta 2m 1f, malenka californica 2m 3f, Zapada cinctipes 2m 3f, Soyedina nevadensis? 2m 2f, Mycetophilidae, photos: Timema walking sticks on holly-like host plant (Quercus berberidifolia, California scrub oak) shot in motel room in St. George. Chironomidae,

Tipulidae, Hymenoptera: Ichneumonidae, Formicidae, plus other. Phoridae, Dixidae, Empididae. 10132

10133 USA: CALIFORNIA: Los Angeles Co. San Gabriel Mountains, viewpoint to SW from below Soldier Creek crossing, Hwy 39, N 34.30177 W 117.84235 1349 m, 13-Jan-2012 C. R. Nelson # 10133 with D. Muranyi & Kondratieff. 72 153vu with D. Muranyi & Kondratieff. photo: scenery. No vials. 10133

10134 USA: CALIFORNIA: Los Angeles Co. San Gabriel Mountains, Soldier Creek at Falling Springs, 2.3 road miles North of Coldbrook Campground, Hwy 39 N 34.30136 W 117.83829 1177 m, 13-Jan-2012 C. R. Nelson # 10134 with D. Muranyi & Kondratieff. 72 153cap3 with D. Muranyi & Kondratieff.

Mileage Site 42.4, Coldbrook 44.7

One vial home to lab. Sorted 4 February 2012. Capnia mentioned rare with others none with CRN

Mesocapnia 5m 8f fix id probably porrecta,

Zapada cinctipes 7m 3f,

malenka californica 3m 5f,

malenka biloba 1m 1f.

Mycetophilidae, Trichoptera, Chrysomelidae, Hemiptera, Dixidae. 10134

10135 USA: CALIFORNIA: Los Angeles Co. San Gabriel Mountains, Soldier Creek, Coldbrook Campground, Hwy 39 N 34.29393 W 117.83950 1024 m, 13-Jan-2012 C. R. Nelson # 10135 with D. Muranyi & Kondratieff. 72 153cold with D. Muranyi & Kondratieff. right hand fork

One vial home to lab. Sorted 4 February 2012. Mesocapnia porrecta 6m 4f,

malenka californica 1m 1f,

malenka biloba? odd 1m.

Zapada cinctipes 1f,

Capnia teresa 1f.

Dixidae, Mycetophilidae none CRN all dixids. 10135

10136 USA: CALIFORNIA: Los Angeles Co. San Gabriel Mountains, Coldbrook Creek, Coldbrook Campground, Hwy 39 N 34.29393 W 117.83950 1024 m, 13-Jan-2012 C. R. Nelson # 10136 with D. Muranyi & Kondratieff. 72 153cold with D. Muranyi & Kondratieff. left hand fork. same gps as 10135

One vial home to lab. Sorted 4 February 2012. Mesocapnia porrecta 3m 2f,

malenka biloba 1m,

Dixidae, Mycetophilidae none all dixids, Chironomidae, Platypezidae, Ichneumonidae, Tipulidae.

California Bay laurel *Umbellularia californica*. When Coldbrook Creek and Soldier Creek join it is called North Fork San Gabriel River. 10136

10137 USA: CALIFORNIA: Los Angeles Co. San Gabriel Mountains, San Gabriel Reservoir, Hwy 39 N 34.21489 W 117.86426 495 m, 13-Jan-2012 C. R. Nelson # 10137 with D. Muranyi & Kondratieff. 72 googleearth with D. Muranyi & Kondratieff. Boris cell phone: 970 631 4736, 3480 miles total for Boris on the truck. Fort Collins to Fort Collins. No vials. stalk of *Yucca whipplei* 10137

10119.5 USA: CALIFORNIA: San Diego Co. Palomar Mountain, Hale Telescope Observatory, N 33.34466 W 116.88013 1462 m 11-Jan-2012 C. R. Nelson # 10119.5 with David Muranyi, John Sandberg, and Boris Kondratieff. 72 151fry with David Muranyi, John Sandberg, and Boris Kondratieff. No vials.
photos: telescope and trees; found cones of Giant sequoia, *Sequoiadendron giganteum* 10119.5

10138 USA: UTAH: Cache Co., Logan Canyon, Springhollow, N 41.753081 W 111.715274 elev. 1539 26 January 2012 (photos) D. Muranyi, not C. R. Nelson 10138 David Muranyi 72 googleearth best guess Caught by D. Muranyi, C. R. Nelson not present, but took photos and video later. Video & Photos: *Capnia nana* m & f, in lab 10138

10139 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 27-Jan-2012 C. R. Nelson # 10139 72 photos: Hairy woodpecker. 10139

10140 USA: UTAH: Utah Co., Hobbie Creek, above Jolleys Ranch, N 40.167759 W 111.488324 1567 m 28-Jan-2012 C. R. Nelson # 10140 & Ben Parker. 72 googleearth
Session 1: *Utacapnia logana* 1m, night then orchid CRN 10141.
Session 2: *Capnia utahensis* 3m, then black shot divider.
Session 3: *Capnia utahensis* 1f. black shot divider?
Session 4. *Utacapnia logana* 1m, EXCELLENT! photos:
Capnia utahensis m & f
Utacapnia logana male

long tailed weasel road kill, given to Duke Rogers 4 February 2012. 10140

10141 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 29-Jan-2012 C. R. Nelson # 10141 72 also three blossoms on 12 February 202. This is the day I shot photos of the two cats.
The first blossoms had been out for about a week before I got around to shooting them.

photos: orchid blossoms, 2 with one bud.

Stella and Heiva cats 10141

10142 USA: UTAH: Salt Lake Co. Natural History Museum of Utah N 40.764180 W 111.823198 1538 m 11-Feb-2012 C. R. Nelson # 10142 & class 72 order of people in group photo: Bobby Morris, Logan Hill, Ross Christensen, Chris Tellington, Eric Martino, Alec Raymond, Christian Jones, Riley Nelson, Yang Zhao, Jacob Newmann, Larissa Gruwell, Jenna Cassinet, Jackson Hughes, Hannah Marchant, Michael Malmberg, Rebecca Barrus, Stephen Wirthlin, Kieran Smith, Jordan Baker. photographer Kirsten Pierce. photos: group 20 people, photo by Kirsten Pierce. Pangolin, Kieren Smith and Jenna Cassinet at globe, How do we read a site?, Jacob Newmann and ground sloth, class playing video game of resource management. 10142

10143 USA: UTAH: Salt Lake Co. Salt Lake City, Park Lane Apartments, 100 South and 700 East, N 40.766800 W 111.871579 1336 m 11-Feb-2012 C. R. Nelson # 10143 & family 72 copied photos of Dorothy age 20, her parents wedding picture and their picture later in life: Alexander Hamilton and Jane Truscuott Poulson. Sherry Wheeler and Dorothy Larsen. photos: 100th birthday party for Dorothy Larsen. Cop 10143

10144 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.26405 W 111.66376 1341 m 17-Feb-2012 C. R. Nelson # 10144 72 108pr kick sample for use in presentation: "Save the stonefly, save the world." at Natural History Museum of Utah, "Scientist in the Spotlight" series. 2:00 - 4:00 pm, 17 February 2012. Others gathered samples from Hobble Creek above Springville and Red Butte Creek near Red Butte Gardens. Plecoptera Perlodidae *Skwala americana* 10144

10145 USA: UTAH: Salt Lake Co. Natural History Museum of Utah N 40.764180 W 111.823198 1538 m 17-Feb-2012 C. R. Nelson # 10145 & others, see field notes 72 photos: people at "Scientist in the Spotlight" series. 2:00 - 4:00 pm, 17 February 2012. Others gathered samples from Hobble Creek above Springville and Red Butte Creek near Red Butte Gardens. 10145

10146 USA: UTAH: Salt Lake Co. Sandy, Living Planet Aquarium, 725 East 10600 South, N 40.55931 W 111.87099 1384 m, 18-Feb-2012 C. R. Nelson # 10146 & J. K. Nelson 72 With Kaye photos: otters *Lontra canadensis*; mudskippers *Periophthalmus barbarus*, archerfish *Toxotes jaculatrix*, glass catfish *Kryptopterus minor*, anemones, gorgeous or spotted prawn-goby *Amblyeleotris guttata* or *wheeleri*, peacock sole *Pardachius pavoninus*, axolotl *Ambystomma mexicanum*, four eyed fish *Anableps anableps*, red bellied piranha *Pygocentrus nattereri*, tambaqui *Colossoma macropomum*, pirarucu *Arapaima gigas*, red tailed catfish *Phractocephalus hemiliopterus*, electric eel *Electrophorus electricus*,

yellow banded poison dart frog *Dendrobates leucomelas*, leopard seal skull, murex with anemone, tube anemone, mantis shrimp Stomatopoda, pencil urchin, slipper lobster, knobbed sea star, anemone fish and anemone with fish babies. vana sea urchin, sea horse, moon jelly *Aurelia aurita*, sea nettles *Chrysaora* sp., coral cat shark *Atelomycterus marmoratus*, black bullhead *Ameiurus melas*, kokanee salmon *Onchorhynchus nerka*, rainbow trout *Onchorhynchus mykiss*, brown trout *Salmo trutta*, lake trout *Salvelinus namaycush*, bluehead sucker *Catostomus discobolus*, Colorado River Cutthroat trout *Onchorhynchus clarki pleuriticus*, Bonneville cutthroat trout *Onchorhynchus clarki* utah, Yellowstone cutthroat trout *Onchorhynchus clarki bouvieri*, Razor back sucker *Xyrauchen texanus*, Bonneville cisco *Prosopium gemmifer*, Bonneville whitefish *Prosopium spilonotus*, June sucker *Chasmistes liorus*, Leatherside chub *Snyderichthys copei*, Porcupine fish *Diodon* sp. *hystrix*? or *litoralis*? or ?, moray eel *Gymnothorax* sp., frogfish *Antennarius* sp., orange fish resting on reef, "surgeonfish with orange spots, long snout reef bass (my name only), clownfish *Amphiprion* sp., yellow tailed big "Chromis" (my name only), *Monodactylus sebae*?, yellow surgeonfish with orange blotch juvenile *Acanthurus olivaceus*, brittlestar Ophiuroidea, hermit crab in whelklike shell, reef lobster *Enoplometopus* sp., lionfish *Pterois volitans*, giant clam *Tridacna gigas*, copperband butterflyfish *Chelmon rostratus*, gentoo penguin, surubim catfish *Sorubim* or *Pseudoplatystoma* sp., black ghost knifefish *Apteronotus albifrons*, another pimelodid, spotted scat *Scatophagus argus*, bird spider *Theraphosa blondi*, pipefish 3 spp., young anemonefish?, burrowing eel. 10146

10147 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 19-Feb-2012 C. R. Nelson # 10147 72 photos: juncos, housefinch, Guida, robin 10147

10148 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 20-Feb-2012 C. R. Nelson # 10148 & family 72 family and friends for Presidents Day holiday. Riley Nelson, Kaye Nelson, Andrea Nelson Amy Smith, Clark, Christian, girl, Ben Parker, Logan Parker, Lincoln Parker, Caitie Giauque, Beth, Adam, Charles. photos: views from "Glass Cliffs" 10148

10149 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building, N 40.246269 W 111.649291 1420 m 22-Feb-2012 C. R. Nelson # 10149 72 photos: giant mealworm larvae 10149

10150 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 23-Feb-2012 C. R. Nelson # 10150 72 photos: morning, lesser goldfinch, American magpie, house finch; photos scratches on Riley's belly looks like a mast on a ship. 10150

10151 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building, N 40.246269 W 111.649291
1420 m 23-Feb-2012 C. R. Nelson # 10151 72 photos: giant mealworm molting Zophobas
morio 10151

10152 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.26405 W
111.66376 1341 m 25-Feb-2012 C. R. Nelson # 10152 72 108pr aquatic sample moved
to Living Stream in lab, Skwala, Baetis, Brachycentrus 10152

10152.5 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 26-Feb-2012 C. R. Nelson # 10152.5 72 photos: house finch, junco,
and scrub jay. Also 29 Feb 2012, photos: house finch. 10152.5

10153 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.6 mi S of Vivian Park &
Hwy 189, N 40.34770 W 111.54757 1640 m 03-Mar-2012 C. R. Nelson# 10153 & students
72 479SFK Riley Nelson, Jerry Whiting, David Robinson, and Nick Davis. photos: people,
stoneflies on ice. Adults: Zapada cinctipes, Capnia nana, Capnia gracilaria, Diamesinae.
Wet: Sweltsa, Megarcys, Hesperoperla, Rhithrogena, Epeorus, Baetis, Doddsia?,
Amphizoa. Photos: Baetidae adults reared from subimagoes in lab 8-9 March 2012. 10153

10154 USA: UTAH: Utah Co., Orem, State Street near University Boulevard, Dickey's
Barbecue, N x W x x m 03-Mar-2012 C. R. Nelson# 10154 & family 72 photos: Kaye, Riley,
Andrea, and Amy. 10154

10155 USA: UTAH: Utah Co., Provo, BYU, 4188 JFSB N x W x x m 08-Mar-2012 C. R.
Nelson# 10155 & family 72 photos: Riley Nelson birthday cake and wife and Amy. In INHUT
class. 10155

10156 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building, N 40.246269 W 111.649291
1420 m 09-Mar-2012 C. R. Nelson # 10156 72 photos: from 2000, magazine. Brazil: the
Amazon is ours. 10156

10152.5 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 26-Feb-2012 C. R. Nelson # 10152.5 72 photos: house finch, junco,
and scrub jay. Also 29 Feb 2012, photos: house finch. 10152.5

10157 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 10-Mar-2012 C. R. Nelson # 10157 72 tick on me in backyard, second
collected 11 March 2012. Dermacentor albipictus males det CR Nelson, 20 March 2012.
photos: ticks on grass, on Riley's face, Riley's hand, Kaye's hand. photos: Christmas
cactus, Texas map turtle, Plecostomus, Angelfish. 10157

10158 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 10-Mar-2012 C. R. Nelson # 10158 72 took home 20 buckets of Green River Shale "sand" for garden. 10158

10159 USA: UTAH: Utah Co., Diamond Fork River, 2.0 miles North of Highway 6, N 40.045625 W 111.467883, 1589 m, 10-Mar-2012 C. R. Nelson # 10159 72 google earth Moved into Living Stream in lab Pteronarcys nymphs abundant, Claassenia sabulosa nymphs, Isoperla fulva nymphs, saw no capniidae. 10159

10160 USA: UTAH: Utah Co., Diamond Fork River, 0.5 miles North of Highway 6, N 40.03376 W 111.49507, 1474 m, 10-Mar-2012 C. R. Nelson # 10160 72 144dialow looked hard under rocks for Isocapnia, none found. Capnia (1 with twisted wings) gracilaria, 1 m. Pteronarcys nymphs, Isogenoides nymphs, Claassenia nymphs. Moved into Living Stream in lab. 10160

10161 USA: UTAH: Utah Co., South Fork Creek, summer home, 2.2 miles South of Highway 189, cabin of Kif Augustine Adams and Stirling Adams, N x W x x m 10-Mar-2012 C. R. Nelson # 10161 72 Steve Peck book reading party for "The Scholar of Moab." About 60 people. Photos: Steve Peck and wife; Amy Handley, Chip & wife Oscarson. 6037 North Shadyside. 10161

10162 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building, aquarium, N 40.246269 W 111.649291 1420 m 12-Mar-2012 C. R. Nelson # 10162 72 photos: invertebrates from Coos Bay, Oregon: anemone, starfish with two regenerating legs, gumshoe chiton, chiton #2, starfish long arms, greenish anemone, hermit crab, featherduster worms, long legged crab, dungeness? crab, limpet lifted. 10162

10163 USA: UTAH: Utah Co., Provo, BYU, south hillside, N 40.24518 W 111.65144 1403 m 15-Mar-2012 C. R. Nelson # 10163 & class 72 Three 8 x 8 m nested quadrat plots in Range Plant garden. photos: garter snake, Thamnophis elegans vagrans wandering garter snake. Hannah Bonner borrowed my green tape measure. Riley Nelson, John Bennion, Chris Bennion, Olivia Haworth, Seth Cannon, Tanner Thompson, Hannah Bonner, Rebecca Clement, Eric Lenhart, Rachel Fuller, Sam Smith, Ali Campbell, Kyla MacDonald, Emma Lucy Pimentel, McKall Morris, Ashley Brooke Summerhays, Katie Christensen, Lauren Nuckols. 10163

10164 USA: UTAH: Millard Co. Scipio, I-15 N 39.25526 W 112.11713 1611 m 16-Mar-2012 C. R. Nelson # 10164 & family 72 153scipio trip to Arizona with family: Riley, Kaye, Andrea, and Amy. photos: emus, zebra, peacock, ostrich, gas station petting zoo, Amy's iphone lizard video? 10164

10165 USA: UTAH: Kane Co., Orderville, Orderville Mine Rock Shop, N 37.27148 W 112.64957 1616 m 16-Mar-2012 C. R. Nelson # 10165 & family 72 trip to Arizona with family: Riley, Kaye, Andrea, and Amy. photos: steel dinosaur sculpture. Andrea and Amy bought native copper & peacock copper. 10165

10166 USA: UTAH: Kane Co., Mount Carmel Junction, northwest corner, low outcrop talus, N 37.22453 W 112.68140 1590 m 16-Mar-2012 C. R. Nelson # 10166 & family 72 trip to Arizona with family: Riley, Kaye, Andrea, and Amy. crinoid stems. photos: murals on Subway sandwich shop with Amy. 10166

10167 USA: ARIZONA: Coconino Co. Glen Canyon Dam, Hwy 89, N 36.93575 W 111.48242 1169 m 16-Mar-2012 C. R. Nelson # 10167 & family 72 154powell trip to Arizona with family: Riley, Kaye, Andrea, and Amy. photos: Glen Canyon Dam and Colorado River. 10167

10168 USA: ARIZONA: Coconino Co. Navajo Reservation, Hwy 89, 7 miles N of Bitter Springs, N 36.72152 W 111.58940 1777 m 16-Mar-2012 C. R. Nelson # 10168 & family 72 154NAV trip to Arizona with family: Riley, Kaye, Andrea, and Amy. photos: Glen Canyon Dam and Colorado River. photos: Navajo Mountain and Navajo Point. 14 miles south of Page, 122 North of Flagstaff. 10168

10169 USA: ARIZONA: Maricopa Co. Phoenix, Desert Botanical Garden, N 33.46199 W 111.94622 428 m 17-Mar-2012 C. R. Nelson # 10169 & family 72 154botany trip to Arizona with family: Riley, Kaye, Andrea, and Amy; joined by Brandy and Jason Nelson. photos: gardens and birds 10169

10170 USA: ARIZONA: Maricopa Co. Verde River, Hwy 87, 2.5 miles Northeast of Fountain Hills, N 33.581132 W 111.670447 417 m 17-Mar-2012 C. R. Nelson # 10170 & family 72 google earth trip to Arizona with family: Riley, Kaye, Andrea, and Amy; joined by Brandy and Jason Nelson. bald eagle 10170

10171 USA: ARIZONA: Gila Co. East Verde River, Hwy 87, 4.5 miles NW of Payson, N 34.30032 W 111.35898 1403 m 17-Mar-2012 C. R. Nelson # 10171 & family 72 154EVD collect with Jason and relatives: Riley Nelson Jason Nelson, Jim Gale, Seth Begay, Bradley Rupert, Sean Timm. photos: 1, mating pair *Mesocapnia werneri* 1m 1f; 2, *Mesocapnia arizonensis* 1 m saw drumming; 3, female *Mesocapnia werneri* 1f; 4, mating pair *Mesocapnia werneri*? 1m 1f aberration short epiproct; 5, long winged, drum, *Mesocapnia werneri* male. All dets CR Nelson 21 March 2012. Baetidae, Staphylinidae, Tipulidae, Empididae. 10171

10172 USA: ARIZONA: Gila Co. Strawberry Creek, Strawberry, Hwy 87, N 34.407460 W 111.493004 1795 m 17-Mar-2012 C. R. Nelson # 10172 & family 72 google earth collect

with Jason and relatives: Riley Nelson, Jason Nelson, Jim Gale, Seth Begay, Bradley Rupert, Sean Timm. photos: *Capnia californica* 1 f with eggs, #6 curled abdomen. 10172

10173 USA: ARIZONA: Maricopa Co. Phoenix, 4502 East Paradise Village Parkway South #3002, N 33.59636 W 111.98303 420 m 18-Mar-2012 C. R. Nelson # 10173 & family 72 154apt trip to Arizona with family: Riley, Kaye, Andrea, and Amy; joined by Brandy and Jason Nelson. Photos: Nelson group, all of us! 10173

10174 USA: ARIZONA: Yavapai Co. 13 mi NW of Wickenburg, Hwy 93, N 34.16242 W 113.00655 870 m 19-Mar-2012 C. R. Nelson # 10174 & family 72 154cactus trip to Arizona with family: Riley, Kaye, Andrea, and Amy. *Opuntia* cactus pads round, cholla joints green, sparse spines. 10174

10175 USA: NEVADA: Clark Co. Muddy River, Hidden Valley between powerplant and I-15, N 36.35285 W 114.61910 elev. 475 m, 19-Mar-2012 C. R. Nelson# 10175 & family 72 154hid trip to Arizona with family: Riley, Kaye, Andrea, and Amy. aquatic insect sample for Nick Davis: *Isonychia intermedia*, photos: *Leptohyphes apache* (on 20 March 2012) with following, *Hetaerina americana*, *Naucoridae Ambrysus mormon*, *Stenelmis occidentalis?*, *Microcylloepus moapus*, clam *Corbicula fluminea*, *Petrophila jaliscalis*, *Nectopsyche stigmatica*, *Libellulidae Brechmorhoga mendax*, mite! large. *Tricorythodes minutus* (on 30 March 2012), 10175

10176 USA: UTAH: Iron Co. I-15 near Paragonah, N x W x elev. x m, 19-Mar-2012 C. R. Nelson# 10176 & family 72 trip to Arizona with family: Riley, Kaye, Andrea, and Amy. photos: storm cloud white out. 10176

10177 USA: UTAH: Millard Co. Pahvant Valley near Holden, N x W x elev. x m, 19-Mar-2012 C. R. Nelson# 10177 & family 72 trip to Arizona with family: Riley, Kaye, Andrea, and Amy. photos: storm over the mountains. 10177

10178 USA: UTAH: Millard Co. Scipio, I-15 N 39.25526 W 112.11713 1611 m 20-Mar-2012 C. R. Nelson # 10178 & family 72 153scipio trip to Arizona with family: Riley, Kaye, Andrea, and Amy. photos: in snow: emus, zebra, ostrich, gas station petting zoo, covered in snow 10178

10179 USA: UTAH: Summit Co. Wasatch National Forest, Lily Lake Trailhead, 25 miles SE of Evanston, Hwy 150, N 40.91344 W 110.82648 2559 m 22-Mar-2012 C. R. Nelson # 10179 & INHUT 73 155EFPARK photos: ready for skiing. Riley Nelson, John Bennion, Chris Bennion, Liz Knight, Brian Hill, Karen Hill, Brian Cannon, Seth Cannon, Ali Campbell, Stacie Faulk, Becca Clement, Kyla McDonald, McKall Morris, Eric Lenhart, Katie Christenson, Rachel Fuller, Hannah Bonner, Lauren Nuckols, Samantha Smith, Tanner Thompson. 10179

10180 USA: UTAH: Summit Co. Wasatch National Forest, Sage Draw Trail between Lily Lake Trailhead, 25 miles SE of Evanston, Hwy 150, and East Fork Yurt, N 40.90738 W 110.82321 2558 m 22-23 March 2012 C. R. Nelson # 10180 & INHUT 73 155EFBROUT photos: trail & people. Riley Nelson, John Bennion, Chris Bennion, Liz Knight, Brian Hill, Karen Hill, Brian Cannon, Seth Cannon, Ali Campbell, Stacie Faulk, Becca Clement, Kyla McDonald, McKall Morris, Eric Lenhart, Katie Christenson, Rachel Fuller, Hannah Bonner, Lauren Nuckols, Samantha Smith, Tanner Thompson. Use East Fork Bridge as "midpoint". Utacapnia lemoniana 2 females; snow crawling beetle larva Agyrtidae. 10180

10181 USA: UTAH: Summit Co. Wasatch National Forest, East Fork Bear River, East Fork Yurt, Sage Draw near Lily Lake, N 40.89840 W 110.81044 2611 m 22-Mar-2012 C. R. Nelson # 10181 & INHUT 73 155EFYURT First 100s with students, about 9 samples. Riley Nelson, John Bennion, Chris Bennion, Liz Knight, Brian Hill, Karen Hill, Brian Cannon, Seth Cannon, Ali Campbell, Stacie Faulk, Becca Clement, Kyla McDonald, McKall Morris, Eric Lenhart, Katie Christenson, Rachel Fuller, Hannah Bonner, Lauren Nuckols, Samantha Smith, Tanner Thompson. 10181

10182 USA: UTAH: Summit Co. Wasatch National Forest, Bear Claw Yurt, Sage Draw near Lily Lake, N 40.89163 W 110.81640 2675 m 23-Mar-2012 C. R. Nelson # 10182 & INHUT 73 155BEARCLA Riley Nelson, John Bennion, Chris Bennion, Liz Knight, Brian Hill, Karen Hill, Brian Cannon, Seth Cannon, Ali Campbell, Stacie Faulk, Becca Clement, Kyla McDonald, McKall Morris, Eric Lenhart, Katie Christenson, Rachel Fuller, Hannah Bonner, Lauren Nuckols, Samantha Smith, Tanner Thompson. photos 10182

10183 USA: UTAH: Summit Co. Wasatch National Forest, East Fork Bear River, bridge, Lily Lake Trail, 0.5 mi from Lily Lake Trailhead, N 40.90738 W 110.82321 2558 m 23-Mar-2012 C. R. Nelson # 10183 & INHUT 73 155EFBROUT Riley Nelson, John Bennion, Chris Bennion, Liz Knight, Brian Hill, Karen Hill, Brian Cannon, Seth Cannon, Ali Campbell, Stacie Faulk, Becca Clement, Kyla McDonald, McKall Morris, Eric Lenhart, Katie Christenson, Rachel Fuller, Hannah Bonner, Lauren Nuckols, Samantha Smith, Tanner Thompson. Staphylinidae, Tipulidae Hexatoma, Ephemerella, Drunella doddsi, Rhithrogena, Baetidae, Artctopsyche, Rhyacophila, Chloroperlidae Sweltsa?, Hesperoperla pacifica, Megarcys, Taenionema, Leuctridae, Clinocerinae. 10183

10183.3 USA: UTAH: Box Elder Co. Brigham City, 211 North 300 West, Nelson ancestral home, N x W x x m 25-Mar-2012 C. R. Nelson # 10183.3 & J. K. Nelson 73 photos: attic, Nelson home. 10183.3

10183.7 USA: UTAH: Box Elder Co. Brigham City, Tabernacle and Temple, N x W x x m 25-Mar-2012 C. R. Nelson # 10183.7 & J. K. Nelson 73 photos: Tabernacle and Temple. 10183.7

10184 USA: UTAH: Utah Co., Utah Lake, Provo River mouth, N 40.23648 W 111.73701 1359 m 29-Mar-2012 C. R. Nelson # 10184 & INHUT 73 155UTAH LAK Sea kayaking. One boat tipped, McKall. I learned more. Riley Nelson, John Bennion, Chris Bennion, Liz Knight, Olivia Haworth, Seth Cannon, Ali Campbell, Stacie Faulk, Becca Clement, Kyla McDonald, McKall Morris, Eric Lenhart, Katie Christenson, Rachel Fuller, Hannah Bonner, Lauren Nuckols, Samantha Smith, Tanner Thompson. The bullrushes and phragmites are still dormant. The coots scooted on tap dancing feet to keep us at a safe distance. The green lake's mirror surface made me glide without weight as I paddled to the reeds. mallard, coot, Marsh wren, California gull, yellow headed blackbird, western grebe, sandhill crane, canada goose. 10184

10185 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building, N 40.246269 W 111.649291 1420 m 30-Mar-2012 C. R. Nelson # 10185 73 photos: deaths head roaches Blattaria; lab colony start from Joey Mugleston, Blaberus cranifer, teneral adult, older adult, late instar nymphs. 10185

10186 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 04-Apr-2012 C. R. Nelson # 10186 73 photos: Simuliidae adults (swarming at dusk), Baetidae adults. 10186

10187 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 05-Apr-2012 C. R. Nelson # 10187 & A. L. Nelson Smith 73 video: Amy on KSL News with Carole Mikita talking of film awards of A. Todd Smith and film "Mr. Bellpond. 10187

10188 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 06-Apr-2012 C. R. Nelson # 10188 73 photos: snow on green aspen leaves. Heiva the cat's fur. 10188

10189 USA: UTAH: Box Elder Co. mantua, red house at south end of town, N 41.49635 W 111.94402 1535 m 07-Apr-2012 C. R. Nelson # 10189 73 155manred photos: home lost by Ole P. Nelson in 1920s, before The Great Depression. 10189

10190 USA: UTAH: Box Elder Co. mantua, Halling (Goulding) home, N 41.51175 W 111.94184 1588 m 07-Apr-2012 C. R. Nelson # 10190 73 155gould photos: home at north end of town of Bill & Rosetta Goulding. Happy memories of my childhood in this house and barn. 10190

10191 USA: UTAH: Box Elder Co. mantua, frog pond, N 41.50962 W 111.94223 1588 m 07-Apr-2012 C. R. Nelson # 10191 73 155frog photos: frog pond of my earliest memorizing of frog chasing adventures, perhaps 5-6, former fish hatchery? near home of Rosetta & Bill Goulding where we regularly visited when I was young. Especially on Memorial Day to decorate mantua graves. 10191

10192 USA: UTAH: Box Elder Co. Woods Creek Duck Club, 2 miles southwest of Corinne, N 41.51702 W 112.14846 1284 m 07-Apr-2012 C. R. Nelson # 10192 73 ? photos: Brigham City & Temple; house, cabin, mountains, photos of relatives, signs, stove, pots, trap. photos: pond and scenery. pelicans, coots, egrets, ducks, gulls, Marsh wren, ibis, Marsh, islands of the Great Salt Lake, dike, midges, great blue heron, lichen, magpie nest in russian olive trees, crow. I saw a Marmot at the roadside by the golf course on my way to the farm. Specimen of lichen on dead greasewood stems. 10192

10193 USA: UTAH: Box Elder Co. Bear River Migratory Bird Refuge, 15 miles west of Brigham City, dike road of auto tour, start at headquarters, N 41.480140 W 112.268228 1283 m 07-Apr-2012 C. R. Nelson # 10193 73 use headquarters, googleeearth photos: scenery, "parking only between signs", Promontory Point, islands, toolies, sunset, canals, flat. photos: american white pelicans, clarks & western grebes, yellow headed blackbird, Marsh wren, coots mallards, muskrat, killdeer, avocet, great blue heron flight, videos coots & grebes, northern shoveler, black crowned night heron, cormorant?, tundra swans. 10193

10194 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Preserve, N 37.143291 W 114.021865 848 m 07-Apr-2012 Nicole LeDuc 10194 73 googleeearth C. R. Nelson not present when collected:

photos: Scarabaeidae, Cotalpa flavipes, at Nelson home on 10 April 2012, Provo River cottonwood bark. More photos taken at Nelson home, 12 April 2012. 10194

10195 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building, N 40.246269 W 111.649291 1420 m 13-Apr-2012 C. R. Nelson # 10195 73 photos: Dynastes granti larvae, from CRN 10030. first look after egg laying from last September. 26 larvae ranging about 3-5 cm. Sorted again on 15 February 2013 with matt Otis, Becca Clement, David Robinson, and Russell Anderson. Nine full sized larvae in one bucket and 17 in another bucket. All looked healthy, added some more compost. 100% survival to this stage! C. R. Nelson. 10195

10196 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 14-Apr-2012 C. R. Nelson # 10196 73 photos: Dermestidae. Pine siskin, house finch. 10196

10197 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 15-Apr-2012 C. R. Nelson # 10197 73 video: aspen leaves in the wind. 10197

10198 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 16-Apr-2012 C. R. Nelson # 10198 73 photos: house finches with 200-400 f4 nikkor lense, aspen leaves. 10198

10199 USA: UTAH: Utah Co., Provo, BYU, Clark Building, N 40.247494 W 111.649666 1421 m 19-Apr-2012 C. R. Nelson # 10199 73 photos: painting the grass green for Graduation Day. 10199

10200 USA: UTAH: Utah Co., Fairfield, Camp Floyd, N 40.26051 W 112.09322 1476 m 27-Apr-2012 C. R. Nelson # 10200 & INHUT 73 157floyd INHUT begins! Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Liz Knight, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. photos:

house sparrow, house finch, starling, robin, eurasian collared dove, four hawks. 10200

10201 USA: UTAH: Utah Co., Fairfield, Camp Floyd Cemetery, N 40.25249 W 112.09850 1487 m 27-Apr-2012 C. R. Nelson # 10201 & INHUT 73 157cem INHUT begins! Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Liz Knight, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. brewers blackbird, raven, robin 10201

10202 USA: UTAH: Tooele Co. Ophir, Ophir Hill Mine, N 40.36983 W 112.25471 1980 m 27-Apr-2012 C. R. Nelson # 10202 & INHUT 73 157ophi4 Walked back to Blue Room and Second Incline, tour by Stewart Gibson? Crystal. Photos: people, rocks, & superstructure. INHUT begins! Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Liz Knight, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. sagbrush lizard 10202

10203 USA: UTAH: Tooele Co. Ophir turnoff, Hwy 73, view to Deseret Chemical Depot, N 40.35116 W 112.30930 1727 m 27-Apr-2012 C. R. Nelson # 10203 & INHUT 73 157ophitur Talk of incineration. Photos: people, rocks, & superstructure. INHUT begins! Riley Nelson,

John Bennion, Brian Cannon, Brian Hill, Liz Knight, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10203

10204 USA: UTAH: Tooele Co. Rush Valley, midvalley Pony Express Monument east of Faust, N 40.20674 W 112.29386 1545 m 27-Apr-2012 C. R. Nelson # 10204 & INHUT 73 157faustmi INHUT begins! Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Liz Knight, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. spoke of salt bush genetics. Pogonomyrmex ants. 10204

10205 USA: UTAH: Tooele Co. Rush Valley, Greenjacket Ranch, 6 miles South of Vernon, N 40.01262 W 112.39946 1824 m 27-29 April 2012 C. R. Nelson # 10205 & INHUT 73 Camp nights 27-29 April 2012. sunrise on 28 April. talked of John Bennion's essays. 28 April 2012: Conservation and ranching projects: 1. Vaccinating and castrating cattle, corral. 2. Transects of plants, front gate. grass/forb, shrub/tree and productivity in 1 yard hoop. 3. Reseed burned area on Bennion Creek below Vernon Reservoir. Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Liz Knight, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. starlings, magpies, robins, 10205

10206 USA: UTAH: Tooele Co. Vernon, Church, N 40.095291 W 112.433083 1678 m 29-Apr-2012 C. R. Nelson # 10206 & INHUT 73 also cemetery: 157cem N40.25249 W112.09850, elev. 1487 m

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Liz Knight, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10206

10207 USA: UTAH: Tooele Co. Sheeprock Mountains, Harker Canyon, N 39.97919 W 112.48362 2048 m 29-Apr-2012 C. R. Nelson # 10207 & INHUT 73 157harker camped night of 29-30 April 2012.

Artemis Valborg Nelson born in Phoenix, Arizona to Brandy and Jason Nelson. Our first grandchild, granddaughter. I pressed some sagebrush leaves, *Artemisia tridentata*. I also shared sprigs of sagebrush with everyone in the camp.

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Liz Knight, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10207

10208 USA: UTAH: Tooele Co. Sheeprock Mountains, Dutch Peak, N 39.95523 W 112.48052 2730 m 30-Apr-2012 C. R. Nelson # 10208 & INHUT 73 157dutch camped night of 29-30 April 2012.

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Liz Knight, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. glacier lily and *Fritillaria pudica*, onions, *Astragalus*, mountain short horned lizard at 157horn N39.96097 W112.480033, elev. 2565m. wandering garter snake. 10208

10209 USA: UTAH: Tooele Co. Sheeprock Mountains, head of Bennion Canyon, N 39.953005 W 112.469663 2414 m 30-Apr-2012 C. R. Nelson # 10209 & INHUT 73 googleearth writing prompt, broad contrasts.

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Liz Knight, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. searched for steershead, *Dicentra uniflora*, none found this time. *Opuntia* had no blooms, claret cup no blossoms. 10209

10210 USA: UTAH: Tooele Co. Sheeprock Mountains, Bennion Creek, mine creek crossing, N 39.95255 W 112.44579 2153 m 30-Apr-2012 C. R. Nelson # 10210 & INHUT 73 googleearth camped night 30 April - 1 May 2012. Discussion of "Canaries on the Rim". First 100 samples downstream from crossing in a thicket of willows.

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Liz Knight, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10210

10211 USA: UTAH: Tooele Co. Sheeprock Mountains, foothills, Bennion/Little Valley Divide, N 39.95857 W 112.41496 2131 m 01-May-2012 C. R. Nelson # 10211 & INHUT 73 157litdiv writing prompt: contrasts within good.

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Liz Knight, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. lecture flowers & pollination. Artemisia, Senecio, Delphinium, Astragalus, Vicia? sweet pea, "Draba" mustard, Lupine. 10211

10212 USA: UTAH: Tooele Co. Sheeprock Mountains, foothills, Vernon Creek camp, "willow flat", N 39.96011 W 112.37830 1963 m 01-May-2012 C. R. Nelson # 10212 & INHUT 73 157vercam about 10 First 100s. Talk by Forest Service ranger, Rene _____. Dancing like demons around the fire. .22 shells around. Saw a shot toy soldier. Liz Knight and Brian Hill left for training elsewhere.

camped night of 1-2 May 2012

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Liz Knight, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10212

10213 USA: UTAH: Tooele Co. Sheeprock Mountains, foothills, lower Vernon Creek, 0.5 miles above Vernon Reservoir, N 39.97837 W 112.27897 1900 m 02-May-2012 C. R. Nelson # 10213 & INHUT 73 157vernlow First 100s, about 12 (one per person). Writing with John: meditative writing, essays, voice, experiment.

Riley Nelson, John Bennion, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10213

10214 USA: UTAH: Tooele Co. Vernon Reservoir, N 39.98650 W 112.38321 1875 m 02-May-2012 C. R. Nelson # 10214 & INHUT 73 157vernres lunch, cold bean burritos.

Riley Nelson, John Bennion, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. eared grebes, brewers blackbirds, barn swallows, 10214

10215 USA: UTAH: Tooele Co. Tooele, swimming pool and shopping center, N 40.544929 W 112.296720 1499 m 02-May-2012 C. R. Nelson # 10215 & INHUT 73 googleearth, shopping center showers and swim at public pool; laundry and shopping in strip mall.

Riley Nelson, John Bennion, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10215

10216 USA: UTAH: Box Elder Co. Brigham City, Peach City Drive In, N 41.517074 W 112.015359 1336 m 02-May-2012 C. R. Nelson # 10216 & INHUT 73 googleearth, shopping center photos and video: Emma Lucy Pimentel and Stacie Faulk eating a Walt mann special, 12 scoops of ice cream.

Riley Nelson, John Bennion, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10216

10217 USA: UTAH: Box Elder Co. road between CM Place and Dock Flat, on Willard Peak Road, N 41.46146 W 111.94714 1774 m 03-May-2012 C. R. Nelson # 10217 & INHUT 73 158box camped night of 2-3 May 2012. photos: walked Box Elder Creek to water gathering box. Spoke of Nelson and Halling families.

Riley Nelson, John Bennion, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Cimbicidae, ruffed grouse, yellow warbler, rocky mountain juniper, wandering garter snake. Photo: sagebrush lizard on a steep hillside (a memory of collecting with my dad). 10217

10218 USA: UTAH: Rich Co. Limber Pine Trailhead, Hwy 89, 30 miles East of mouth Logan Canyon, 0.5 miles west of Bear River Summit Visitors Center, N 41.923257 W 111.467345 2335 m 03-May-2012 C. R. Nelson # 10218 & INHUT 73 googleearth cold and windy, no hike, snow on trail. Ate lunch in vans.

Riley Nelson, John Bennion, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols,

McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10218

10218.5 USA: UTAH: Cache Co. Bear River Summit Visitors Center and overlook, Hwy 89 N 41.92115 W 111.45683 2335 m 03-May-2012 C. R. Nelson # 10218.5 & INHUT 73 030bearovr talk of endemic fishes and Bear Lake geology.

Riley Nelson, John Bennion, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10218.5

10219 USA: IDAHO: Franklin Co., Bear River, Oneida Narrows, Red Point Campground, N 42.23426 W 111.75939 1435 m 3-5 May 2012 C. R. Nelson # 10219 & INHUT 73 158oneida Camped nights 3-5 May 2012. Nice eveing to set up camp. Storytelling arond a fire. Liz Knight and Brian Hill returned afternoon of 4 May 29012. First 100s at river in camp, left about 2:30pm on 5 May 2012.

Riley Nelson, John Bennion, Brian Cannon, Liz Knight, Brian Hill, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. yellow warblers, canada geese, sandhill cranes, dipper, chickadee (call only), mallard duck, redwing blackbirds. 10219

10221 USA: IDAHO: Franklin Co., hilltop overlook, Bear River Massacre Site, Hwy 91, 4 miles northwest of Preston N 42.35453 W 112.04902 1451 m 04-May-2012 C. R. Nelson # 10221 & INHUT 73 030hill photos: scenery and people, with Heather Jorgenson (-sen?)

Riley Nelson, John Bennion, Brian Cannon, Liz Knight, Brian Hill, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10221

10222 USA: IDAHO: Bannock Co., Red Rock Pass, Hwy 91, 3.7 mi N of Swan Lake, N 42.35453 W 112.04902 1451 m 04-May-2012 C. R. Nelson # 10222 & INHUT 73 354REDR (2008) lecture on scales of time as it impacts space. 500 mya Cambrian, 50 mya Green River shale, 14.5 kya Bonneville flood, 200 ya junipers on hillside, now cars and us moving. Writing prompt: personal Massacres. photos: people and scenery.

Riley Nelson, John Bennion, Brian Cannon, Liz Knight, Brian Hill, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. golden eagle 10222

10223 USA: IDAHO: Bannock Co., Marsh Valley, Hwy 91, Haywire Ranch, 3.5 miles south of Downie, N 42.393103 W 112.082454 1452 m 04-May-2012 C. R. Nelson # 10223 & INHUT 73 googleearth, approximate Riley Nelson, John Bennion, Brian Cannon, Liz Knight, Brian Hill, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. *Colias eurytheme* 10223

10224 USA: IDAHO: Franklin Co., Oneida Narrows Reservoir, 1 mile south of Hwy 36 N 42.32105 W 111.71327 1457 m 05-May-2012 C. R. Nelson # 10224 & INHUT 73 158oneidaf Riley Nelson, John Bennion, Brian Cannon, Liz Knight, Brian Hill, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. regular Spence Shale Cambrian fossil place. many trilobites, possible sponge 10224

10225 USA: IDAHO: Franklin Co., Bear River at (below) Oneida Narrows Dam, N 42.26379 W 111.75253 1439 m 05-May-2012 C. R. Nelson # 10225 & INHUT 73 158onputin floated from dam to Red Point Camp in canoes. John Bennion and I swamped ours about halfway. All is well. 9:00am drop off then 11:00am start at 10225 between. After float trip John Bennion, Brian Cannon and Seth Cannon went to Provo for a day or so of personal business. Riley Nelson, John Bennion, Brian Cannon, Liz Knight, Brian Hill, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10225

10226 USA: UTAH: Box Elder Co. Bear River at Hampton Ford near Fielding, N 41.78674 W 112.10612 1296 m 05-May-2012 C. R. Nelson # 10226 & INHUT 73 158hamp photos: river; five First 100s. Riley Nelson, Liz Knight, Brian Hill, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Samantha Smith, Rachel Fuller. 10226

10227 USA: UTAH: Box Elder Co. Honeyville, Crystal Springs N 41.66011 W 112.08759 1306 m 05-May-2012 C. R. Nelson # 10227 & INHUT 73 030CRY, created with google earth photos: group. Riley Nelson, Liz Knight, Brian Hill, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Samantha Smith, Rachel Fuller. 10227

10228 USA: UTAH: Box Elder Co. Brigham City, N 41.51515 W 112.01924 1334 m, 06-May-2012 C. R. Nelson # 10228 & class, INHUT. 73 3rd 15th Ward Church. church meetings and friends. Riley Nelson, Liz Knight, Brian Hill, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Samantha Smith, Rachel Fuller. 10228

10229 USA: UTAH: Box Elder Co. Brigham City, John Adams Park and Botts Monument Mill, N 41.515000 W 112.009100 1345 m, 06-May-2012 C. R. Nelson # 10229 & class, INHUT. 73 googleearth lunch, history discussion with Leonard Hawkes. Riley Nelson, Liz Knight, Brian Hill, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Samantha Smith, Rachel Fuller. 10229

10230 USA: UTAH: Box Elder Co. Brigham City, Box Elder Tabernacle, N 41.505409 W 112.014993 1361 m, 06-May-2012 C. R. Nelson # 10230 & class, INHUT. 73 googleearth Students played with organ. tour with Willie (age 85) and Betty Hunsaker. joined by Delose & Janice Conner. Rejoined by Seth and Brian Cannon. Seth is called to Berlin, Germany Mission. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10230

10231 USA: UTAH: Box Elder Co. Brigham City, historic Thompson home, now Conner's, 156 N 200 W, N 41.505409 W 112.014993 1361 m, 06-May-2012 C. R. Nelson # 10231 & class, INHUT. 73 googleearth photos: Brian Conner family and pioneer woodwork. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10231

10232 USA: UTAH: Box Elder Co. Brigham City, Lloyd Gunther rock museum home, and Bywater pioneer home, 80 N 200 W, N 41.512372 W 112.018865 1344 m, 06-May-2012 C. R. Nelson # 10232 & class, INHUT. 73 googleearth tour of fossil & mineral museum and outside of restored Bywater home. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10232

10233 USA: UTAH: Box Elder Co. Brigham City, Hansen home about 121 N main Street, N 41.513387 W 112.015491 1347 m, 06-May-2012 C. R. Nelson # 10233 & class, INHUT. 73 googleearth photos: class; discussion of the history of polygamy and United Order in Utah. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10233

10234 USA: UTAH: Box Elder Co. Little Mountain, 13.5 miles west of Brigham City, Scout Point, N 41.58609 W 112.25136 1449 m, 06-May-2012 C. R. Nelson # 10234 & class, INHUT. 73 158little camped overnight 6-7 May 2012. Storytelling at night, Delose Conner and Leonard Hawkes presented a "campfire" in the dark. Moose Shit Pie by Riley Nelson; Orange Triange by Riley and Leonard; Little Green man by Delose Conner. Morning fossil hunting, views to the islands and beyond. Also of note: I collected horn coral and other fossils from near here in the 1970s Our best horn coral quarry was about: N 41.612038 W 112.257781, elev. 1337 m. on Ef Jensen's land? near Painted Rock. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Tipulidae 10234

10235 USA: UTAH: Box Elder Co. ATK, Missile Garden, 26 miles west of Brigham City, N 41.658978 W 112.440820 1338 m, 07-May-2012 C. R. Nelson # 10235 & class, INHUT. 73 googleearth photos: missile garden and visitors book. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10235

10236 USA: UTAH: Box Elder Co. Golden Spike National Historic Site, visitors center, Promontory summit, N 41.617184 W 112.550931 1497 m, 07-May-2012 C. R. Nelson #

10236 & class, INHUT. 73 googleearth photos: trains: Jupiter and 119. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10236

10237 USA: UTAH: Box Elder Co. Woods Creek Duck Club, 1.5 miles southwest of Corinne, "The Farm", N 41.51712 W 112.13976 1282 m, 07-May-2012 C. R. Nelson # 10237 & class, INHUT. 73 googleearth Camped night of 7-8 May 2012. Big chicken dinner; birds with Tod Young at sunset. John Bennion returned. Cooking on a wood stove and four dutch ovens. Talking of Einar, gun clubs and the history of Utah duck hunting. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. snowy egret, cattle egret, great blue heron, avocets in the sunset 10237

10238 USA: UTAH: Box Elder Co. Bear River Migratory Bird Refuge, 15 miles west of Brigham City, dike road of auto tour, start at headquarters, N 41.46567 W 112.21636 1282 m 08-May-2012 C. R. Nelson # 10238 & class, INHUT 73 158BROLINE photos: put in canoes to float from O-Line Canal to Refuge headquarters. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Canada gees & goslings; cinnamon teal, killdeer, videos of stories in canoe. 10238

10239 USA: UTAH: Box Elder Co. Bear River Migratory Bird Refuge, 15 miles west of Brigham City, main dike road of auto tour, N 41.47875 W 112.26785 1295 m 08-May-2012 C. R. Nelson # 10239 & class, INHUT 73 158refhq Also stopped at a viewing platform: N 41.43194 W 112.29194, elev. 1289 m. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. bird watching on auto tour 10239

10240 USA: UTAH: Box Elder Co. Brigham City, Forest Street, Bear River Migratory Bird Refuge Visitors Center, N 41.507730 W 112.068134 1288 m 08-May-2012 C. R. Nelson # 10240 & class, INHUT 73 googleearth Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley

Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. photos: cliff swallows 10240

10241 USA: UTAH: Box Elder Co. Perry, Maddox Restaurant, N 41.475774 W 112.025078 1320 m 08-May-2012 C. R. Nelson # 10241 & class, INHUT 73 googleearth Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Big Dinner; photos of group. 10241

10242 USA: UTAH: Davis Co. Antelope Island State Park, White Rock Bay, lake edge, N 41.02464 W 112.25643 1278 m 8-10 May 2012 C. R. Nelson # 10242 & class, INHUT 73 158whitedg Camped nights from 8-10 May 2012.

8 May: photos evening and sunset.

9 May morning: eared grebes in flotillas on the mirror lake. sand ripples, rocks, scenery, lecture on bird beaks and Archaea.

Camp at 159whitcam N 41.02989 W 112.25064, elev. 1324 m. left island around 10:30 am 10 May 2012. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. eared grebes abundant. short eared owl, northern (or loggerhead) shrike, western meadowlark, harrier with vole, mallard, chukar, willet, California gulls, american avocets, lesser? yellowlegs, killdeer, pelicans, "sandpiper" in flocks (sanderling?), bison, pronghorn, mule deer. 10242

10243 USA: UTAH: Davis Co. Antelope Island State Park, Garr Ranch, N 40.925482 W 112.167682 1300 m 09-May-2012 C. R. Nelson # 10243 & class, INHUT 73 googleearth Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. American goldfinch, starling, kestrel, photo: great horned owl chicks and people. 10243

10244 USA: UTAH: Davis Co. Antelope Island State Park, Bridger Bay, N 41.050447 W 112.249580 1282 m 09-May-2012 C. R. Nelson # 10244 & class, INHUT 73 googleearth Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel,

Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. brine fly larvae & pupae (no adults), brine shrimp, tiger beetles, Cicindela sp. 10244

10245 USA: UTAH: Davis Co. Antelope Island State Park, Buffalo Point, N 41.03299 W 112.26408 1464 m 09-May-2012 C. R. Nelson # 10245 & class, INHUT 73 113buf sunset hike to point for contemplation. Sublime.

Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10245

10246 USA: UTAH: Davis Co. Antelope Island State Park, Visitors Center, N 41.056071 W 112.240728 1324 m 10-May-2012 C. R. Nelson # 10246 & class, INHUT 73 googleearth film, salt rock, review travels at map.

Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10246

10247 USA: UTAH: Salt Lake Co. Natural History Museum of Utah N 40.764180 W 111.823198 1538 m 10-May-2012 C. R. Nelson # 10247 & class, INHUT 73 Tour with director Sarah George. photos: Riley with Acristavus skull, first time seen out of the matrix, published July 2011. Continental drift, DNA.

Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10247

10248 USA: UTAH: Utah Co., Provo, BYU River Park, Provo River, N 40.26531 W 111.66384 1411 m 11-May-2012 C. R. Nelson # 10248 & class, INHUT 73 160riverpk photos: INHUT group listening to James Westwater of Utah Valley Earth Forum. Quesdilla dinner with Kaye. Ultimate frisbee. Not all INHUT there. dipper, flicker, robin 10248

10249 USA: UTAH: Wasatch Co. Provo River, Heber Valley, River Drive near Hwy 32, mitigation headquarters, N 40.55732 W 111.43007 1651 m 14-May-2012 C. R. Nelson # 10249 & class, INHUT 73 160mitig photos: scenery, Mark Belk lecturing on restoration. Five First 100s at 160PRMIT N40.56192 W111.43144, elev. 1741 m. Not sure if all professors there:

Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays,

Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. osprey with fish, chukar. 10249

10250 USA: UTAH: Wasatch Co. Jordanelle Dam Overlook, Hwy 32 N 40.59420 W 111.41534 1964 m 14-May-2012 C. R. Nelson # 10250 & class, INHUT 73 160jordov photos: people & scenery. Talked about dams and trade-offs. Not sure if all professors there:

Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10250

10251 USA: UTAH: Wasatch Co. Heber City Tabernacle, city offices, N 40.50843 W 111.41432 1715 m 14-May-2012 C. R. Nelson # 10251 & class, INHUT 73 160heberta lunch, toured tabernacle converted to city offices.

Not sure if all professors present: Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. eurasian collared dove, turkey vulture, robin. 10251

10252 USA: UTAH: Wasatch Co. Provo River, 0.5 miles below Deer Creek Dam, N 40.40102 W 111.53117 1622 m 14-May-2012 C. R. Nelson # 10252 & class, INHUT 73 160prputin photos & video: people & scenery. Put In site for kayak float at bridge below dam. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10252

10253 USA: UTAH: Utah Co., Provo River, Hwy 189, Vivian Park, N 40.35575 W 111.57341 1587 m 14-May-2012 C. R. Nelson # 10253 & class, INHUT 73 160vivian (early) photos & video: people & scenery. photos: Liz Knight at Trestle. Take out site for kayak float at bridge below dam. later after float: 160prout: N 40.35563 W 111.57450 elev. 1590m. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. dippers, mallards, beaver, yellow warblers. 10253

10254 USA: UTAH: Utah Co., Utah Lake, airport dike, N 40.23077 W 111.73577 1353 m 15-May-2012 C. R. Nelson # 10254 & class, INHUT 73 161dike Rober Carter talk of lake and fish. Photos: people and scenery. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. yellow headed blackbird, mallards, Marsh wren, whtie faced ibis, Marsh hawk. 10254

10255 USA: UTAH: Utah Co., Provo River, Paul Ream Park, original Fort Utah, N 40.24091 W 111.68563 1381 m 15-May-2012 C. R. Nelson # 10255 & class, INHUT 73 161ream Rober Carter talk of Fort Utah. GPS from parking lot. Photos: people and scenery. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. mallards, Isoperla fulva female. 10255

10256 USA: UTAH: Utah Co., Provo, North Park, 500 West 500 North, N 40.24130 W 111.66702 1389 m 15-May-2012 C. R. Nelson # 10256 & class, INHUT 73 161northpk Rober Carter talk of museum and cabins. WPA built museum building. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10256

10257 USA: UTAH: Utah Co., Rock Canyon Trailhead, Provo, east of LDS Temple, trail to Squaw Peak, N 40.26448 W 111.63012 1558 m 15-May-2012 C. R. Nelson # 10257 & class, INHUT 73 161rockpk (bowery of park) lunch with Robert Carter. my poem of maple poles up canyon later. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. scrub jay, starling 10257

10258 USA: UTAH: Utah Co., Squaw Peak summit, left edge Rock Canyon, N 40.27122 W 111.61694 2383 m 15-May-2012 C. R. Nelson # 10258 & class, INHUT 73 161squaw photos: scenery & people. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson,

Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. white throated swifts, ruffed grouse, barn swallows, turkey vultures. Photos: sagebrush lizard. curl leaf mountain mahogany "laurel" taken to remember my dad. 10258

10259 USA: UTAH: Utah Co., Mount Timpanogos, Battle Creek, lower falls, N 40.367543 W 111.693001 1718 m 16-May-2012 C. R. Nelson # 10259 & class, INHUT 73 googleearth photos: scenery & people rappeling. Some people photos by John Bennion. Not sure if all INHUT present? Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Says phoebe nest, Papilio multicaudata. 10259

10260 USA: UTAH: Uintah Co. Green River, Sand Wash, boat ramp, River mile 96, N 39.840538 W 109.914065 1411 m 17-May-2012 C. R. Nelson # 10260 & class, INHUT 73 googleearth photos: people and boats. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10260

10261 USA: UTAH: Emery Co. Green River, airport N 38.96534 W 110.22855 1390 m 18-May-2012 C. R. Nelson # 10261 & class, INHUT 74 161grair with Brian Q. Cannon and John S. Bennion. photos: scenery while waiting for small plane to carry us back to Sand Wash. killdeer 10261

10262 USA: UTAH: Uintah Co. Desolation Canyon, Green River, river mile 82, about 2 miles north of Little House Rock Riffle, N 39.74804 W 109.94576 1402 m 18-May-2012 C. R. Nelson # 10262 & class, INHUT 74 161camp1 Aquatic sampling. Camped night of 18-19 May 2012. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Plus Eric xx, Mariah Hill, Isaac xx, and Libby Baum. Perlodidae Isogenoides?, Isoperla; Heptageniidae, Baetidae, Ephemerellidae, Leptohyphidae, Simuliidae, Leptoceridae. 3 First 100s. 10262

10263 USA: UTAH: Uintah Co. Desolation Canyon, Green River, river mile 66, Firewater Canyon, N 39.66238 W 109.98512 1373 m 19-May-2012 C. R. Nelson # 10263 & class, INHUT 74 161firewat Lunch, 3 First 100s, photos: scenery. Riley Nelson, Liz Knight, Brian

Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Plus Eric xx, Mariah Hill, Isaac xx, and Libby Baum. photos: *Acroneuria abnormis* nymphs. Heptageniidae, Corydalidae. 3 First 100s. Tree lizard, side blotched lizard, whiptail lizard (checkered form, tigris?), western whipsnake, Asilidae *Efferia benedicti*. 10263

10264 USA: UTAH: Uintah Co. Desolation Canyon, Green River, river mile 63, Flat Canyon petroglyphs, N 39.63817 W 110.01298 1388 m 19-May-2012 C. R. Nelson # 10264 & class, INHUT 74 161petro photos: Fremont petroglyphs. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Plus Eric xx, Mariah Hill, Isaac xx, and Libby Baum. 10264

10265 USA: UTAH: Uintah Co. Desolation Canyon, Green River, river mile 63, Cottonwoods Camp, N 39.63435 W 110.00642 1384 m 19-May-2012 C. R. Nelson # 10265 & class, INHUT 74 161flatcam aquatic sampling. Camp 2, night 19-20 May 2012, Saturday to Sunday. Photos: Morning petroglyphs: deer & stick man (drawing in notes) at mouth of Flat Canyon. Scenery. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Plus Eric xx, Mariah Hill, Isaac xx, and Libby Baum. Corydalidae, Heptageniidae, Baetidae. 3 First 100s 10265

10266 USA: UTAH: Carbon Co. Desolation Canyon, Green River, river mile 54.5, Rock Creek, N 39.54194 W 110.03059 1366 m 20-May-2012 C. R. Nelson # 10266 & class, INHUT 74 161grock (near) Lunch. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Plus Eric xx, Mariah Hill, Isaac xx, and Libby Baum. photos: caught fence lizards looping with monofilament line. 10266

10267 USA: UTAH: Carbon Co. Desolation Canyon, Rock Creek, 2 mi up side canyon from Green River, at River mile 54, N 39.54761 W 110.05621 1416 m 20-May-2012 C. R. Nelson # 10267 & class, INHUT 74 161rockpet Riley Nelson, Liz Knight, Brian Hill, Brian Cannon,

John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Plus Eric xx, Mariah Hill, Isaac xx, and Libby Baum. ate berries of *Rhus aromatica* 10267

10268 USA: UTAH: Carbon Co. Desolation Canyon, Rock Creek, junction Green River, River mile 54, N 39.54203 W 110.03135 1368 m 20-May-2012 C. R. Nelson # 10268 & others, see field notes 74 161rocksam Riley Nelson, Samantha Smith, Rebecca Clement, Seth Cannon, Emma Lucy Pimentel, and Lauren Nuckols. INHUT subgroup. Baetidae, Isoperla sp. 2, Oligochaeta. 3 First 100s, taken about 50 m upstream from Green River, Clear water. 10268

10269 USA: UTAH: Carbon Co. Desolation Canyon, Green River jct Rock Creek, River mile 54, N 39.54194 W 110.03059 1366 m 20-May-2012 C. R. Nelson # 10269 & others, see field notes 74 162grrock Riley Nelson, Samantha Smith, Rebecca Clement, Seth Cannon, Emma Lucy Pimentel, and Lauren Nuckols. INHUT subgroup. pallet in the river. Corydalidae, Isoperla longisetula, Heptageniidae, Baetidae. 3 First 100s. 10269

10270 USA: UTAH: Carbon Co. Desolation Canyon, Green River, Rock Creek Ranch, River mile 53, N xx W xx xx m 20-May-2012 C. R. Nelson # 10270 & class, INHUT 74 xx Riley Nelson, Samantha Smith, Rebecca Clement, Seth Cannon, Emma Lucy Pimentel, and Lauren Nuckols. INHUT subgroup. walked from 10269 downstream to ranch to meet the rest of INHUT. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Plus Eric xx, Mariah Hill, Isaac xx, and Libby Baum. mulberry tree in an open field 10270

10271 USA: UTAH: Carbon Co. Desolation Canyon, Green River, Lion Hollow, River mile 48 N 39.48166 W 110.02100 1320 m 20-May-2012 C. R. Nelson # 10271 & class, INHUT 74 163lionhol Camped on sandy beach with flat terrace above night 20-21 May 2012. photos: scenery. hiked to western cliff high spot to view lunar eclipse. saw when covered a third to a half at local rim sunset. Dangerous hike in the rim rock with several students. Tanner, Emma Lucy, Eric, Hannah, Kyla, and Stacie. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Plus Eric xx, Mariah Hill, Isaac xx, and Libby Baum. 10271

10272 USA: UTAH: Carbon Co. Desolation Canyon, Green River, Cow Swim Rapids, River mile 40.5, N 39.39754 W 110.01936 1327 m 21-May-2012 C. R. Nelson # 10272 & class, INHUT 74 164cow Video and photos of big wave. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Plus Eric xx, Mariah Hill, Isaac xx, and Libby Baum. 10272

10273 USA: UTAH: Carbon Co. Desolation Canyon, Green River, McPhearson Ranch, River mile 39.5, N 39.38186 W 110.01704 1324 m 21-May-2012 C. R. Nelson # 10273 & class, INHUT 74 164mcpher photos: old ranch buildings. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Plus Eric xx, Mariah Hill, Isaac xx, and Libby Baum. 10273

10274 USA: UTAH: Carbon Co. Desolation Canyon, Gray Canyon, Green River, Rabbit Valley, River mile 29, N 39.28229 W 110.07418 1315 m 21-May-2012 C. R. Nelson # 10274 & class, INHUT 74 164rabbit camped night of 21-22 May 2012. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Plus Eric xx, Mariah Hill, Isaac xx, and Libby Baum. Corydalidae, Heptagenia, Isoperla, Baetidae, Bryozoans, Acroneuria abnormis. 3 First 100s. Bear sighting 50 m from camp on desert hillside of rice grass, ephedra, and service berry. 10274

10275 USA: UTAH: Carbon and Emery Co. Gray Canyon, Green River, River mile 29 to 12, between Rabbit Valley, River Mile 29 and Swaseys Boat Ramp, N 39.28229 W 110.07418 1315 m 22-May-2012 C. R. Nelson # 10275 & class, INHUT 74 xx between: N 39.28229 \rightarrow ∞ W 110.07418 \rightarrow ∞ , elev 1315m and N 39.112368 \rightarrow ∞ W 110.109060 \rightarrow ∞ , elev. 1252 m. photos: people and scenery. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Plus Eric xx, Mariah Hill, Isaac xx, and Libby Baum. 10275

10276 USA: UTAH: Emery Co. Gray Canyon, Green River, River mile 24 at Swasey's Boat Ramp take out, N 39.112368 W 110.109060 1252 m 22-May-2012 C. R. Nelson # 10276 & class, INHUT 74 googleearth photos: unpacking and packing at raft take out. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Plus Eric xx, Mariah Hill, Isaac xx, and Libby Baum. 10276

10277 USA: UTAH: Grand Co. Colorado River, Hwy 128, Big Bend Campground, N 38.64870 W 109.48161 1215 m 22-May-2012 C. R. Nelson # 10277 & class, INHUT 74 UV light trap, much. photos morning scenery, camped night of 22-23 May 2012. Also camped night of 24-25 May 2012. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. saw ring tail, long tailed weasel, bullocks oriole, robin, western kingbirds calling at 3:00am! 10277

10278 USA: UTAH: Grand Co. Arches National Park, Double Arch & Turret Arch, N 38.68758 W 109.53782 1568 m 23-May-2012 C. R. Nelson # 10278 & class, INHUT 74 164turret photos: scenery and people. Also spent morning time in Museum in Moab. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. photos: leopard lizard 10278

10279 USA: UTAH: San Juan Co. Big Indian Valley, South of La Sal N 38.16407 W 109.23369 1870 m 23-May-2012 C. R. Nelson # 10279 & class, INHUT 74 164bigindr photos: Hardy Redd speaking on uranium. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10279

10280 USA: UTAH: San Juan Co. Canyonlands National Park, Needles Overlook, N 38.25920 W 109.69762 1900 m 23-May-2012 C. R. Nelson # 10280 & class, INHUT 74 164needles Hardy Redd leading tour. photos: scenery and people. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall

Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10280

10281 USA: UTAH: San Juan Co. Dry Valley, cowboy camp carved in rock, N 38.273431 W 109.568115 1940 m 23-May-2012 C. R. Nelson # 10281 & class, INHUT 74 googleearth, best guess Hardy Redd leading tour. photos: cowboy, Wayne Ericson with Hardy Redd. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. mountain bluebird at nest in stove 10281

10282 USA: UTAH: San Juan Co. Dry Valley, Hatch Rock, Rockland Ranch, N 38.219189 W 109.456562 1778 m 23-May-2012 C. R. Nelson # 10282 & class, INHUT 74 googleearth Hardy Redd leading tour. photos: village, polygamist homes in rock. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10282

10283 USA: UTAH: San Juan Co. La Sal, Redd Ranch, N 38.31153 W 109.24765 2121 m 23-May-2012 C. R. Nelson # 10283 & class, INHUT 74 164lasal Camped night of 23-24 May 2012. Hardy Redd leading tour. photos: cattle work, artificial insemination, Charlie Redd, Lowry Redd, and others. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 164lasal2 N38.31115 W109.24889, elev. 2085 m. cattle 10283

10284 USA: UTAH: Grand Co. Entrada High Adventure Camp, near Gemini Bridges, N 38.58458 W 109.73734 1578 m 24-May-2012 C. R. Nelson # 10284 & class, INHUT 74 165entrada Mountain bicycle ride. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10284

10285 USA: UTAH: Grand Co. Moab City Park, N 38.57776 W 109.55458 1219 m 24-May-2012 C. R. Nelson # 10285 & class, INHUT 74 165moab Lunch. photos: people and park. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric

Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10285

10286 USA: UTAH: Grand Co. head of Negro Bill Canyon, Medieval Chamber and Morning Glory Rappel, N 38.59251 W 109.50816 1372 m 24-May-2012 C. R. Nelson # 10286 & class, INHUT 74 165med1 photos: people rappeling and Ali Campbell jumping. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Looking up at the thin rope suspending me over the distant slot canyon floor. 10286

10286.5 USA: UTAH: Grand Co. Negro Bill Canyon, Hwy 128, North of Moab, N 38.609786 W 109.533628 1214 m 24-May-2012 C. R. Nelson # 10286.5 & class, INHUT 74 googleearth photos: John Bennion and scenery. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Looking up at the thin rope suspending me over the distant slot canyon floor. 10286.5

10286.7 USA: UTAH: Grand Co. Colorado River, Hwy 128, Big Bend Campground, N 38.64870 W 109.48161 1215 m 24-May-2012 C. R. Nelson # 10286.7 & class, INHUT 74 Camped night of 24-25 May 2012. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Photos: of pinnacles at sunset. 10286.7

10287 USA: UTAH: Grand Co. Colorado River, Hwy 128, 1 mile below Hal Canyon Campground, N 38.63195 W 109.48915 1271 m 24-May-2012 C. R. Nelson # 10287 & class, INHUT 74 165hal photos: sunset on the pinnacles with reflections in the glassy river. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Hannah Bonner, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10287

10288 USA: UTAH: Wayne Co. Boulder Mountain, Singletree Creek Campground, N 38.16116 W 111.33333 2528 m 25-May-2012 28-May-2012 C. R. Nelson # 10288 & class,

INHUT 74 167single Camped nights of 25-28 May 2012. set up two malaise traps across Singletree Creek, lecture about deer by Eric "Ladd" Freeman. Hannah Bonner gone with torn ligaments. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Asilidae Cyrtopogon, band winged pigeons, pinyon jays. 26 May 2012: junco. 10288

10289 USA: UTAH: Wayne Co. Capitol Reef National Park, Cassidy Arch Trailhead and trail, N 38.26389 W 111.21577 1691 m 26-May-2012 C. R. Nelson # 10289 & class, INHUT 74 167castrhd photos: scenery & people. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10289

10290 USA: UTAH: Wayne Co. Capitol Reef National Park, Cassidy Arch and rappels down to the trailhead N 38.26117 W 111.22572 1897 m 26-May-2012 C. R. Nelson # 10290 & class, INHUT 74 167cassup, elev from googleearth photos: rappeling people. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Rappel 1 from Lauren Nuckols: N 38 15.670 W 111 13.543 elev. 5971 ft. What is 167casstop? seems better elevation for same spot as 167cassup: N38.26116 W111.22568 elev. 1825m. 10290

10291 USA: UTAH: Wayne Co. Capitol Reef National Park, Slickrock Divide N 38.22425 W 111.22083 1814 m 26-May-2012 C. R. Nelson # 10291 & class, INHUT 74 167slick Lectures on Geologic layers and Biomes Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller.

slicrock - Lauren Nuckols N38 13.455 W111 13.250, elev. 5951 feet. 10291

10292 USA: UTAH: Wayne Co. Capitol Reef National Park, Capitol Gorge. trail to Pioneer Registry, N 38.20798 W 111.15902 1628 m 26-May-2012 C. R. Nelson # 10292 & class, INHUT 74 167pioneer photos: people & scenery. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner

Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller.

register - Lauren Nuckols N38 12.558 W111 9.585, elev. 6057 feet. 10292

10293 USA: UTAH: Wayne Co. Capitol Reef National Park, Fruita Picnic Area, N 38.28530 W 111.24603 1673 m 26-May-2012 C. R. Nelson # 10293 & class, INHUT 74 167fruita photos: people & scenery. Talk with Chip Ward, author of "Canaries on the Rim." Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller.

park - Lauren Nuckols N38 17.118 W111 14.762, elev. 5489 feet. 10293

10294 USA: UTAH: Wayne Co. Torrey, LDS chapel, N 38.28961 W 111.41973 2082 m 27-May-2012 C. R. Nelson # 10294 & class, INHUT 74 168torrey church for the morning. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. house sparrow, northern flicker, robin. 10294

10295 USA: UTAH: Wayne Co. Teasdale, N 38.28568 W 111.47816 2166 m 27-May-2012 C. R. Nelson # 10295 & class, INHUT 74 168teas photos: interview of Carol & Dwight Williams in their home. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10295

10296 USA: UTAH: Wayne Co., Boulder Mountain, Larb Hollow Overlook N 38.127 W 111.329 2698 m 27-May-2012 C. R. Nelson# 10296 & class, INHUT 74 googleeearth photos: sunset, to the east. INHUT people as letters. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10296

10297 USA: UTAH: Garfield Co. Boulder, Anasazi State Park, N 37.91086 W 111.42384 elev. 2052 m, 28-May-2012 C. R. Nelson# 10297 & class, INHUT 74 tour by Mike McKay (of Huntsville, Utah) about age 45. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John

Bennion, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10297

10298 USA: UTAH: Garfield Co. Grand Staircase Escalante National Monument Upper Calf Creek Falls trail, alcoves, swimming hole N 37.85576 W 111.45260 1828 m 28-May-2012 C. R. Nelson# 10298 & class, INHUT 74 google earth photos: people & scenery. Talked with Franz Shakespear cousin of Carl from Tropic, Utah. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Accidentally left my camera, Nikon D300 on a tree at the trailhead. Retrieved much later from Grand Staircase - Escalante National Monument Visitors Center with help from Brent Griffin, monument mechanic Gene Quilter, and ranger photos: orchids, Aconitum, hanging gardens 10298

10299 USA: UTAH: Garfield Co. Escalante, N 37.77181 W 111.60099 elev. 1725 m, 28 May 2012, C. R. Nelson # 10299 & class, INHUT 74 034escal Talked with Brent Griffin at his store. He is now in the bishopric of the Escalante 2nd Ward, tell Ken Packer, his old seminary teacher. Left trailer so not on the Hole in the Rock Road. Later returned for camera at Upper Calf Creek Trailhead, Ranger Bob Stevenson had carried it to visitors center. Closed at 5:30pm. Helped by Brent, Gene Quilter. Thought of Terry Tolbert, Wildlife Biologist. Knew Gene from survey days. He helped with trailers & mechanical stuff. Riley Nelson, Liz Knight, Brian Hill, Brian Cannon, John Bennion, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 10299

10300 USA: UTAH: Garfield Co. Glen Canyon National Recreation Area, rim Coyote Gulch jct Escalante River, The Crack in the Wall, N 37.41920 W 110.98514 elev. 1363 m, 28 May 2012, C. R. Nelson # 10300 & class, INHUT 74 Divided INHUT into two groups. One of 10 people to go with John Bennion and me in through the Crack in the Wall. Other of 10 to go with Brian Hill and Brian Cannon in at Jacob Hamblin Arch. After recovering my camera I returned down the Hole in the Rock Road, got a flat tire and put on the spare, and walked alone in the dark from 40 Mile Ridge to the Crack in the Wall. Joyful reunion. Riley Nelson, John Bennion, Liz Knight, Rebecca Clement, Seth Cannon, Rachel Fuller, Eric Lenhart, McKall Morris, Ashley-Brooke Summerhays, and Kyla McDonald. magnificent sunrise. Camped on rim 28-29 May 2012. 10300

10301 USA: UTAH: Garfield Co. Glen Canyon National Recreation Area, Coyote Gulch, hike from Crack in the Wall to Jacob Hamblin Arch, N 37.41838 W 111.00809 elev. 1174 m, 29 May 2012, C. R. Nelson # 10301 & class, INHUT 74 168cliff photos: scenery & people. Met second INHUT group at waterfall at Cliff Arch. Lunch, shared soda pop. 2 liters Squirt, 2 liters Tiki Punch. photos: Cliff Arch *168cliff arch N 37.41838 W 111.00809 elev. 1174m), Coyote Bridge (N 37.41640 W 111.02814 elev. 1215 m), Lake in Right side canyon near Ruins Alcove (168lakfk, side canyon jct main Coyote Canyon, N37.41544 W 111.02044, elev. 1196 m), Ruins Alcove (168pueblo, N 37.41528 W 111.02164, elev. 1211 m) Ruins from Brian Hill N 37.41542 W 111.02087 elev. 1208 m. High in Ruins 168 ruhgh, N 37.41572 W 111.02183 elev 1239m), 168hambtoi Hamblin Arch Toilet N 37.41962 W 111.04146 elev. 1225 m. Riley Nelson, John Bennion, Liz Knight, Rebecca Clement, Seth Cannon, Rachel Fuller, Eric Lenhart, McKall Morris, Ashley-Brooke Summerhays, and Kyla McDonald. 10301

10302 USA: UTAH: Garfield Co. Glen Canyon National Recreation Area, Coyote Gulch, alcove upstream from Jacob Hamblin Arch, N 37.41962 W 111.04146 elev. 1225 m, 29 May 2012, C. R. Nelson # 10302 & class, INHUT 74 168hambtoi. GPS from toilet downstream from arch, couldn't see enough sky to get a clear reading at camp. 168hambtoi Hamblin Arch Toilet N 37.41962 W 111.04146 elev. 1225 m. Camped night 29-30 May 2012. Riley Nelson, John Bennion, Liz Knight, Rebecca Clement, Seth Cannon, Rachel Fuller, Eric Lenhart, McKall Morris, Ashley-Brooke Summerhays, and Kyla McDonald. Cooked dinner of soup & "biscuits" on whisperlite stoves. Sang solemn songs in magnificent resonating alcove. Slept in the sand. white throated swifts, violet green swallow, ravens, spotted towhee, yellow chat, canyon wren, says phoebe. Calling toads. 10302

10303 USA: UTAH: Garfield Co. Glen Canyon National Recreation Area, Coyote Gulch, Moki Steps out at Jacob Hamblin Arch, N 37.41973 W 111.04173 elev. 1237 m, 30 May 2012, C. R. Nelson # 10303 & class, INHUT 74 168moki photos: people and scenery. Walked out at Moki Steps, with help from mountain climbing rope. photos enroute back to 40 Mile Ridge Stock Tank. Riley Nelson, John Bennion, Liz Knight, Rebecca Clement, Seth Cannon, Rachel Fuller, Eric Lenhart, McKall Morris, Ashley-Brooke Summerhays, and Kyla McDonald. 168moki2 N37.41971 W111.04163 elev. 1236m; 168moki3 N37.41972 W111.04178 elev. 1234m; 168mokitop (top, back on "flat" slickrock) N37.41928 W111.04200 elev. 1293m. End at 40 Mile Tank: 16840tank N37.39249 W111.04857 elev. 1464m. leopard lizard. 10303

10304 USA: UTAH: Garfield Co. Glen Canyon National Recreation Area, Hole in the Rock Road, Mormon Arch, oil rig remains near bronze plaque, N 37.25780 W 110.96062 elev.

1326 m, 30 May 2012, C. R. Nelson # 10304 & class, INHUT 74 168holesta photos: Start of hike for last "five miles" of the Hole in the Rock Road to the Hole. Riley Nelson, Brian Cannon, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. leopard lizard; photos: dead midget faded rattlesnake baby. 10304

10305 USA: UTAH: Garfield Co. Glen Canyon National Recreation Area, Hole in the Rock , top, N 37.25650 W 110.90022 elev. 1306 m, 30 May 2012, C. R. Nelson # 10305 & class, INHUT 74 168holetop Shared soup dinner with Kendall Peterson of Richmond, Utah. He is a 5-0 year old engineer for Young Co. (signs) traveling on a motorcycle. Riley Nelson, Brian Cannon, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. Ladies had a rattlesnake in their bed just before sleep time. I'm not good at calming with stories of safety. 168holehaf (low accuracy in slot near top N37.25590 W110.90010 elev. 1325m. 169holedow (bottom at lake edge) N37.25422 W110.89448 elev. 1135m. tree lizard, raven, western pewee, wren (not canyon wren), photos, morning: midget faded rattlesnake baby from McKall Morris' bed, silhouettes and scenery, yucca. 10305

10306 USA: UTAH: Garfield Co. Glen Canyon National Recreation Area, Lake Powell, 50 Mile Creek Inlet, N 37.33129 W 110.93874 elev. 1134 m, 31 May 2012, C. R. Nelson # 10306 & class, INHUT 74 169lkpw50m Camped night of 31 May - 2 June 2012. Riley Nelson, Liz Knight, Brian, Karen, and Mariah Hill, Brian, Anna Lea, Miriam, C? Cannon, John Bennion, Eric Lenhart, Katie Christenson, Becca Clement, Chris Bennion, Ashley Brooke Summerhays, Lauren Nuckols, McKall Morris, Kyla McDonald, Tanner Thompson, Emma Lucy Pimentel, Stacie Faulk, Ali Campbell, Seth Cannon, Samantha Smith, Rachel Fuller. 1 June 2012: kayaked to end of lake in 50 Mile Inlet, photos: sponges and people, walked to first cottonwood. No Hannah Bonner, torn ankle ligaments; no Olivia Haworth, ovarian cysts. house finch, raven, Corbicula clams, canyon wren, bushy globe mallow, wire lettuce?, star thistle, tamarisk, violet green swallows. 10306

10307 USA: ARIZONA: Coconino Co. Grand Canyon National Park, North Rim, Bright Angel Point, N 36.19685 W 112.05358 elev. 2429 m, 8 June 2012, C. R. Nelson # 10307 & family 74 169gcnlod photos: people and scenery. Riley, Kaye, Andrea Nelson; Amy & Todd Smith. (gps at lodge) Rutaceae plant Ptelea?; Megthymidae giant skipper. 10307

10308 USA: ARIZONA: Coconino Co. Kaibab National Forest, fire remains, 11 miles S of Jacob Lake, Hwy 67, N 36.56701 W 112.17280 elev. 2621 m, 8 June 2012, C. R. Nelson # 10308 & family 74 169fire photos: people and scenery. Riley, Kaye, Andrea Nelson; Amy &

Todd Smith. (gps at lodge) photos: burned area, forest fire of 20__; ponderosa pine with aspen regeneration. 10308

10309 USA: ARIZONA: Coconino Co. Marble Canyon, Navajo Bridge, Hwy 89A, walking bridge, Colorado River, N 36.81808 W 111.63216 elev. 1129 m, 8 June 2012, C. R. Nelson # 10309 & family 74 169fire photos: people and scenery, bridge, Colorado River. Riley, Kaye, Andrea Nelson; Amy & Todd Smith. (gps at lodge) 10309

10310 USA: ARIZONA: Maricopa Co. Phoenix, Enclave Apartments, Paradise Village Parkway, N 33.59578 W 111.98344 elev. 452 m, 8-11 June 2012, C. R. Nelson # 10310 & family 74 10apart photos: Artemis Valborg Nelson with family. Riley, Kaye, Andrea, Jason, Brandy, Artemis Nelson; Amy & Todd Smith. (gps at lodge). After blessing picnic by pool on 10 June 2012. 10310

10311 USA: ARIZONA: Maricopa Co. Phoenix, Mountain View LDS Ward, N 33.581991 W 112.003796 elev. 435 m, 10 June 2012, C. R. Nelson # 10311 & family 74 googleearth photos: Artemis Valborg Nelson after blessing, with extended family. Riley, Kaye, Jason, Brandy, Artemis, Andrea Nelson, Amy & Todd Smith, Jackie, Lindsay & son Bradley, Page & boyfriend, Kellen, Seth, Pat Spurlock, Nancy Spurlock, and Allie Spurlock. 10311

10312 USA: ARIZONA: Maricopa Co. Phoenix, Papago Park, Big Butte, N 33.465331 W 111.953597 elev. 413 m, 10 June 2012, C. R. Nelson # 10312 & family 74 googleearth photos: sunset, Kaye, Riley, Brandy, and Artemis; with iPhone camera. 10312

10313 USA: ARIZONA: Yavapai Co. Hwy I-17 at Horse Canyon and Bumblebee exit, milemarker 248, N 34.14120 W 112.15018 elev. 827 m, 11 June 2012, C. R. Nelson # 10313 & family 74 170horse photos: Amy with Saguaro cactus. yellow spined cholla, foothill palo verde seeds. 10313

10314 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, Yavapai Point, N 36.06536 W 112.11824 elev. 2151 m, 11 June 2012, C. R. Nelson # 10314 & family 74 170yavapgc photos: scenery & people. Riley, Kaye, Amy, and Todd. 10314

10315 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, Pipe Creek Trail, N 36.04807 W 112.09439 elev. 2176 m, 11 June 2012, C. R. Nelson # 10315 & family 74 170pipecr photos: scenery & people. Riley, Kaye, Amy, and Todd. 10315

10316 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, Grandview Point, N 35.99861 W 111.98775 elev. 2257 m, 11 June 2012, C. R. Nelson # 10316 & family 74 170grand photos: scenery & people, several panoramas. Riley, Kaye, Amy, and Todd. family group shot, end with dead tree right frame. 10316

10317 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, Moran Point, N 36.00522 W 111.92435 elev. 2185 m, 11 June 2012, C. R. Nelson # 10317 & family 74 170moran photos: scenery & river Riley, Kaye, Amy, and Todd. Fantastic! end junk white car. 10317

10318 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, Navajo Point, N 36.03857 W 111.83746 elev. 2258 m, 11 June 2012, C. R. Nelson # 10318 & family 74 170navajo photos: scenery. Riley, Kaye, Amy, and Todd. Fantastic! end Amy then river. 10318

10319 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, Desert View, N 36.04417 W 111.82600 elev. 2263 m, 11 June 2012, C. R. Nelson # 10319 & family 74 170desert photos: scenery & people. Riley, Kaye, Amy, and Todd. 10319

10320 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 16-Jun-2012 C. R. Nelson # 10320 & J. K. Nelson 74 photos: Glass Cliffs. photos: dog tracks (wolf?). Rattlesnake in metal near electric shed, garter snake at y, sagebrush lizards. Took sagebrush home to Provo and planted on the front hill, all dead by 4 July 2012. 10320

10321 USA: UTAH: Salt Lake Co., Salt Lake City, 300 East 300 South, N 40.762937 W 111.883234, 1305 m, 16-Jun-2012 C. R. Nelson # 10321 & J. K. Nelson 74 googleearth photos: architecture, buildings and clouds. with Rexanne and Hank Pond. photos: hollyhocks, iPhone camera 10321

10322 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 17-Jun-2012 C. R. Nelson # 10322 73 photos: Sciaridae by the thousands on window sill, no new plants, etc.? Source unknown. Photos and vouchers also on 18 June 2012, then after a couple days, all gone. 10322

10323 USA: NEVADA: White Pine Co. Great Basin National Park, Grey Cliffs Campground, Baker Creek, N 38.99094 W 114.22552 2190 m 18-21 June 2012 C. R. Nelson # 10323 & R. A. Clement & M. Otis. 74 171grey Gathering for Diptera Bioblitz. malaise traps 18-21 June 2012. Bjoern Rulik from Germany. Daylight at 4:30am local time. photos: Great Basin Rattlesnake 18 June; moths at sheet 19 June. Hesperoperla. 20 June: Sweltsa, Alloperla, Pteronarcella, Paraleuctra, Heleomyzidae, Asilidae Machimus, Holopogon, Leptogaster. Lauxaniidae, Chamaemyiidae, Empididae, Chloropidae, Ephydriidae, Sepsidae, Agromyzidae, Syrphidae, Chironomidae, Therevidae, Conopidae, Pipunculidae, Ulidiidae, Sciomyzidae, Tephritidae, Tipulidae pupa. 10323

10324 USA: NEVADA: White Pine Co. Great Basin National Park, Lehman Caves Visitors Center, hilltop, N 39.00413 W 114.22036 2127 m 19-Jun-2012 C. R. Nelson # 10324 & R. A. Clement & M. Otis. 74 171lehill *Stenopogon inquinatus*, Tachinidae 10324

10325 USA: NEVADA: White Pine Co. Great Basin National Park, wet meadow below Baker Creek Campground, N 38.98795 W 114.23483 2269 m 19-21 June 2012 C. R. Nelson # 10325 & R. A. Clement & M. Otis. 74 171bakemed malaise trap 19-21 June 2012 over very small stream near willows in open meadow. Most collecting on 19 June in meadow, but some on trail from campground. Tipulidae, Cyrtopogon, Lampyridae, Efferia, Chrysomelidae, Raphidiidae adults and larva, Anthomyiidae, Bombyliidae, Dolichopodidae *Ptychopteridae, Mycetophilidae, Stratiomyidae, Ephydriidae, Scatopsidae, Agromyzidae, Tethinidae, Phoridae, Sciaridae male, Milichiidae, Psilidae. 10325

10326 USA: NEVADA: White Pine Co. Great Basin National Park, Wheeler Peak Campground, Bristlecone Trail, Lehman Creek, N 39.01010 W 114.30745 3006 m 19-21 June 2012 C. R. Nelson # 10326 & R. A. Clement & M. Otis. 74 171whecamp Two malaise traps 19-21 June 2012 over stream. Capniidae, Leuctridae, Nemouridae, Chloroperlidae, Heleomyzidae, Muscidae, Empididae, Bibionidae, Mycetophilidae, Sciaridae. 21 June Ichneumonidae, Syrphidae, Tabanidae. 10326

10327 USA: NEVADA: White Pine Co. Great Basin National Park, Grey Cliffs, Ice Cave entrance, N 38.99036 W 114.22066 2110 m 20-Jun-2012 C. R. Nelson # 10327 & R. A. Clement & M. Otis. 74 171ice with Gretchen Baker, Bjoern Rulik and others. photos: cave Sciaridae voucher disappeared then found with main sample; Opilionidae. Heleomyzidae, Archaeognatha, long dainty legged Cecidomyiidae, Opilionida outside cave. 10327

10328 USA: NEVADA: White Pine Co. Great Basin National Park, Grey Cliffs, Pictograph Cave entrance, N 38.99045 W 114.21813 2128 m 20-Jun-2012 C. R. Nelson # 10328 & R. A. Clement & M. Otis. 74 171pict with Gretchen Baker, Bjoern Rulik and others. photos: Opilionidae (non cave form). Heleomyzidae. 10328

10329 USA: NEVADA: White Pine Co. Great Basin National Park, Grey Cliffs, Three Holes Cave entrance, N 38.98983 W 114.21735 2110 m 20-Jun-2012 C. R. Nelson # 10329 & R. A. Clement & M. Otis. 74 171hole with Gretchen Baker, Bjoern Rulik and others. Heleomyzidae. Missed big syrphid, Temnostoma? one specimen seen in malaise trap sample from Baker Creek, Grey Cliffs sample. 10329

10330 USA: NEVADA: White Pine Co. Great Basin National Park, Lehman Caves, N 39.00530 W 114.21987 2081 m 20-Jun-2012 C. R. Nelson # 10330 & R. A. Clement & M. Otis. 74 171leh evening with Gretchen Baker (son and daughter), Bjoern Rulik and others. Photos: cave formations. Sciaridae in cave. Efferia zonata outside cave. 10330

10330.5 USA: NEVADA: White Pine Co. Great Basin National Park, Wheeler Peak View Point, N 39.02666 W 114.28648 3039 m 21-Jun-2012 C. R. Nelson # 10330.5 & R. A. Clement & M. Otis. 74 171wheview photos: scenery. 10330.5

10331 USA: NEVADA: White Pine Co. Great Basin National Park, Teresa Lake, N 39.00364 W 114.31081 3127 m 21-Jun-2012 C. R. Nelson # 10331 & R. A. Clement & M. Otis. 74 171teresa photos: scenery & people. Anthomyiidae, Syrphidae, Ephydriidae. Primulaceae: Primula and shooting star, Dodecantheon. 10331

10332 USA: NEVADA: White Pine Co. Great Basin National Park, Bristlecone Pine Forest Loop, N 39.00049 W 114.30508 3165 m 21-Jun-2012 C. R. Nelson # 10332 & R. A. Clement & M. Otis. 74 171brist photos: scenery, trees, & people. Pinus longaeva, bristlecone pine 10332

10332.5 USA: NEVADA: White Pine Co. Great Basin National Park, Wheeler Peak Scenic Drive, view east to Notch Peak, N 39.033832 W 114.271377 2630 m 21-Jun-2012 C. R. Nelson # 10332.5 & R. A. Clement & M. Otis. 74 googleearth photos: scenery.

also photos of Baker Hall with Diptera Bioblitz group: N 39.011351 W 114.124649 elev. 1627 m. 10332.5

10333 USA: UTAH: Millard Co. Sevier Lake, view east from Hwy 6, from hilly rise 7 miles west of Amasa Basin Road turnoff, N 39.04795 W 113.27938 1552 m 21-Jun-2012 C. R. Nelson # 10333 & R. A. Clement & M. Otis. 74 171sevier photos: Sevier Lake from west side. Two panoramas, 18 mm lens setting. Stop 45, milemarker 44. 51 is Amasa Basin Road turnoff. 10333

10334 USA: UTAH: Utah Co., Provo, Eastlawn Cemetery, N 40.29829 W 111.64925 1554 m 22-Jun-2012 C. R. Nelson # 10334 74 172cemet photos: fire above Saratoga Springs. panoramas. 10334

10335 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 24-Jun-2012 C. R. Nelson # 10335 & J. K. Nelson 74 photos: Sherry Wheeler holds a magpie for first time at age 83. photos: magpie chick and people (Kaye, Sherry, Riley, Meagan, Nate) 10335

10336 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 27-Jun-2012 C. R. Nelson # 10336 74 watered yard with 3000 gallons irrigation water and 1000 gallons house water. Collected 12 buckets of pinyon duff for use in Provo yard. 8 buckets of Green River Shale fines for Provo yard. Read NSF Mongolia 2008 proposal. photos: Great Basin Rattlesnake, Crotalus oreganus lutosus, crossing driveway from west to east, about 75 m north of highway gate. 10336

10337 USA: UTAH: Utah Co., Lehi, Parker home, 772 West 100 South, N 40.386606 W 111.861211, 1386 m, 30-Jun-2012 C. R. Nelson # 10337 & J. K. Nelson 74 googleeearth photos: building small picnic tables with Kaye, Dave & Jera Parker. 10337

10338 USA UTAH: Utah Co., Squaw Peak Overlook, Squaw Peak Trail, N 40.301271 W 111.625767 2030 m, 01-Jul-2012 C. R. Nelson # 10338 & J. K. Nelson 74 photos: sunset. With Karla and John Bennion 10338

10339 USA UTAH: Utah Co., Provo, Edgemont, Foothill Drive between Canyon Road and University Avenue, N 40.293638 W 111.654632 1471 m, 03-Jul-2012 C. R. Nelson # 10339 & J. K. Nelson 74 photos: fire above Alpine with tan horse, panoramas. 10339

10340 USA UTAH: Utah Co., Provo, Edgemont, Canyon Road and 4450 North, N 40.29245 W 111.65269 1473 m, 04-Jul-2012 C. R. Nelson # 10340 & J. K. Nelson 75 photos: Jeff Nichols and boys shoot the 6:00 am wake up cannon, Connor Corbin, Samuel Thrupp, and matthew Baird. 10340

10341 USA: UTAH: Utah Co., Utah Lake, north end airport dike, N 40.23075 W 111.73576 1371 m 04-Jul-2012 C. R. Nelson # 10341 & J. K. Nelson 75 photos: sunrise and moonset; Kaye and Riley Nelson self-portrait 10341

10342 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 07-Jul-2012 C. R. Nelson # 10342 & J. K. Nelson 75 Cleaned big water tanks; stretched and tilted hose to fill them, built dam of sand bags (15 or so) to create reservoir to fill tanks; slope of hose not right. With Paul and Kathy Wheeler, Paul Ashton, Sherry Wheeler. lazuli bunting, sage? sparrow; magpies; pinyon jays; black chinned hummingbirds; wiedemeyers admirals; Speyeria. 10342

10343 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 14-Jul-2012 C. R. Nelson # 10343 & J. K. Nelson 75 Inclined the hose better so now it is filling the sealed tanks. A six inch Gambel's oak log fell on the hose. I took it home, cut off several sections and counted rings to get to 100 years old. It was dead so I don't know how far back this dates its "birth." The sections I polished were about six feet from the stump. With Brett Wheeler; Paul and Scott Ashton. January 2022 I turned a small section of the log on the lathe. I made four simple door knobs for interior doors at the cabin. Two weeks or so later, 27 January 2022, I turned the last part of that small section into a four inch cylinder, polished with beeswax. photos: hummingbirds. 10343

10344 USA: ARIZONA: Coconino Co. near Gray Mountain, Hwy 89, N 35.74175 W 111.47484 elev. 1538 m, 16 July 2012, C. R. Nelson # 10344 & J. K. Nelson 75 google earth photos: rabbit grafitti on big gas tanks 10344

10345 USA: ARIZONA: Coconino Co. Antelope Hills, Hwy 89, near south border Wupatki National Monument, N 35.54595 W 111.53801 elev. 1712 m, 16 July 2012, C. R. Nelson # 10345 & J. K. Nelson 75 iPhone gps photos: carved and painted posts to east, gradient storm and highway to northwest. Vesicular basalt for Sherry Wheeler 10345

10345 USA: ARIZONA: Yavapai Co. Red Rock Crossing, Oak Creek, Crescent Moon Ranch, N 34.82649 W 111.80522 elev. 1191 m, 16 July 2012, C. R. Nelson # 10345 & J. K. Nelson 75 172REDROCK photos: scenery and us two too. iPhone waypoint 008 N 34.38261 W 111.80522 elev. 1232 m. photos: crayfish 10345

10347 USA: ARIZONA: Maricopa Co. Phoenix, 4502 East Paradise Village Parkway South, Paradise Trails Apartments #3025 85032 N 33.596567 W 111.983124 421 m 16-18 July 2012 C. R. Nelson # 10347 & J. K. Nelson 75 iPhone photos: swimming pool; Artemis. Packing to move to Mountain View Casitas Apartments near 12th Street and Bell Avenue. Rented a U Haul 14 foot truck. 83F in the morning 101F mid day. 17 July 2012 photo with weather site. 10347

10348 USA: ARIZONA: Maricopa Co. Phoenix, Mountain View Casitas, 1130 Grovers Avenue, N 33.64780 W 112.05820 426 m 19-22 July 2012 C. R. Nelson # 10348 & J. K. Nelson 75 174GROVERS bought two saguaro cacti 4 inch \$4.00 and 6 inch \$11.00. and a 6 inch golden barrel cactus at Green Goddess Cactus Gardens on Bell Avenue near Hwy 51. time with Brandy, Jason, and Artemis Nelson. starlings, flycatchers, mourning doves, white winged doves, smaller doves inca?, grackles, house sparrows, gila? woodpecker. Eurasian collared dove, rock dove pigeons, Five species of doves! in the neighborhood. photos: Buprestidae Acmaeodera. Lantana, Oleander. 10348

10349 USA: ARIZONA: Maricopa Co. Phoenix, Lookout Mountain near 16th and Greenway, N 33.62340 W 112.04730 595 m 21-Jul-2012 C. R. Nelson # 10349 & J. K. Nelson 75 google earth time with Brandy, Jason, and Artemis Nelson. nest of bird, black tailed gnatcatcher. Parking lot was 472 m. 10349

10350 USA: NEVADA: Clark Co. Logandale, Wheeler home, 1985 Lou Adams Avenue, N 36.618548 W 114.485940 429 m 23-Jul-2012 C. R. Nelson # 10350 & J. K. Nelson 75 google earth photos: early morning scenes, sitting with Kathy Wheeler. mockingbird, grackle, Eurasian collared dove, pewee?, black throated hummingbird, red winged black bird; 10350

10343 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 14-Jul-2012 C. R. Nelson # 10343 & J. K. Nelson 75 Inclined the hose better so now it is filling the sealed tanks. A six inch Gambel's oak log fell on the hose. I took

it home, cut off several sections and counted rings to get to 100 years old. It was dead so I don't know how far back this dates its "birth." The sections I polished were about six feet from the stump. With Brett Wheeler; Paul and Scott Ashton. photos: hummingbirds. 10343

10351 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 24-Jul-2012 C. R. Nelson # 10351 & J. K. Nelson 75 10:30 am. 21 buckets of pinyon mulch for home; 7 buckets of green Green River Shale for home. watered the lawn and trees. Tanks not filling, flash flood last night (saw clouds from home) washed out dams from spring, filled in dams with rock and mud, Not enough time to fix today! Need to soon. 10351

10352 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 28-Jul-2012 C. R. Nelson # 10352 & J. K. Nelson 75 Repaired two dams with sandbags. Cleared pipes and hoses to mud. Water flows again into tanks! 20 buckets pinyon pine mulch for home 11 buckets of Green River Shale for home. Rained twice, hard. soaked me, dried out in sun. Soaked again, dried again. No real rain in Utah Valley - dry at home. Picked up fire pan from Darryl and Mary Lee at home off Canyon Road. Nice evening talk. large planiform snail fossils. 10352

10353 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 24-Jul-2012 C. R. Nelson # 10353 75 photos: portraits of Kaye taken in backyard, 31 July 2012. photos: Opuntia blossom, cholla from near Wickenburg CRN#, spines of various cactus. 10353

10354 USA: UTAH: Utah Co., Lehi, Parker home, 772 West 100 South, N 40.386571 W 111.861305 1386 m 02-Aug-2012 C. R. Nelson # 10354 75 Google Earth photos: Abby Stoddard and Maegan Stoddard with grasshopper from Pocatello. Melanoplus bivittatus from Idaho. 10354

10355 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 3-5 August 2012 C. R. Nelson # 10355 75 watered lawns, dropped off plywood from stadium lights. Billowing clouds of smoke up canyon from fire in Hicks Canyon on north side of highway. Firefighters arranged with me to place a "pumpkin" 4.5 ft x 20 ft plastic inflatable water tank on our flat to serve as a dipping point for helicopters fighting the fire. Soon a crowd of trucks arrived. Judged fire size at 143 acres by the morning of 4 August 2012. Contacts: Captain Jamie Nelson of Utah County Fire left a card. I gave her my BYU card. Jane Martinez from the Utah State Department of Natural Resources, Forestry, Fire, and Stand Lands, 801-541-6764 came by and arranged for payment for using our land for the pumpkin. \$100 per day, start 3 August 2012, plus damages for rehab. Perhaps we'll waive all charges. She liked the hummingbirds. hummingbirds: black chinned, broad tailed,

and rufous. I preserved one dead female by drying her out hung on the stuffed mule deer in the front room. Megaphorus robberfly in 100% ethanol. Saw Clarks Nutcrackers. Photos: Great Basin Rattlesnakes, common nighthawk (at Glass Cliffs 10356). 10355

10356 USA: UTAH: Utah Co., Glass Cliffs, Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95547 W 111.27274 1952 m, 3-5 August 2012 C. R. Nelson # 10356 75 020glass 5 August, with Kaye Nelson and Paul Ashton, saw the two rattlesnakes again in the same shale pit around a dead Utah Juniper. Photos back towards fire in Hicks Canyon. photos Great Basin rattlesnake, common nighthawk. 10356

10357 USA: UTAH: Emery Co. Ferron, Mead Home, N 39.089781 W 111.135181, 1813 m, 05-Aug-2012 C. R. Nelson # 10357 & J. K. Nelson & Sherry Wheeler 75 Google Earth There for blessing of Wyllow. photos: rotting deer head on shed near bicycles and toys. "Sabryna's first buck." Two points on one side three on the other. My title for photo: "Been'as first buck" based on words of Mychigan. 10357

10358 USA: UTAH: Utah Co., Partridge Canyon, jct Tie Fork Canyon, 4 miles northeast of Tucker Rest Area, N 39.99889 W 111.20092, 2011 m, 08-Aug-2012 C. R. Nelson # 10358 75 174PARTRID iPhone photos: canyon, Wheeler hunting grounds. manzanita 10358

10359 USA: UTAH: Utah Co., Tie Fork Canyon, Mine Hollow Cliffs on trail, 4 miles west of Tucker Rest Area, N 39.99293 W 111.20644, 2001 m, 08-Aug-2012 C. R. Nelson # 10359 75 174TICLIFF photos: cliff. Drink at spring within 100 m downstream coming from Douglas fir forest on right bank. Four wheelers don't have access to Partridge Canyon, yay! 174TITRUCK, parking spot: N 39.99115 W 111.20998 elev. 2020m. 174PUMPK, firefighting pumpkin tank from "our" fire N 39.97326 W 111.21418 elev. 1950 m. Berytidae, Sciomyzidae, Nemouridae, Tipulidae. 10359

10360 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 08-Aug-2012 C. R. Nelson # 10360 75 fixed sprinklers and hose. Hung manzanita from Partridge Canhyon on the wall. Repaired a tent found up Tie Fork. photos: Machimus griseus?, llamas. 10360

10361 USA: UTAH: Kane Co., Mount Carmel Junction, Hwy 89 and Hwy 9, N 37.22357 W 112.68127, 1600 m, 13-Aug-2012 C. R. Nelson # 10361 & S. M. Clark. 75 Dynastes granti (later bred in lab and put female with eggs in a culture bottle. Myrmeleontidae Vela sp. 10361

10362 USA: ARIZONA: Coconino Co. Kaibab National Forest, Road 280 jct Hwy 89A, 24 mi southeast of Fredonia, N 36.76000 W 112.26568, 2216 m, 13-Aug-2012 C. R. Nelson # 10362 & S. M. Clark. 75 175KAIBAB photos: site and ponderosa pine forest. Photos: Marble Canyon from Navajo Bridge, same site as CRN 10309 of eariler in the summer, 8 June 2012.

Tephritidae, Chrysomelidae Monoxia Babia Galeruca, Lauxaniidae, Bombyliidae, Cerambycidae, Buprestidae Acmaeodera, 10362

10363 USA: ARIZONA: Coconino Co. Deadman Flat, Hwy 89, 2.5 miles north Sacred Mountain Trading Post, N 35.49363 W 111.55463, 1885 m, 13-Aug-2012 C. R. Nelson # 10363 & S. M. Clark. 75 175GRASS light rain, roadside, no site photos Megaphorus, 10363

10364 USA: ARIZONA: Coconino Co. north slope Oleary Peak, Forest Road 546, 2.5 miles south of Hwy 89, N 35.43316 W 111.52546, 1967 m, 13-Aug-2012 C. R. Nelson # 10364 & S. M. Clark. 75 175oleary photos: basalt and scoria scenery, site photos. photos: San Francisco Peaks; Shawn Clark picking insets out of his net. Chrysomelidae, photos: Nyssoninae; Castilleja sp. 10364

10365 USA: ARIZONA: Coconino Co. Schultz Pass Road, Road 420, 1 mile south Hwy 89, about 10 mi N of Flagstaff, N 35.36730 W 111.58362, 2245 m, 13-Aug-2012 C. R. Nelson # 10365 & S. M. Clark. 75 175SCHULT Poecilogonathus, Tephritidae 10365

10366 USA: ARIZONA: Coconino Co. West Flagstaff, home of Jeri Ledbetter and Larry Stevens, N 35.24649 W 111.68053, 2207 m, 14-Aug-2012 C. R. Nelson # 10366 & S. M. Clark. 75 175STEVENS photos: Ledbetter home. Jeri Ledbetter, Larry Stevens, museum intern Anya Fayfer family from Ukraine. ponderosa pine forest 10366

10366 USA: ARIZONA: Coconino Co. West Flagstaff, home of Jeri Ledbetter and Larry Stevens, N 35.24649 W 111.68053, 2207 m, 14-Aug-2012 C. R. Nelson # 10366 & S. M. Clark. 75 175STEVENS photos: Ledbetter home. Jeri Ledbetter, Larry Stevens, museum intern Anya Fayfer family from Ukraine. ponderosa pine forest 10366

10367 USA: ARIZONA: Coconino Co. Coconino National Forest, Double Springs Campground, Hwy 90 near Mormon Lake, N 34.94271 W 111.49120, 2173 m, 14-Aug-2012 C. R. Nelson # 10367 & S. M. Clark. 75 175DOUBLE photos: site, flower meadows, sunflowers on Mormon Lake, campground. Collecting with Larry Stevens and Jeri Ledbetter. photos: Wyliea mydas. Volucella, Tachinidae, Bombyliidae, Mycetophilidae 10367

10368 USA: ARIZONA: Coconino Co. Coconino National Forest, Huffer Spring, downstream Hwy 87, 19 mi S of Happy Jack, N 34.46510 W 111.38788, 2246 m, 14-Aug-2012 C. R. Nelson # 10368 & S. M. Clark. 75 175HUFFER photos: scenery, collecting site. Jeri, Larry, and Shawn collecting. Three Standing Dead Trees on lying down - Laphria heaven. Collecting with Larry Stevens and Jeri Ledbetter. Wyliea mydas, many individuals, mostly males; Machimus; Laphria; Volucella; Bombyliidae; Tabanidae. 10368

10369 USA: ARIZONA: Coconino Co. Coconino National Forest, sink pond, Hwy 87 and Forest Road 300 N 34.45430 W 111.39656, 2278 m, 14-Aug-2012 C. R. Nelson # 10369 & S. M. Clark. 75 175POND photos: scenery, site, shallow pond with leeches, tadpoles, and in small pond, fairy shrimp, Jeri swinging net. Collecting with Larry Stevens and Jeri Ledbetter. *Sympetrum*, *Aeshna* multicolor, *Machimus* with coenagrionid prey, *Villa*, saw *Plathemis lydia*, saw *Libellula luctuosa*. shallow pond with leeches, tadpoles, and in small pond, fairy shrimp, 10369

10370 USA: ARIZONA: Coconino Co. Coconino National Forest, Paul Spring near jct Forest Road 218A and Milk Ranch Point Road, N 34.43758 W 111.38805, 2250 m, 14-Aug-2012 C. R. Nelson # 10370 & S. M. Clark. 75 175PAUL photos: scenery, site, and clouds. Collecting with Larry Stevens and Jeri Ledbetter. *Wyliea mydas*, *Mycetophilidae*, *Heleomyzidae*, *Chrysomelidae*, *Machimus*, *Sympetrum* female, *Aeshna* with fern in envelope. 10370

10371 USA: ARIZONA: Coconino Co. Coconino National Forest, Dickenson Flat, Mogollon Rim, N 34.42574 W 111.40079, 2197 m, 14-Aug-2012 C. R. Nelson # 10371 & S. M. Clark. 75 175MOGOLL photos: scenery and group shot. Toward Camp Geronimo. Collecting with Larry Stevens and Jeri Ledbetter. 10371

10372 USA: ARIZONA: Gila Co. East Verde River, Hwy 87, 5 miles NW of Payson, N 34.30079 W 111.35831, 1376 m, 14-Aug-2012 C. R. Nelson # 10372 & S. M. Clark. 75 175EVERDE photos: site, moving water shots. photos: *Cantharidae*; *Asilidae* *Philonicus* female; *Chrysomelidae* 10372

10372.3 USA: ARIZONA: Maricopa Co. Tempe, Arizona State University, Life Science Building N 33.41950 W 111.93417, 400 m, 15-Aug-2012 C. R. Nelson # 10372.3 & S. M. Clark. 75 175EVERDE photos: Group shot of Southwest Collections of Arthropods Network meeting. mountain laurel seeds, *Sophora secundiflora* 10372.3

10372.6 USA: ARIZONA: Maricopa Co. Phoenix, Mountain View Casitas 1130 Grovers Avenue, N 33.64780 W 112.05862, 426 m, 15-Aug-2012 C. R. Nelson # 10372.6 75 photos: Brandy, Jason, and Artemis Nelson. 10372.6

10373 USA: ARIZONA: Pinal Co. Oak Flat, magma Mine Road, 4 miles northeast of Superior, Hwy 60, N 33.30527 W 111.06001, 1183 m, 16-Aug-2012 C. R. Nelson # 10373 & S. M. Clark. 75 175OAKFLAT mercury vapor light arrays of Texas A & M crew, John Oswald and Ed Riley *Asilidae* 3 spp., photos: *Therevidae*, *Embiidina*, scorpions; *Ulidiidae*. 10373

10374 USA: ARIZONA: Pinal Co. Tonto National Forest, Devils Canyon, 7.5 miles northeast of Superior, Hwy 60, downstream, N 33.32056 W 111.03400, 1173 m, 17-Aug-2012 C. R. Nelson # 10374 & S. M. Clark. 75 175DEVIL 175DEVWATER, water in the stream here

N 33.31656 W 111.03452 elev. 1188m. photos: Efferia 3 spp, photos of 2 spp., vouchers with leaf. Mydidae; Pompilidae; photos: Acrididae; bitten by fire ants. Ascalaphidae; Myrmeleontidae; mantispidae Plega sp. 10374

10375 USA: ARIZONA: Gila Co. Tonto National Forest, Jones Water Campground, about 18 miles northeast of Globe, Hwy 60, N 33.59114 W 110.64312, 1275 m, 17-Aug-2012 C. R. Nelson # 10375 & S. M. Clark. 75 175JONES photos: Mallophora in motel at Chinle; Cophura; Heteropogon; Efferia; Poecilanthrax. 10375

10376 USA: ARIZONA: Gila Co. White River Apache Reservation, Salt River Canyon, Becker Butte Lookout, N 33.81375 W 110.46315, 1388 m, 17-Aug-2012 C. R. Nelson # 10376 & S. M. Clark. 75 175BECKER photos: scenery, Becker Butte, Salt River. 10376

10377 USA: ARIZONA: Navajo Co. Monument Valley from south, Hwy 163, N 36.93369 W 110.21883, 1589 m, 18-Aug-2012 C. R. Nelson # 10377 & S. M. Clark. 75 175MON1 photos: scenery. 10377

10378 USA: ARIZONA: Navajo Co. Monument Valley, Hwy 163, 1 mile south Utah State Line, N 36.98259 W 110.18190, 1606 m, 18-Aug-2012 C. R. Nelson # 10378 & S. M. Clark. 75 175MON2 photos: scenery, skyline. 10378

10379 USA: UTAH: San Juan Co. Monument Valley, Hwy 163, north end, N 36.98259 W 110.18190, 1606 m, 18-Aug-2012 C. R. Nelson # 10379 & S. M. Clark. 75 175MON3 photos: scenery, skyline. 10379

10380 USA: UTAH: San Juan Co. Mexican Hat Rock, Hwy 163, N 37.17514 W 109.85827, 1305 m, 18-Aug-2012 C. R. Nelson # 10380 & S. M. Clark. 75 175MEXHAT photos: rock. 10380

10381 USA: UTAH: San Juan Co. view of Comb Ridge, Hwy 163, 3.0 miles south of Comb Wash, N 37.27489 W 109.71152, 1548 m, 18-Aug-2012 C. R. Nelson # 10381 & S. M. Clark. 75 175COMB photos: scenery, Comb Ridge. 10381

10382 USA: UTAH: San Juan Co. San Juan River, Hwy 163, Sand Island Campground, N 37.26050 W 109.62053, 1307 m, 18-Aug-2012 C. R. Nelson # 10382 & S. M. Clark. 75 175SAND photos: scenery and river, rock art. photos: Chrysomelidae on tamarisk *Diorhabda carinulata*, on *Atriplex canescens* *Monoxia* sp., on *Salix exigua* *Altica* sp. on of two named species. *Promachus aldrichii* female, *Proctacanthus nearno* female, *Proctacanthella cacopiloga* female, photos: *Hodophylax*! 1 m 1 f both photographed. Cicindelidae; photos: Acanaloniidae on *Castilleja*, Corimelaenidae on *Castilleja*, Salticidae orange. 10382

10383 USA: UTAH: Garfield Co. mouth of Dirty Devil River into Lake Powell, Hwy 95, N 37.89531 W 110.39780, 1149 m, 18-Aug-2012 C. R. Nelson # 10383 & S. M. Clark. 75 175DIRTYD photos: mud and silt deposits. 10383

10384 USA: UTAH: Garfield Co. Hite Overlook, Hwy 95, Lake Powell, N 37.88139 W 110.40797, 1282 m, 18-Aug-2012 C. R. Nelson # 10384 & S. M. Clark. 75 175DIRTYD photos: view to Hite across lake and silt deposits. 10384

10385 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 20-Aug-2012 C. R. Nelson # 10385 75 in rotten apricot fruit. photos: fly larva, Muscomorpha, with SZX microscope. photos with Nikon D300: fly larvae, Nitidulidae. 10385

10386 USA: UTAH: Box Elder Co. Brigham City LDS Temple, N 41.505424 W 112.016350 1358 m 23-Aug-2012 C. R. Nelson # 10386 & J. K. Nelson 75 photos: Riley and Kaye and temple grounds during open house. 10386

10387 USA: UTAH: Box Elder Co. Corinne, 0.5 miles west of cemetery, Singh's farm, N 41.542585 W 112.138982 1291 m 23-Aug-2012 C. R. Nelson # 10387 & J. K. Nelson 75 photos: dusty road near sunset. photos: white faced ibis in irrigated field 10387

10388 USA: UTAH: Box Elder Co. Woods Creek Duck Club, 1.5 miles southwest of Corinne, "The Farm", west pond, N 41.517753 W 112.148372 1285 m, 23-Aug-2012 C. R. Nelson # 10388 & J. K. Nelson 75 googleearth photos: scenery, dried mud flats and bird footprints. 10388

10389 USA: UTAH: Box Elder Co. Woods Creek Duck Club, 1.5 miles southwest of Corinne, "The Farm", house, N 41.517080 W 112.139748 1287 m, 24-Aug-2012 C. R. Nelson # 10389 & J. K. Nelson 75 google earth photos: sunrise from knoll, Gunsight Peak, Willard Peak, west to Iowa String, Three Russian Olives, house, self-portrait, shadow; Winston's yellow tape, Vespidae in outhouse Polistes dominula. photos: Salicornia rubra or utahensis (took some home and potted them and photographed; they died after a few weeks). Photos: Kaye and Riley. 10389

10390 USA: UTAH: Box Elder Co. Woods Creek and Bear River, east of Woods Creek Duck Club house, N 41.515346 W 112.132462 1285 m, 24-Aug-2012 C. R. Nelson # 10390 & J. K. Nelson 75 google earth photos: scenery. photos: snowy egret, muskrat, carp, eastern kingbird, 'Formica' ant colony on saltgrass flat about 1 meter or more in diameter, individuals photographed at home on Salicornia from site. 10390

10391 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 24-Aug-2012 C. R. Nelson # 10391 75 photos: fire in Rock Canyon.

photo: Eurasian collared dove, black capped chickadee. wilted squash blossom, tipped sunflower head. Saw: robin, hummingbird female, mourning dove, magpie, house finch. photo: starling. turkey vulture. 10391

10392 USA: UTAH: Utah Co., Provo, BYU, Martin Building, Room 456, N 40.246851 W 111.649152 1420 m 27-Aug-2012 C. R. Nelson # 10392 75 Google Earth photos: first day of class in Biology 100, photos by Kirsten Pierce? 10392

10393 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 28-Aug-2012 C. R. Nelson # 10393 75 Chrysomelidae Blepharida on *Rhus aromatica trilobata* 10393

10394 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.26408 W 111.66390 1389 m 29-Aug-2012 C. R. Nelson # 10394 75 photos: meeting students, scenery. Riley Nelson, Sarah Weeks, Ross Christensen, Jordan Baker, Tatiana, Sadee Dalley, Christopher Uribe, Stephanie Hellewell, Claire Woodward, Chelsea Kaiser. University Communications videographer Brian Wilcox and daughter Alexi; Jennica Grover, Carla Johnson, Kenzie Jorgensen, Hunter Buxton, Alyssa Payne, Breanna Simmons, Daniel Wing, Kaji Tsukamoto, Kyle Chavez. very low water: Brachycentridae, Chironomidae, Athericidae, Tabanidae, leeches, Isoperla, Pteronarcyidae, Baetidae, belted kingfisher, sculpin. 10394

10395 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 31-Aug-2012 C. R. Nelson # 10395 75 photos: gourd blossoms, two white grape varieties. photos by JKN Riley with two grape varieties. 10395

10396 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 31-Aug-2012 01-Sep-2012 C. R. Nelson # 10396 & J. K. Nelson 75 class reunion from INHUT 2012. photos: people. Riley Nelson, Kaye Nelson, John Bennion, Chris Bennion, Katie Christensen, Brian Cannon, Seth Cannon, Samantha Smith, Stacie Faulk, Eric Lenhart, Lauren Nuckols, Kyla McDonald, Rachel Fuller, Ashley Brooke Summerhays, Tanner Thompson, Ali Campbell, Emma Lucy Pimentel, Hannah Bonner. 10396

10397 USA: UTAH: Utah Co., small peak, "Missionary Ridge", north of Wheeler Sawmill, Hwy 6, 12 miles east of Thistle, N 39.96320 W 111.26795, 1995 m, 01-Sep-2012 C. R. Nelson # 10397 75 photos: people and scenery. class reunion from INHUT 2012. photos: people. Riley Nelson, Katie Christensen, Brian Cannon, Seth Cannon, Samantha Smith, Stacie Faulk, Eric Lenhart, Kyla McDonald, Rachel Fuller, Tanner Thompson. saw two rattlesnakes at the Glass Cliffs shale hole site on the walk to the peak. One baby and one 30 inch adult. I have seen rattlesnakes at least three times here this summer. 10397

10398 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 03-Sep-2012 C. R. Nelson # 10398 & J. K. Nelson 75 USU friends. photos: people. Riley Nelson, Kaye Nelson, Blair Parrish, Cynthia Parrish, Carly Parrish, Hank Pond, Rexanne Pond, Tracy, Penny, Erin, Mikaela Smith. photos: insects on rabbitbrush 10398

10399 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 04-Sep-2012 C. R. Nelson # 10399 75 MacGillivray's warbler caught by Heiva the cat. Given to Randy Larsen of BYU museum. 10399

10400 USA: UTAH: Utah Co., Mount Timpanogos, Hwy 92, South Fork American Fork River, Timpooneke Campground, Site 4, N 40.43226 W 111.63741 2213 m 04-Sep-2012 C. R. Nelson # 10400 75 Aquatic Entomology class: C. R. Nelson, Nick Davis, Emily Barrington, Riley Rackcliffe, Jerry Whiting, Robert Williams, Mark Hutchings. Rhyacophilidae, Chloroperlidae Sweltsa and other, photos: Empididae Hilara females?. Hydropsychidae, Dixidae, Leuctridae, Chironomidae, Tipulidae adults, Neothremma Uenoidae, Brachycentridae Micrasema, Nemouridae, Perlodidae, Planaria, Baetidae, Ephemerellidae, Ameletidae, Heptageniidae, Simuliidae. 10400

10401 USA: UTAH: Utah Co., Springville, magleby's Restaurant, N 40.164055 W 111.610871 1398 m 05-Sep-2012 C. R. Nelson # 10401 & J. K. Nelson 75 Google Earth photos: dinner with Parkers and Bennions. also photos: Carolyn & xx Hanson. 10401

10402 USA: UTAH: Salt Lake Co. Salt Lake City, Utah State Fairgrounds, N 40.77220 W 111.92116 1289 m 09-Sep-2012 C. R. Nelson # 10402 & J. K. Nelson 75 Google Earth photos: people and state fair sights, high divers. Riley Nelson, Kaye Nelson, Jera Parker, David Parker, Kristi Parker, Logan Parker, Lincoln Parker. photos: kokanee salmon, horse ride, goats, sheep, dairy cows, pigs, rabbits, pigeon, bubbles, sunset, art works crab and toys. 10402

10403 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 09-Sep-2012 C. R. Nelson # 10403 & J. K. Nelson 75 photos: Sherry Wheeler with arctiid caterpillar. Rolled the large hose spool 54 x 32 x 28 up from the Marsh by the highway. Resealed culinary hose where it came apart, probably during the 1 September 2012 flood, near the waterfall cliff source. Sam and Marla Gale. photos: hummingbirds, garter snake. 10403

10404 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.95340 W 111.26540 elev. 1808 m, 11-Sep-2012 C. R. Nelson # 10404 & class 75 Aq Ent class: Riley Nelson, Emily Barrington, Riley Rackcliffe, Robert Williams, Mark Hutchings. First 100s. Isogenoides zionensis abundant, Pteronarcella badia, Isoperla,

Drunella, Baetidae, Gomphidae, Gerridae, Saldidae, Athericidae, Tipulidae, Chironomidae, sculpin, speckled dace, Elmidae, Dryopidae, Heptageniidae, Brachycentridae abundant, Dytiscidae, Hydrophilidae. 10404

10405 USA: UTAH: Utah Co., Diamond Fork River, 0.5 miles north of Hwy 6, N 40.03376 W 111.49507, elev. 1474 m, 11-Sep-2012 C. R. Nelson # 10405 & class 75 Aq Ent class: Riley Nelson, Emily Barrington, Riley Rackcliffe, Robert Williams, Mark Hutchings. No First 100s. Simuliidae, Pteronarcys uncommon, Pteronarcella ?, Isogenoides zionensis, Isoperla, Hirudinea, Claassenia sabulosa, Drunella, Heptageniidae, Baetidae, Brachycentridae, Limnephilidae, Gerridae, Elmidae, Tipulidae, Saldidae, Coenagrionidae. 10405

10406 USA: UTAH: Washington Co. Beaver Dam Slope, road 5.7 miles east of Lytle Preserve, N 37.09488 W 113.95939, elev. 1022 m, 13-Sep-2012 C. R. Nelson # 10406 & class 75 175LYTRD Aq Ent class: Riley Nelson, Emily Barrington, Riley Rackcliffe, Nick Davis, Becca Clement, and Samantha Smith. Efferia benedicti to Nick Davis. 10406

10407 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Preserve, N 37.14490 W 114.02283, elev. 836 m, 13-Sep-2012 14-Sep-2012 C. R. Nelson # 10407 & class 75 175BEAVLYT Aq Ent class: Riley Nelson, Emily Barrington, Riley Rackcliffe, Nick Davis, Becca Clement, and Samantha Smith. Visited by Robert Johnson and Donny xxx lof SNWUA of Warm Springs, Nevada. 13 Sep First 100s. four malaise traps, walked from cliff upstream to the persimmon grove. mercury vapor lamps near stream in trees. 25 yellow pans spaced 10 m apart within 1 m of stream. started 330pm and picked up at 330pm 24 hours. also malaise traps 24 hours. 3 UV lights run simultaneously near stream on open rock flat at 1m, 10m, and 50m perpendicular to the stream. Started at 8:45pm and ended near 10:45pm. Hydrophilidae, Naucoridae, Baetidae, Coenagrionidae, Carabidae, Leptoceridae, Limnephilidae, Leptohyphidae, flatworms, Dryopidae, Anax walsinghami, Pompilidae, photos: Psathyrotes annua, Datura wrightii, Proboscidea parviflora. Hodophylax basinger near campground on bar soil. Bombyliidae Aphoebantus. Efferia 3 spp. Promachus. 10407

10408 USA: NEVADA: Clark Co. Muddy River, Warm Springs Natural Area, Moapa, N 36.71553 W 114.71146, elev. 518 m, 14-Sep-2012 15-Sep-2012 C. R. Nelson # 10408 & class 75 175MUDDY Aq Ent class: Riley Nelson, Emily Barrington, Riley Rackcliffe, Nick Davis, Becca Clement, and Samantha Smith. Not with Robert Johnson and Donny xxx lof SNWUA of Warm Springs, Nevada. Robert left for Salt Lake City but left us use of the house. 15 Sep First 100s. mercury vapor lamp at Palm Row river crossing: Helicopsychidae, Leptoceridae, Hydropsychidae, Philopotamidae?, photos Corydalidae female; Acrididae Trimerotropis pallidipennis (game: Open your mouth), Heteroceridae. Netted a bat back at

office house, no parasites. Benthics on 15 September 2012: *Limnocoris moapensis*, *Ambrysus mormon*, *Petrophila*, Elmidae, photos: *Hetaerina ameriana*. Helicopsychidae. photos: dead Virginia rail, road kill near entrance Moapa Valley National Wildlife Refuge. 10408

10409 USA: NEVADA: Clark Co. Cardy Lamb Spring, old swimming pool, headwaters Muddy River, Warm Springs Natural Area, Moapa, N 36.72562 W 114.72850, elev. 518 m, 15-Sep-2012 C. R. Nelson # 10409 & class 75 175CARDY Aq Ent class: Riley Nelson, Emily Barrington, Riley Rackcliffe, Nick Davis, Becca Clement, and Samantha Smith. Not a good collecting spot right now. The cement pool is full, without the nice muddy borders for habitat. screw bean mesquite fruit, *Washingtonia* palms transplanted; Belostomatidae *Belostoma*; *Triorla interrupta*, Zygoptera larva. 10409

10410 USA: NEVADA: Clark Co. diverted channel of south fork of Muddy River, Moapa Valley National Wildlife Refuge, Moapa, N 36.710113 W 114.712423, elev. 540 m, 15-Sep-2012 C. R. Nelson # 10410 & class 75 Google Earth Aq Ent class: Riley Nelson, Emily Barrington, Riley Rackcliffe, Nick Davis, Becca Clement, and Samantha Smith. photos: endangered aquatic species art; photos: *Corydalidae* male; photos: encrustations of aquatic insects, videos of White River springfish and Moapa dace. 10410

10411 USA: NEVADA: Clark Co. Muddy River, Hidden Valley below power plant, N 36.65273 W 114.61897, elev. 482 m, 15-Sep-2012 C. R. Nelson # 10411 & class 75 176HIDDEN Aq Ent class: Riley Nelson, Emily Barrington, Riley Rackcliffe, Nick Davis, Becca Clement, and Samantha Smith. *Isonychia*, *Rhagovelia*, *Hetaerina*, *Leptohyphidae*, Elmidae, carp, *Gambusia*. 10411

10412 USA: UTAH: Washington Co. Leeds Creek, bridge 4 miles east of Leeds, N 37.28159 W 113.39477, elev. 1390 m, 15-Sep-2012 C. R. Nelson # 10412 & class 75 176LEEDS Aq Ent class: Riley Nelson, Emily Barrington, Riley Rackcliffe, Nick Davis, Becca Clement, and Samantha Smith. *Psychodidae* *Maruina*, *Hesperoperla pacifica*, *Chloroperlidae*, *Paraleptophlebia*, cut throat trout, **Amphizoidae* (new record!?), *Cordulegastridae*, *Tipulidae* four spp.. *Archilestes grandis*, *Hydroptilidae*, *Limnephilidae* in twig (with Riley Rackcliffe) 10412

10413 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 19-Sep-2012 C. R. Nelson # 10413 75 photos: Morning starlings victory. diverging condensation trails of jets with European starlings. (one robin). 10413

10414 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building, Nelson lab, N 40.24625 W 111.64984 1420 m 20-Sep-2012 C. R. Nelson # 10414 75 photos: teneral brown banded cockroach, *Supella longipalpa* male near exuviae. 10414

10415 USA: UTAH: Salt Lake Co. Salt Lake City, Tracy Aviary, N 40.74267 W 111.87517 1300 m 22-Sep-2012 C. R. Nelson # 10415 & family 75 Google Earth Riley, Kaye, Andrea, Amy, Todd; Jera, Dave, Logan, and Lincoln Parker. photos: big list of photographed birds: shoveler, wigeon, mallard, cinnamon teal, blue winged teal, green winged teal, pintail, gadwall, northern saw whet owl, short eared owl, long eared owl, great horned owl, barred owl, golden eye, "glossy" ibis, stilt, willet, tundra swan, white pelican, ruddy duck, king vulture, skull, boy and emu, red crested turaco, Patagonian parrot, spectacled owl, scarlet ibis, green aracari, chilean flamingo, white faced whistling duck, crested screamer, andean tinamou, guira cuckoo, southern lapwing, red crested cardinal, saffron finch, sandhill crane, southern ground hornbill, turkey vulture, golden eagle, andean condor, greater roadrunner, great green Macaw, northern helmeted currawong, hooded merganser, osprey, peacock, black vulture, spectacled owl, crested oropendula, kea. 10415

10416 USA: UTAH: Box Elder Co. Brigham City Overlook, Hwy 89, N 41.49475 W 111.99637 1383 m 23-Sep-2012 C. R. Nelson # 10416 & J. K. Nelson 75 176RESHILL photos: Brigham City, looking west, temple. On reservoir hill. 10416

10417 USA: UTAH: Box Elder Co. Willard Peak Road, Box Elder Creek headwaters below Black Mountain, N 41.45327 W 111.94912 1849 m 23-Sep-2012 C. R. Nelson # 10417 & J. K. Nelson 75 Google Earth photos: scenery, paths, and maples. 10417

10418 USA: UTAH: Box Elder Co. Willard Peak Road, the Sinks, Devils Gate Valley overlook and road entrance, N 41.44514 W 111.94249 2035 m 23-Sep-2012 C. R. Nelson # 10418 & J. K. Nelson 75 Google Earth photos: scenery. 10418

10419 USA: UTAH: Box Elder Co. Willard Peak Road, view to Dock Flats from jct Box Elder Creek and Devils Hole Canyon, N 41.46631 W 111.94359 1727 m 23-Sep-2012 C. R. Nelson # 10419 & J. K. Nelson 75 Google Earth photos: scenery. Dock Flat 10419

10420 USA: UTAH: Box Elder Co. Willard Peak Road, Box Elder Creek, first crossing, N 41.47895 W 111.94543 1668 m 23-Sep-2012 C. R. Nelson # 10420 & J. K. Nelson 75 Google Earth photos: northern limit of Gambel's Oak, *Quercus gambelii* 10420

10421 USA: UTAH: Box Elder Co. Mantua Cemetery, N 41.49754 W 111.95103 1598 m 23-Sep-2012 C. R. Nelson # 10421 & J. K. Nelson 75 176CEMET photos: headstones of ancestors and relatives. 10421

10422 USA: UTAH: Box Elder Co. Brigham City Cemetery, N 41.50211 W 112.00790 1378 m 23-Sep-2012 C. R. Nelson # 10422 & J. K. Nelson 75 Google Earth photos: headstones of ancestors and relatives. Lorenzo Snow headstone decorated with white handkerchiefs of the temple dedication by Norma Rae Van Vleet. 10422

10423 USA: UTAH: Box Elder Co. Brigham City, temple and tabernacle grounds, N 41.50543 W 112.01570 1360 m 23-Sep-2012 C. R. Nelson # 10423 & J. K. Nelson 76 Google Earth photos: temple and tabernacle. Day of Temple Dedication. 10423

10424 USA: UTAH: Box Elder Co. Brigham City, Nelson home, 211 North 300 West, N 41.51515 W 112.02031 1333 m 23-Sep-2012 C. R. Nelson # 10424 & J. K. Nelson 76 Google Earth photos: home. Day of Temple Dedication. 10424

10425 USA: UTAH: Box Elder Co. Brigham City, 1200 West near 600 North (Watery Lane), N 41.51537 W 112.04479 1309 m 23-Sep-2012 C. R. Nelson # 10425 & J. K. Nelson 76 176CRAY photos: city and temple, grain silos, and tabernacle. At stream crossing where I caught crayfish and leatherside chubs as a boy. Day of Temple Dedication. 10425

10426 USA: UTAH: Box Elder Co. Brigham City, Forest Street about 1100 West, N 41.51080 W 112.04132 1296 m 23-Sep-2012 C. R. Nelson # 10426 & J. K. Nelson 76 Google Earth photos: court house with long telephoto lens. Day of Temple Dedication. 10426

10427 USA: UTAH: Box Elder Co. Brigham City, Forest Street at I-15, N 41.50997 W 112.05910 1288 m 23-Sep-2012 C. R. Nelson # 10427 & J. K. Nelson 76 Google Earth photos: city, temple. Day of Temple Dedication. 10427

10428 USA: UTAH: Utah Co., Lower Hobbie Creek, Wildlife management Area, between I-15 and Utah Lake, N 40.18393 W 111.65132 1343 m 25-Sep-2012 C. R. Nelson # 10428 & class 76 177HOB flowing lowland stream. Riley Nelson, Riley Rackcliffe, Robert Williams, Mark Hutchings. Anopheles, Corixidae, *Heteroceridae (common, formerly thought rare), Hydrophilidae, *Tipulidae, abundant in shoreline mud of stream, shipped overnight to Jon Gelhaus in New Jersey for rearing, Mesoveliidae Mesovelia mulsanti, Saldidae, red tailed hawk, northern flicker. Kept some of the tipulid larvae in the shoreline mud to rear in lab: 10 December 2012, one male of Yamatotipula emerged and died before I could photograph it. 10428

10429 USA: UTAH: Utah Co., Provo, Spring Creek at I-15 on south edge of golf course draining to Provo Bay of Utah Lake, N 40.20178 W 111.65498 1375 m 25-Sep-2012 C. R. Nelson # 10429 & class 76 177GOLF flowing lowland stream. Riley Nelson, Riley Rackcliffe, Robert Williams, Mark Hutchings. Site photos. sponge (NO! Bryozoans), Simuliidae, black bullhead, Hydroptilidae, Chironomidae. White bass fisherman. 10429

10430 USA: UTAH: Utah Co., Squaw Peak Road, Little Rock Canyon Crossing N 40.29064 W 111.61372 2218 m 29-Sep-2012 C. R. Nelson # 10430 76 178LITROCK parked truck and hiked to Buffalo Peak then slid down talus slopes to the clearings on the Squaw Peak Trail. Found a cache of many store-bought water bottles within about 50m of the big clearing down trail 10 m on the Buffalo Peak side. I drank one bottle and leaned a tree trunk in a crotch of another tree. The base points to the cache. 10430

10431 USA: UTAH: Utah Co., Buffalo Point, east of Provo, N 40.28288 W 111.61307 2442 m 29-Sep-2012 C. R. Nelson # 10431 76 178BUF photos: from peak. Called Kaye at a baby shower held at Alison Parker's house in the ward. She couldn't shine a mirror on my location. 10431

10432 USA: UTAH: Utah Co., Squaw Peak, east of Provo, N 40.27143 W 111.61694 2404 m 29-Sep-2012 C. R. Nelson # 10432 76 178SQUAW1 photos: scenery, flag; Riley and Winter 2011 Bio 100 student, Julia Vincent. Golden eagle, red tailed hawk, coopers (or sharp shinned) hawk.
178SQUAW2 N 40.27128 111.61694 elev. 2404m. 10432

10433 USA: UTAH: Utah Co., limestone ridge north of Squaw Peak, east of Provo, N 40.279140 W 111.622354 2200 m 29-Sep-2012 C. R. Nelson # 10433 76 178HOLLIME photos: round hole in limestone, near where I lost my polarizing filter. ridge in front of Squaw Peak 10433

10434 USA: UTAH: Utah Co., end of limestone ridge north of Squaw Peak, knob 2 in line, east of Provo, N 40.281385 W 111.623170 2184 m 29-Sep-2012 C. R. Nelson # 10434 76 Googleearth photos: scenery, cliffs. Seems like an easy descent down to the end of Piute Drive in Indian Hills, Provo to the site of an old tennis court for access to public roads. 10434

10435 USA: UTAH: Utah Co., first left hand of Rock Canyon between Squaw Peak flats and mouth of main canyon, N 40.274419 W 111.607405 2027 m 29-Sep-2012 C. R. Nelson # 10435 76 Googleearth photos: trail through colored leaves. 10435

10436 USA: UTAH: Utah Co., Rock Canyon between first left hand of Rock Canyon and canyon mouth, N 40.266383 W 111.606555 1831 m 29-Sep-2012 C. R. Nelson # 10436 76 Googleearth photos: road through trees with colored leaves. cliffs of Squaw Peak, Cliffs of Y Mountain. Moose, within 5 m in standoff on the trail. moose. 10436

10437 USA: UTAH: Utah Co., spring ponds of South Fork, below South Fork Park, 1.5 miles south of Vivian Park and Hwy 189, N 40.348434 W 111.550927 1645 m 02-Oct-2012 C. R.

Nelson # 10437 & class 76 178PONDS Aquatic Entomology class: Riley Nelson, Emily Barrington, Riley Rackcliffe, Robert Williams, Mark Hutchings. specimens with students: Dixidae, Elmidae, Haliplidae, Aeshnidae, Chironomidae, brown trout, Leptophlebiidae in gravel of spring run, Baetidae, Empididae, Therevidae. 10437

10438 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.5 miles south of Vivian Park and Hwy 189, N 40.34787 W 111.54752 1637 m 02-Oct-2012 C. R. Nelson # 10438 & class 76 178SFK First 100s. Aquatic Entomology class: Riley Nelson, Emily Barrington, Riley Rackcliffe, Robert Williams, Mark Hutchings. Baetidae, Heptageniidae, Ephemerellidae, dipper, Perlidae Hesperoperla, Chloroperlidae, Nemouridae, Simuliidae, Chironomidae, Tipulidae. 10438

10439 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 03-Oct-2012 C. R. Nelson # 10439 76 photos: arrival of Brandy and Artemis with Spurlocks from Arizona. 10439

10440 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 03-Oct-2012 C. R. Nelson # 10440 76 photos: dinner party with Spurlocks and "Wheelers". Riley Nelson, Kaye Nelson, Brandy Nelson, Artemis Nelson, Nancy Spurlock, Allie Spurlock, Jackie Spurlock, Seth Spurlock, Bradley "Spurlock", Sherry Wheeler, Jan Gray, McKade Gray, Teighlor Hart, Elliot Hart, Andrea Nelson, Jordan Christopher. 10440

10441 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 04-Oct-2012 C. R. Nelson # 10441 76 photos: Three cats on the bed, Stella, Guida, and Heiva. 10441

10442 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 06-Oct-2012 C. R. Nelson # 10442 76 Dug 31 buckets of pinyon duff for topsoil in new folowurbed along driveway at home. Kaye called with conference announcement of allowing missions to start for 18 year old men and 19 year old women. Paul Ashton was cutting firewood with two grandchildren, boy age 17 and girl about 15. Later his daughter Angie came with his wife Kayleen and several younger grandchildren. 10442

10443 USA: UTAH: Utah Co., Little North Fork Creek, at Timp Lodge above Sundance Ski Area, N 40.389295 W 111.586839, 1898 m, 09-Oct-2012 C. R. Nelson # 10443 & class 76 Timplodge nfk with Emily Barrington and Riley Rackcliffe. Beginning of usual use of Iphone for GPS readings. Same spot with Garmin GPS: N 40.38924 W 111.58683 elev. 1883 m. Photos: sparkles of waterfalls, Drunella doddsi small, Blephariceridae 2, Baetidae, Rhyacophilidae, Heptageniidae, Chironomidae, Tipulidae. 10443

10444 USA: UTAH: Utah Co., Provo River, Canyon View Park, Hwy 189, N 40.323902 W 111.644110, 1508 m, 09-Oct-2012 C. R. Nelson # 10444 & class 76 Canyon View Provo R with Emily Barrington and Riley Rackcliffe. tried collecting in flooded side channel, nothing. main river, very silty: *Hesperoperla pacifica* common, *Pteronarcys californica* rare, Perlodidae, Baetidae, Hydropsychidae, Isopoda Asellus. 10444

10445 USA: IDAHO: Bannock Co. hills of Pocatello, 1366 Camelback View Drive N 42.900973 W 112.396561, 1587 m, 12-Oct-2012 C. R. Nelson # 10445 & J. K. Nelson 76 Google Earth photos: Stoddard family, Maegan, Abby, Parker, and Ali. 10445

10446 USA: WYOMING: Park Co. Yellowstone National Park, road between West Entrance to Madison Junction, N 44.642899 W 110.900084, 2076 m, 12-Oct-2012 C. R. Nelson # 10446 & J. K. Nelson 76 Google Earth (halfway) Bison, Canada geese 10446

10447 USA: WYOMING: Park Co. Yellowstone National Park, Grand Prismatic Spring, Midway Geyser Basin, N 44.521964 W 110.840983, 2297 m, 12-Oct-2012 C. R. Nelson # 10447 & J. K. Nelson & friends 76 wypt013hillprism McKays: Bruce, Callie, Brigham, Duncan, Cajsá, and Gavin. photos: spring from south hillside, superb! Obsidian in the cliffs. photos: single bison on white plains of the Grand Prismatic Spring. 10447

10448 USA: WYOMING: Park Co. Yellowstone National Park, Fairy Falls and trail, Midway Geyser Basin, N 44.525558 W 110.869230, 2218 m, 12-Oct-2012 C. R. Nelson # 10448 & J. K. Nelson & friends 76 wypt014fairy McKays: Bruce, Callie, Brigham, Duncan, Cajsá, and Gavin. Also, wypt011fairy (trailhead to Fairy Falls) N44.515734 W110.832598 elev. 2241 m. photos: scenery, bison herd at sunset. 10448

10449 USA: WYOMING: Park Co. Yellowstone National Park, Madison River Bridge, 7 miles east of West Entrance, N 44.660243 W 110.960961, 2066 m, 13-Oct-2012 C. R. Nelson # 10449 & J. K. Nelson 76 wypt014fairy photos: cow elk 10449

10450 USA: WYOMING: Park Co. Yellowstone National Park, talus slope pullout loop, 10 miles east of West Entrance, West of Mount Haynes viewpoint, N 44.646923 W 110.931806, 2060 m, 13-Oct-2012 C. R. Nelson # 10450 & J. K. Nelson 76 wypt019talusloop photos: scenery. Looking for otters where Nick and Maegan Stoddard saw them two weeks ago. no otters seen. 10450

10452 USA: WYOMING: Park Co. Yellowstone National Park, Monument Geyser Basin, south slopes above Gibbon Meadows, N 44.684109 W 110.753418, 2435 m, 13-Oct-2012 C. R. Nelson # 10452 & J. K. Nelson & McKays 76 wypt022monvideo photos: scenery, pots, and people photos: flies. 10452

10453 USA: WYOMING: Park Co. Yellowstone National Park, Artist Paint Pots, N 44.691642 W 110.738387, 2262 m, 13-Oct-2012 C. R. Nelson # 10453 & J. K. Nelson & McKays 76 wypt023artist mud photos: mud pots and geysers. 10453

10454 USA: WYOMING: Park Co. Yellowstone National Park, Norris Geyser Basin, N 44.726035 W 110.701684, 2337 m, 13-Oct-2012 C. R. Nelson # 10454 & J. K. Nelson & McKays 76 wypt024norpark photos: danger sign, basin, algal mats, dead trees, geysers. GPS from parking lot. 10454

10455 USA: WYOMING: Park Co. Yellowstone National Park, Grand Canyon of the Yellowstone River, Lookout Point, N 44.723270 W 110.484095, 2387 m, 13-Oct-2012 C. R. Nelson # 10455 & J. K. Nelson & McKays 76 Google Earth photos: Canyon, top of Lower Falls 10455

10456 USA: WYOMING: Park Co. Yellowstone National Park, Grand Canyon of the Yellowstone River, Grand View Point, N 44.722633 W 110.484085, 2382 m, 13-Oct-2012 C. R. Nelson # 10456 & J. K. Nelson 76 wypt 025 grand view photos: top of Lower Falls 10456

10457 USA: WYOMING: Park Co. Yellowstone National Park, Grand Canyon of the Yellowstone River, Inspiration Point, N 44.724923 W 110.469732, 2373 m, 13-Oct-2012 C. R. Nelson # 10457 & J. K. Nelson 76 wypt 026 inspiration photos: canyon, Lower Falls 10457

10458 USA: WYOMING: Park Co. Yellowstone National Park, Grand Canyon of the Yellowstone River, south rim crossing, N 44.707976 W 110.503809, 2356 m, 13-Oct-2012 C. R. Nelson # 10458 & J. K. Nelson 76 Google Earth photos: bison, single in road 10458

10459 USA: WYOMING: Park Co. Yellowstone National Park, Grand Canyon of the Yellowstone River, Artist Point, N 44.720641 W 110.479421, 2340 m, 13-Oct-2012 C. R. Nelson # 10459 & J. K. Nelson 76 wypt 027 artist photos: Lower Falls, hot springs in canyon, Painter painting, promontory with pine. 10459

10460 USA: WYOMING: Park Co. Yellowstone National Park, Gibbon River, 0.5 miles north of Madison Junction, N 44.646057 W 110.857262, 2083 m, 13-Oct-2012 C. R. Nelson # 10460 & J. K. Nelson 76 wypt 028 Madjct photos: bull elk in failing light of evening 10460

10461 USA: WYOMING: Park Co. Yellowstone National Park, south of Madison Junction, toward West Entrance, N 44.646057 W 110.857262, 2083 m, 14-Oct-2012 C. R. Nelson # 10461 & J. K. Nelson 76 wypt 028 Madjct photos: bison at roadside 10461

10462 USA: WYOMING: Park Co. Yellowstone National Park, Fountain Flat Drive, N 44.577434 W 110.830259, 2194 m, 14-Oct-2012 C. R. Nelson # 10462 & J. K. Nelson 76 wypt 029 nezperce photos: Canada geese 10462

10463 USA: WYOMING: Park Co. Yellowstone National Park, Fountain Paint Pot, N 44.548738 W 110.807004, 2224 m, 14-Oct-2012 C. R. Nelson # 10463 & J. K. Nelson 76 wypt 030 fountain photos: mud pots, self-portrait of Kaye and Riley photos: algal mats, mud pots, 10463

10464 USA: WYOMING: Park Co. Yellowstone National Park, Firehole Lake Drive, roadside spring N 44.535672 W 110.804830, 2233 m, 14-Oct-2012 C. R. Nelson # 10464 & J. K. Nelson 76 wypt 031 roadside photos: clear blue pool 10464

10465 USA: WYOMING: Park Co. Yellowstone National Park, Grand Prismatic Spring, N 44.528357 W 110.836099, 2204 m, 14-Oct-2012 C. R. Nelson # 10465 & J. K. Nelson 76 wypt 032 grand prismatic photos: thermal pools & flats, Firehole River, foolish tourists from Missouri, hot springs, flat terraces, panels, Grand Prismatic Spring, Kaye walking, Excelsior Geyser Crater, terrestrial plants creeping to edge of heat, bridge with foolish tourists from Missouri. photos: bison herd 10465

10466 USA: WYOMING: Park Co. Yellowstone National Park, roadside steam turnout, south of Grand Prismatic Spring, N 44.521599 W 110.828318, 2200 m, 14-Oct-2012 C. R. Nelson # 10466 & J. K. Nelson 76 wypt 033 roadside steam photos: second bison herd 10466

10467 USA: WYOMING: Park Co. Yellowstone National Park, Biscuit Basin, N 44.485069 W 110.852693, 2211 m, 14-Oct-2012 C. R. Nelson # 10467 & J. K. Nelson 76 Photo 007biscuit in iphone photos: panels, fly fishermen in Firehole River, cooler springs, Black Diamond Pool, Jewel Geyser, Shell Spring, Kaye by Black Diamond and Sapphire Pool, Black Opal Spring 10467

10468 USA: WYOMING: Park Co. Yellowstone National Park, Spring Creek Picnic Area, 10 miles west of West Thumb, N 44.430377 W 110.753361, 2445 m, 14-Oct-2012 C. R. Nelson # 10468 & J. K. Nelson 76 wypt034 springcreek photos: lodgepole pine, mature and young together. 10468

10469 USA: WYOMING: Park Co. Yellowstone National Park, Lewis Falls, N 44.267510 W 110.635004, 2360 m, 14-Oct-2012 C. R. Nelson # 10469 & J. K. Nelson 76 wypt035lewisfalls photos: falls, fly fisherman on Lewis River. Lunch. 10469

10470 USA: WYOMING: Park Co. Yellowstone National Park, Hwy 89, 5.5 miles north of Flagg Ranch, N 44.183537 W 110.658876, 2285 m, 14-Oct-2012 C. R. Nelson # 10470 &

J. K. Nelson 76 wypt036glimpsetetons photos: road through lodgepole pines, framing northern Tetons. 10470

10471 USA: WYOMING: Teton Co. Bridger-Teton National Forest, Snake River, Grassy Lake Road, Camp 2, 2 miles west of Flagg Ranch, N 44.096856 W 110.689302, 2082 m, 14-Oct-2012 C. R. Nelson # 10471 & J. K. Nelson 76 wypt037snakecamp2 photos: Snake River site. Regular camping spot for BYU trips in September 2001-2006, like CRN 8448 aquatic insects: Ephemerellidae, Heptageniidae 2 genera, Dytiscidae, Corixidae, Elmidae, Perlodidae, Tipulidae, Athericidae. 10471

10472 USA: WYOMING: Teton Co. Grand Teton National Park, Teton Point turnout, Hwy 89, N 43.718040 W 110.660118, 2025 m, 14-Oct-2012 C. R. Nelson # 10472 & J. K. Nelson 76 wypt038tetonpoint photos: panoramas of Tetons, Kaye & Riley portrait. Shiozawa's glaciation lecture site. 10472

10473 USA: WYOMING: Teton Co. Grand Teton National Park, Schwabacher Road, 0.2 miles west of Hwy 89, base of moraine, N 43.699617 W 110.671731, 2017 m, 14-Oct-2012 C. R. Nelson # 10473 & J. K. Nelson 76 wypt039tetonschwaba photos: panoramas of Tetons from low angle, Kaye, Kaye & Riley portrait. 10473

10474 USA: WYOMING: Teton Co. Grand Teton National Park, Meadow Ranch Road, Hwy 89, south of Albright View Overlook, N 43.624881 W 110.720268, 1990 m, 14-Oct-2012 C. R. Nelson # 10474 & J. K. Nelson 76 wypt040tetonmeadow photos: panorama of Tetons from southwest, bright. 10474

10475 USA: WYOMING: Lincoln Co. Grand Canyon of the Snake River, Lunch Counter and Kahuna Rapids, 5.5 miles east of Alpine Junction, N 43.195821 W 110.916340, 1744 m, 14-Oct-2012 C. R. Nelson # 10475 & J. K. Nelson 76 wypt042lunchcounter photos: Kahuna Rapids, trees downstream to Lunch Counter Rapids. Kaye. 10475

10476 USA: WYOMING: Lincoln Co. Afton, N 42.724043 W 110.933470, 1919 m, 14-Oct-2012 C. R. Nelson # 10476 & J. K. Nelson 76 wypt043afton photos: Elk Antler Arch Elk Antlers 10476

10477 USA: WYOMING: Lincoln Co. Salt River Pass, Hwy 89, 15 miles south of Afton, N 42.506290 W 110.908700, 2296 m, 14-Oct-2012 C. R. Nelson # 10477 & J. K. Nelson 76 wypt044saltriverpass photos: odd stacked disk cloud 10477

10478 USA: IDAHO: Bear Lake Co. Montpelier, N 42.317483 W 111.310421 1826 m, 15-Oct-2012 C. R. Nelson # 10478 & J. K. Nelson 76 wypt045Montpelier photos: Old Ephraim grizzly bear statue and monument 10478

10479 USA: UTAH: Rich Co. Bear Lake Overlook, Hwy 89, Visitors Center near Sunrise Campground, N 41.920917 W 111.456804 2290 m, 15-Oct-2012 C. R. Nelson # 10479 & J. K. Nelson 76 wypt045bearlake photos: early morning panoramas of Bear Lake. 10479

10480 USA: UTAH: Cache Co. Logan Canyon, Ricks Spring, N 41.840094 W 111.588714 1776 m, 15-Oct-2012 C. R. Nelson # 10480 & J. K. Nelson 76 photo009ricksspring photos: Ricks Spring, "cave mine" photos: american dippers 10480

10481 USA: UTAH: Cache Co. Logan, Darwin Avenue N 41.744131 W 111.815778 1451 m, 15-Oct-2012 C. R. Nelson # 10481 & J. K. Nelson 76 photo010Darwin photos: 685 North Darwin Avenue, Riley's apartment in 1979-1980 was #7 where Riley proposed to Kaye on 7 February 1980. Kaye's apartment #8. Home from September 1979 to June 1980. Also Logan Temple photos from highway 89 on curve around Old main Hill. 10481

10482 USA: UTAH: Cache Co. Logan, 319 North 100 West, N 41.737633 W 111.837656 1380 m, 15-Oct-2012 C. R. Nelson # 10482 & J. K. Nelson 76 Google Earth photos: Kaye and Riley's apartment, downstairs (no 319 numbers now) September 1980 to August 1983.

also sunroom at Provo home, 15 October 2012 10482

10483 USA: UTAH: Utah Co., Provo, Edgemont, Days market, N 40.274765 W 111.651447 1451 m, 19-Oct-2012 C. R. Nelson # 10483 & J. K. Nelson 76 Google Earth photos: Mexican vanilla - Utah's own (?) an oxymoron. 10483

10484 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 20-Oct-2012 C. R. Nelson # 10484 76 photos: cottontail rabbit in the morning. magpie. 10484

10485 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 21-Oct-2012 C. R. Nelson # 10485 76 photos: colored leaves from sunroom. 10485

10486 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.26408 W 111.66390 1389 m 24-Oct-2012 C. R. Nelson # 10486 76 photo011provoriver2230 photos: first snow of fall, river, bridge, leaves, video on phone. 10486

10487 USA: UTAH: Utah Co., Rock Canyon, trailhead of Bonneville Shoreline Trail, N 40.264719 W 111.629620 1589 m 24-Oct-2012 C. R. Nelson # 10487 76 photo012rock photos: first snow of fall, morning. 10487

10488 USA: UTAH: Utah Co., Provo, 1220 East and Oak Lane, N 40.263161 W 111.637447 1542 m 24-Oct-2012 C. R. Nelson # 10488 76 wypt049temple photos: first snow of fall, morning. 10488

10489 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Oct-2012 C. R. Nelson # 10489 76 photos: Mount Timpanogos in the clouds at sunset. 625pm. photos: taken between home and our church on Canyon Road. 10489

10490 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 26-Oct-2012 C. R. Nelson # 10490 76 photos: fall leaves under skiff of snow. Mount Timpanogos sunrise. The Orange Triangle. 10490

10491 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 27-Oct-2012 C. R. Nelson # 10491 76 photos: slug on a dewy window. *Limax maximus*, kept as pets but died. 10491

10492 USA: UTAH: Juab Co. Burraston Ponds, northwest end, 1 mile SW of Mona, rope swing area, N 39.797774 W 111.867274 1494 m 30-Oct-2012 C. R. Nelson # 10492 & class 76 wypt050burrastonwest photos: scenery and people. Riley Nelson, Emily Barrington, Robert Williams, Riley Rackcliffe, Mark Hutchings. students kept: *Caenidae* (Nice!), *Aeshnidae*, *Libellulidae*, *Coenagrionidae*, *Lestidae*?, *Corixidae*, *Hyallela azteca*, *Notonectidae*, ramshorn snails, *Physa* snails. 10492

10493 USA: UTAH: Juab Co. Burraston Ponds, 1 mile SW of Mona, southeast corner, spring runs, N 39.793111 W 111.860437 1419 m 30-Oct-2012 C. R. Nelson # 10493 & class 76 wypt051burastonspreast Photos: scenery and people. Riley Nelson, Emily Barrington, Robert Williams, Riley Rackcliffe, Mark Hutchings. balls of moss, bryophytes at spring heads near watercress. *Coenagrionidae*, *Elmidae*, *Baetidae*, *Hygrobiidae* snails abundant!, *gammarus*, *Dytiscidae*, *Limnephilidae* 10493

10494 USA: UTAH: Juab Co. Currant Creek, 6 miles NW of Mona, N 39.894607 W 111.888899 1462 m 30-Oct-2012 C. R. Nelson # 10494 & class 76 wypt052currant Photos: scenery and people. Riley Nelson, Emily Barrington, Robert Williams, Riley Rackcliffe, Mark Hutchings. *Calopterygidae* *Hetaerina*, clams *Corbicula*?, other bigger clams, *Coenagrionidae*, *Corixidae*, *Hydropsychidae*, *Leptoceridae*, *Baetidae*, broad. 10494

10495 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 04-Nov-2012 C. R. Nelson # 10495 76 photos: fall leaves, house finches, and juncos, mountains. 10495

10496 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.26408 W 111.66390 1389 m 08-Nov-2012 C. R. Nelson # 10496 76 photo011provoriver2230 photo session for BYU, video and stills, stoneflies and Riley Nelson. Riley Nelson, Julie Walker interviewer, Brian Wilcox videographer, Jarren Wilkey still photographer.

Later in day, self-portrait C. R. Nelson with mealworms. photos: Gerridae, snail, eggs, Chironomidae, Pteronarcys californica (photos in lab 123 Widtsoe), Limnephilidae. 10496

10497 USA: UTAH: Utah Co., Provo, BYU, Hinckley Center, N 40.251829 W 111.651468 1418 m 09-Nov-2012 C. R. Nelson # 10497 76 Google Earth Stewardship Conference, photos: snow and windows, portrait of three environmental lawyers: right to left: Josh Fershee, Lincoln Davies, and Steve Johnson. 10497

10498 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.26408 W 111.66390 1389 m 10-Nov-2012 C. R. Nelson # 10498 76 photo011provoriver2230 photos: river in first snow, mallard ducks. 10498

10499 USA: UTAH: Utah Co., Provo, BYU, Hinckley Center, N 40.251829 W 111.651468 1418 m 10-Nov-2012 C. R. Nelson # 10499 76 Google Earth Stewardship Conference, photos: courtyard in first snow, gazebo. Bill Rudy of BYU speaking. Keynote speakers: Margaret Palmer, J. Baird Callicott, and Jonathan Foley. photo: Environmental Ethics Initiative: present at closing: Riley Nelson, Steve Peck, Chip Oscarson, and George Handley.

Time on Nikon camera off by two hours ahead, corrected after today. 10499

10500 USA: UTAH: Utah Co., Orem, church near mall, N 40.269986 W 111.675473 1443 m 18-Nov-2012 C. R. Nelson # 10500 76 Google Earth photos: Kristi, Ben, Logan, Lincoln and Macie Mae Parker. On Macie's blessing day. photos: sidewalk leaf and honey locust bark. 10500

10501 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 19-Nov-2012 C. R. Nelson # 10501 76 photos: mourning dove. Stella the cat clucked in the window to tell me the bird was there in the aspens of the yard. 10501

10502 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 22-Nov-2012 C. R. Nelson # 10502 77 Photos: Thanksgiving Dinner. Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, Artemis Nelson, Andrea Nelson, Amy Smith, Todd Smith, Sherry Wheeler, Jan Gray, McKade Gray, Teighlor Hart, Elliot Gray, Stephnie Mead, Dell Mead, Sabryna Mead, Mychigan Mead, Daisy Mead, Ryver Mead, Sawyer Mead, Wyllow Mead, Debbie Smith, Miss Farnaz Karimdady, Miss Farin Karimdady, and Miss Turo Turmandakh Badrakh. 10502

10503 USA: UTAH: Utah Co., Springville, Wheeler home, 161 East 200 South, N 40.164138 W 111.607781 1399 m 23-Nov-2012 C. R. Nelson # 10503 & family 77 photos: installing rain gutter, taken with Kaye's camera. 10503

10504 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 23-Nov-2012 C. R. Nelson # 10504 & family & Ashton friends 77 photos: installing the false ceiling in the cabin for the winter. Taken with Kaye's camera. 10504

10505 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.5 miles east of Vivian Park N 40.34770 W 111.54757 1640 m, 24-Nov-2012 C. R. Nelson # 10505 & family 77 photos:people. Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, Artemis Nelson, Andrea Nelson, Amy Nelson Smith, Todd Smith, Chris Nelson, mandy Nelson, Rex Nelson, Guy Nelson, and Ivy Nelson. photos: catching aquatic insects and brown trout 10505

10506 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 24-Nov-2012 C. R. Nelson # 10506 & family 77 photos:people at hot dog roast in day yard. Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, Artemis Nelson, Andrea Nelson, Amy Nelson Smith, Todd Smith, Chris Nelson, mandy Nelson, Rex Nelson, Guy Nelson, and Ivy Nelson. 10506

10507 USA: UTAH: Utah Co., Utah Lake, Utah Lake State Park, South Jetty, N 40.240771 W 111.746395 1368 m 24-Nov-2012 C. R. Nelson # 10507 & family 77 photos: sunset, Utah Lake, Mount Timpanogos, city, Mount Nebo, West Mountain, Point of the Mountain, people. Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, Artemis Nelson, Andrea Nelson, Amy Nelson Smith. 10507

10362.5 USA: ARIZONA: Coconino Co. Marble Canyon, Navajo Bridge, Hwy 89A, walking bridge, Colorado River, N 36.81808 W 111.63216 elev. 1129 m, 13 August 2012, C. R. Nelson # 10362.5 & S. M. Clark 75 169fire photos: Colorado River 10362.5

10389.5 USA: UTAH: Box Elder Co. Brigham City, 200 N 200 W Third/Fifteenth Ward LDS Church N 41.51517 W 112.1920 1334 m 24-Aug-2012 C. R. Nelson# 10389.5 75 google earth photos: Nelson home with new planter box being built. 10389.5

10448.5 USA: WYOMING: Park Co. Yellowstone National Park, Old Faithful, N 44.459959 W 110.829438, 2244 m, 12-Oct-2012 C. R. Nelson # 10448.5 & J. K. Nelson & friends 76 Google Earth McKays: Bruce, Callie, Brigham, Duncan, Cajsa, and Gavin. Old Faithfull erupts. photos:shadows 10448.5

10451 USA: WYOMING: Park Co. Yellowstone National Park, Gibbon Falls, N 44.653760 W 110.771750, 2060 m, 13-Oct-2012 C. R. Nelson # 10451 & J. K. Nelson & McKays 76 wypt021gibbon falls photos: falls. 10451

10508 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 04-Dec-2012 C. R. Nelson # 10508 77 \ photos: mule deer on hillside 10508

10509 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 06-Dec-2012 C. R. Nelson # 10509 77 \ photos: lesser goldfinches at feeder, flicker. 10509

10510 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 13-Dec-2012 C. R. Nelson # 10510 77 \ photos: lesser goldfinch, junco, sharp shinned hawk. 10510

10511 USA: UTAH: Tooele Co. Rush Valley, near Faust, N 40.180559 W 112.396261 1602 m 14-Dec-2012 C. R. Nelson # 10511 & J. S. Bennion. 77 Wypt053faust photo: Sheeprock Mountains 10511

10512 USA: UTAH: Tooele Co. Rush Valley, Lookout Pass Road, corral Faust, Pony Express Route, N 40.160317 W 112.443298 1609 m 14-Dec-2012 C. R. Nelson # 10512 & J. S. Bennion. 77 Wypt054 ponyMac photos: corrals and Sheeprock Mountains (John's dagger). MacFarland Ranch. 10512

10513 USA: UTAH: Tooele Co. Old River Bed Valley, Table Mountain views, N 40.000279 W 112.814139 1455 m 14-Dec-2012 C. R. Nelson # 10513 & J. S. Bennion. 77 Wypt055 table photos: northern mountain, Table Mountain, Keg Mountain, John S. Bennion portrait. 10513

10514 USA: UTAH: Tooele Co. Indian Springs Canyon, 4 miles south of Simpson Springs, Brad Barney cabin, N 39.970076 W 112.792081 1599 m 14-Dec-2012 C. R. Nelson # 10514 & J. S. Bennion. 77 Google Earth at trailer photos: pipes, ditch of John's grandfather. Views down canyon to Table Mountain, up canyon in Indian Canyon. Cool junk at trailer, tropical fish under juniper tree. Wypt056 indian up, at pipe: N 39.39.973655 W 112.782613, elev. 1624 m. Walk from trailer to pipe upright. 10514

10515 USA: UTAH: Tooele Co. Indian Springs Canyon, mountain and creek jct Death Canyon Road, N 39.969256 W 112.794399 1593 m 14-Dec-2012 C. R. Nelson # 10515 & J. S. Bennion. 77 Google Earth photos: Death Canyon Road, jct Indian ditch crosses road, 4 miles south of Simpson Springs. 10515

10516 USA: UTAH: Tooele Co. Indian Springs Canyon, near OK Silver Mine, 4 miles south of Simpson Springs, N 39.985779 W 112.7411544 1919 m 14-Dec-2012 C. R. Nelson # 10516 & J. S. Bennion. 77 Google Earth photos: watercress creek. Saw: Hesperoperla pacifica, Baetidae, snails, and watercress. 10516

10517 USA: UTAH: Juab Co. Death Canyon road south to Ericson Pass Road, west to Keg Mountain Road north through Old River Bed and back to Simpson Springs Road, N xx W xx xx m 14-Dec-2012 C. R. Nelson # 10517 & J. S. Bennion. 77 no photos, heavy snow. 10517

10518 USA: UTAH: Tooele Co. Rush Valley, near Faust Station, N 40.173622 W 112.413071 1589 m 14-Dec-2012 C. R. Nelson # 10518 & J. S. Bennion. 77 Wypt058faust2 photos: bald eagle on telephone pole and across Marsh of Rush Lake. 10518

10519 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 18-Dec-2012 C. R. Nelson # 10519 77 photos: lesser goldfinch, house sparrow, junco, house finch, red breasted nuthatch, downy woodpecker. 10519

10520 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 19-Dec-2012 C. R. Nelson # 10520 77 photos: white crowned sparrow, american goldfinch 10520

10521 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 20-Dec-2012 C. R. Nelson # 10521 77 photos: house finch, lesser goldfinch 10521

10522 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building, Nelson lab, N 40.24625 W 111.64984 1420 m 20-Dec-2012 C. R. Nelson # 10522 77 photos: matt Otis holding Steve Petersen's amber. 10522

10523 USA: UTAH: Utah Co., Provo, BYU, Paleontology Museum, N 40.256413 W 111.657024, 1413 m 21-Dec-2012 C. R. Nelson # 10523 77 photos: Charlie McClellan holding amber; ranges of dinosaur bone. 10523

10524 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 22-Dec-2012 C. R. Nelson # 10524 77 photos: sunset from sunroom. 10524

10525 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Dec-2012 C. R. Nelson # 10525 77 photos: Mount Timpanogos, home and Loveless home, Sherry Wheeler, Kaye Nelson. Later Sherry Wheeler, Todd Smith, Kaye Nelson. photos: white crowned sparrow, scrub jay, house finch, magpie. 10525

10526 USA: UTAH: Utah Co., Utah Lake, Provo Boat Harbor, North Jetty, N 40.29343 W 111.64922 1495 m 25-Dec-2012 C. R. Nelson # 10526 & family 77 Google Earth photos: Mount Timpanogos over lake, camera shooting too blue, fixed later at night. Sherry Wheeler, Todd Smith, Amy Nelson Smith, Kaye Nelson, and Riley Nelson. 10526

10527 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 26-Dec-2012 C. R. Nelson # 10527 77 photos: Wizard of Oz puzzle. Also: 27 December 2012: home, snow on bird feeder. photos: white crowned sparrow, scrub jay, house finch, flicker, junco, spotted towhee, collared dove, American goldfinch, black capped chickadee. 10527

10528 USA: UTAH: Iron Co. summit above Bear Valley, Hwy 20, N 38.028318 W 112.531079 2404 m 28-Dec-2012 C. R. Nelson # 10528 & J. K. Nelson 77 Wypt059bears summit photos: pinyon juniper in snow. 10528

10529 USA: UTAH: Garfield Co. Hwy 20, dropping into Panguitch Valley, N 37.971481 W 112.445649 2036 m 28-Dec-2012 C. R. Nelson # 10529 & J. K. Nelson 77 Wypt060 pangvalley Photos: valley and mountains. 10529

10530 USA: UTAH: Garfield Co. Sevier River bottoms, Hwy 89, 1 mile East of Panguitch, N 37.822307 W 112.409479 2016 m 28-Dec-2012 C. R. Nelson # 10530 & J. K. Nelson 77 Wypt061 pangsevier Photos: bald eagle in line of trees at Google Earth: N 37.823250 W 112.414907 elev. 2013 m. 10530

10531 USA: UTAH: Garfield Co. Spencer Cliffs, "Little Bryce", Hwy 89, KOA Campground, N 37.383531 W 112.575983 1950 m 28-Dec-2012 C. R. Nelson # 10531 & J. K. Nelson 77 Wypt062 little bryce Photos: Claron formation outcrop on Hwy 89 above campground. I call it "Little Bryce" in my own mind. Spencer Cliffs on Google Earth. 10531

10532 USA: UTAH: Kane Co., Mount Carmel, Hwy 89, N 37.249521 W 112.662150 1611 m 28-Dec-2012 C. R. Nelson # 10532 & J. K. Nelson 77 Wypt063 mtcarmel Photos: White Cliffs, Diana's Throne 10532

10533 USA: UTAH: Kane Co., White Cliffs, Hwy 89, 3 miles SE of Mount Carmel Junction, N 37.185637 W 112.649928 1796 m 28-Dec-2012 C. R. Nelson # 10533 & J. K. Nelson 77 Wypt064 whitecliffs Photos: White Cliffs, Navajo sandstone 10533

10534 USA: ARIZONA: Maricopa Co. Phoenix, Mountain View Casitas, 1130 Grovers Avenue, N 33.64780 W 112.05862 426 m 28-31 December 2012 C. R. Nelson # 10534 & J. K. Nelson 77 Photos: 30 December 2012, Artemis at home, in car seat, Artemis, Brandy, Kaye, in sand at park. 31 December 2012, Artemis in sand, Brandy in sand. 10534

10535 USA: ARIZONA: Maricopa Co. Phoenix, Heard Museum of Native Cultures and Art, N 33.472481 W 112.073167 331 m 29-Dec-2012 C. R. Nelson # 10535 & J. K. Nelson 77 Google Earth Photos: family. Riley Nelson, Kaye Nelson, Brandy Nelson, Artemis Nelson, Gilbert Begay, Page Begay, and Seth Begay. 10535

10536 USA: ARIZONA: Maricopa Co. Tempe, Arizona Hills mall, N 33.383123 W 111.964418
xx m 31-Dec-2012 C. R. Nelson # 10536 & family 77 Arizona Mills Photos: Eyebrow Design
21. What is wrong with our society that we need someone to take care of our eyebrows?
Jackie & Allie Spurlock, Seth Begay, Bradley Rupert. Brandy, Kaye, Jason, Riley Nelson.
10536

10537 USA: ARIZONA: Yavapai Co. Bumblebee Junction, Hwy 17, exit 248, N 34.141193 W
112.150355 831 m 02-Jan-2013 C. R. Nelson # 10537 & family 77 Wypt065 bumblebee
gravel soil and rocks for cactus garden, same location as early 2012.
Riley, Kaye, Jason, Brandy, and Artemis Nelson. photos: cactus and scenery. 10537

10538 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, Hermit's
Rest, N 36.062290 W 112.211200 2041 m 02-Jan-2013 C. R. Nelson # 10538 & family 77
Wypt067 hermit photos: don't feed the squirrels sign, Artemis & canyon, canyon, group
shot, Jason catching Artemis.
Riley, Kaye, Jason, Brandy, and Artemis Nelson. 10538

10539 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, Pima Point,
N 36.071442 W 112.199625 2094 m 02-Jan-2013 C. R. Nelson # 10539 & family 77
Wypt068 pima photos: canyon, western Grand Canyon sign, family of shadows, Granite
Rapid, Jason catching Artemis, Brandy, Artemis, & Jason.
Riley, Kaye, Jason, Brandy, and Artemis Nelson. photos: Juniper & shadows. 10539

10507.5 USA: UTAH: Salt Lake Co. Salt Lake City, South Temple and F Avenue, N 40.240771
W 111.746395 1368 m 24-Nov-2012 C. R. Nelson # 10507.5 & family 77 photos: family,
Andrea Nelson, Zimbabwe the cat, Jordan Christopher, Riley Nelson, Kaye Nelson, Jason
Nelson, Artemis Nelson, Brandy Nelson, Todd Smith, and Amy Leah Nelson Smith.
10507.5

10540 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, Abyss
Lookout, N 36.058047 W 112.169013 2101 m 02-Jan-2013 C. R. Nelson # 10540 & family
77 Wypt069 abyss photos: Grand Canyon vista, The Abyss sign, scenery, tracks in snow,
panorama of two shots, Kaye, light, layered boulder in snow, Artemis. End another Abyss
sign.
Riley, Kaye, Jason, Brandy, and Artemis Nelson. photos: yuccas 10540

10541 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, Mohave
Point, N 36.071528 W 112.165717 2125 m 02-Jan-2013 C. R. Nelson # 10541 & family 77
Wypt070 mohave photos: Mohave Point sign, canyon view, skeleton tree, bright yucca,
Brandy and Artemis at fence, whole group at fence. End Mohave Point sign.
Riley, Kaye, Jason, Brandy, and Artemis Nelson. 10541

10542 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, Hopi Point, N 36.074331 W 112.154861 2138 m 02-Jan-2013 C. R. Nelson # 10542 & family 77 Wypt071 hopi photos: Hopi Point sign, canyon, Richard Nixon in the shadows of the rocks, erosion lines, End Hopi Point sign.

Riley, Kaye, Jason, Brandy, and Artemis Nelson. 10542

10543 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, view east of Maricopa Point, N 36.066244 W 112.145935 2136 m 02-Jan-2013 C. R. Nelson # 10543 & family 77 Wypt072 eastMaricopa photos: snow layers & San Francisco Peaks, Kaye in yellow light, Riley in yellow light, Riley catching Artemis, Brandy catching Artemis.

(Stegosaurus costume. End at sunset.

Riley, Kaye, Jason, Brandy, and Artemis Nelson. 10543

10544 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, Tusayan, motel room, N 35.968725 W 112.129426 2016 m 02-Jan-2013 C. R. Nelson # 10544 & family 77 Wypt073 tusayan photos and videos: Artemis crawls for the first time at the Grand Canyon, 10:00pm. First crawling.

Riley, Kaye, Jason, Brandy, and Artemis Nelson. 10544

10545 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, mather Point, N 36.061662 W 112.107791 2164 m 03-Jan-2013 C. R. Nelson # 10545 & family 77 Wypt074 mather photos: people and scenery. End Kaye portrait sunglasses.

Riley, Kaye, Jason, Brandy, and Artemis Nelson. 10545

10546 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, Desert View, N 36.043041 W 111.827508 2273 m 03-Jan-2013 C. R. Nelson # 10546 & family 77 Wypt075 desert view photos: scenery, start white knob, river in back, watch tower, tracks in snow. End.

Riley, Kaye, Jason, Brandy, and Artemis Nelson. photos: Ephedra, Yucca, Agave, Chrysothamnus, mistletoe in Juniper with berries! 10546

10547 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, Navajo Point, N 36.093253 W 111.784227 2276 m 03-Jan-2013 C. R. Nelson # 10547 & family 77 Wypt076 navajo photos: scenery, views to Watchtower and Navajo Mountain, Russian couple on the rim, Jason catching Artemis from the sky - Stegosaurus costume.

Riley, Kaye, Jason, Brandy, and Artemis Nelson. photos: start ravens flying, some playing, and carrying stuff in their claws. Raven and harrier. End with raven flying. 10547

10548 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, Moran Point, N 36.004930 W 111.923927 2178 m 03-Jan-2013 C. R. Nelson # 10548 & family 77

Wypt078 moran photos: start Kaye holding Artemis in shadow of juniper tree, scenery, tree

in the gap. End with raven.

Riley, Kaye, Jason, Brandy, and Artemis Nelson. photos: raven, close up squawking, gaagii in Navajo. End. 10548

10549 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, view to San Francisco Peaks, Hwy 64, 0.7 miles East of Moran Point, N 36.007768 W 111.913176 2184 m 03-Jan-2013 C. R. Nelson # 10549 & family 77 Wypt079 san francisco photos: start peaks in the distance, layers of plateaus, snow.

Riley, Kaye, Jason, Brandy, and Artemis Nelson. photos: pinyon juniper forest, tree silhouette. End 2:19 pm. 10549

10550 USA: ARIZONA: Coconino Co. Grand Canyon National Park, South Rim, view to San Francisco Peaks, Hwy 64, 2 miles South of Desert View, N 36.022391 W 111.822251 2217 m 03-Jan-2013 C. R. Nelson # 10550 & J. K. Nelson 77 Wypt080 san francisco2 photos: start 3:57 pm, peaks in the distance. End 3:58 pm. end of shots for the day. We had returned to Tusayan and dropped off Jason, Brandy, and Artemis, then headed east and north to get to Utah. We had a great time together. photos: pinyon juniper forest, tree silhouette. End 2:19 pm. 10550

10551 USA: UTAH: Kane Co., Mount Carmel Junction, Golden Hills Motel, N 37.224105 W 112.679256 1578 m 04-Jan-2013 C. R. Nelson # 10551 & J. K. Nelson 77 Wypt081 carmel photos: East Fork Virgin River behind motel room. 10551

10552 USA: UTAH: Kane Co., Zion National Park, Checkerboard Mesa, Hwy 9, N 37.231738 W 112.877794 1719 m 04-Jan-2013 C. R. Nelson # 10552 & J. K. Nelson 77 Wypt082 checkerboard photos: Checkerboard Mesa, cliff face and moon. End 10:18 am. 10552

10553 USA: UTAH: Kane Co., Zion National Park, west of Checkerboard Mesa, Hwy 9, N 37.225999 W 112.887712 1685 m 04-Jan-2013 C. R. Nelson # 10553 & J. K. Nelson 77 Wypt083 checkerlow photos: Checkerboard Mesa. End 10:23 am. points in between 10553 and 10554 end at 10:35:43 am. 10553

10554 USA: UTAH: Washington Co. Zion National Park, view to East Temple, Hwy 9, 1.5 miles East of east end of Zion Carmel Tunnel, N 37.216038 W 112.918618 1634 m 04-Jan-2013 C. R. Nelson # 10554 & J. K. Nelson 77 Wypt084 east temple view photos: East Temple. 10554

10555 USA: UTAH: Washington Co. Zion National Park, Hwy 9, 0.5 miles East of east end of Zion Carmel Tunnel, N 37.215075 W 112.931442 1598 m 04-Jan-2013 C. R. Nelson # 10555 & J. K. Nelson 77 Wypt085 ice photos: long icicles on red rock. Continued to west end Zion Carmel Tunnel, 10:50 am. 10555

10556 USA: UTAH: Washington Co. Zion National Park, Hwy 9, first switchback below Zion Carmel Tunnel, N 37.211967 W 112.956699 1392 m 04-Jan-2013 C. R. Nelson # 10556 & J. K. Nelson 77 Wypt086 switchhigh photos: West Temple group. Start 10:52 am. End 10:52 am. 10556

10557 USA: UTAH: Washington Co. Zion National Park, Hwy 9, second switchback below Zion Carmel Tunnel, N 37.214052 W 112.959903 1403 m 04-Jan-2013 C. R. Nelson # 10557 & J. K. Nelson 77 Wypt087 switch 2 photos: West Temple group. Start 10:55 am. End 10:57 am. Note GPS gave a higher reading than last stop, which is clearly higher. 10557

10558 USA: UTAH: Washington Co. Zion National Park, Hwy 9, third switchback below Zion Carmel Tunnel, N 37.215764 W 112.968898 1411 m 04-Jan-2013 C. R. Nelson # 10558 & J. K. Nelson 77 Wypt088 west temple photos: West Temple. Start 11:01 am. 10558

10559 USA: UTAH: Washington Co. Zion National Park, Virgin River, 0.5 miles North of Court of the Patriarchs, N 37.244549 W 112.957582 2187 m, bad reading 04-Jan-2013 C. R. Nelson # 10559 & J. K. Nelson 77 Wypt089 courtpatsite photos: Virgin River, view to Lady Mountain, site of 1981-1982. reflections of ice. Kaye bundled up. Poor GPS reception. Site by Virgin River of 1981-1982 Zion Study. photos: wild turkeys, mule deer. 10559

10560 USA: UTAH: Washington Co. Zion National Park, Court of the Patriarchs, N 37.237355 W 112.961091 1259 m 04-Jan-2013 C. R. Nelson # 10560 & J. K. Nelson 77 Wypt090 courtpatmain photos: Patriarchs. 10560

10561 USA: UTAH: Washington Co. Zion National Park, Zion Canyon, base of Angels Landing, N 37.266799 W 112.944416 1377 m 04-Jan-2013 C. R. Nelson # 10561 & J. K. Nelson 77 Wypt091 angels landing photos: Angels Landing base. photos: wild turkeys 10561

10562 USA: UTAH: Washington Co. Zion National Park, Zion Canyon, Weeping Rock, N 37.271340 W 112.939151 1340 m 04-Jan-2013 C. R. Nelson # 10562 & J. K. Nelson 77 Wypt092 weeping rock photos: icy walls, Hidden Canyon and Great White Throne, Cable Mountain, Kaye on icy trail. photos: maidenhair fern and ice, snowy equisetum. 10562

10563 USA: UTAH: Washington Co. Zion National Park, Zion Canyon, Virgin River at Weeping Rock, N 37.271049 W 112.940242 1320 m 04-Jan-2013 C. R. Nelson # 10563 & J. K. Nelson 77 Google Earth photos: Great White Throne, Kaye & Riley in front of Great White Throne, glints of sunrise in Hidden Canyon, Virgin River, jet trails through the Great White Throne. 10563

10564 USA: UTAH: Washington Co. Zion National Park, Zion Canyon, Great White Throne viewpoint, N 37.273455 W 112.941911 1387 m 04-Jan-2013 C. R. Nelson # 10564 & J. K.

Nelson 77 Wypt093 greatwhite photos: sunrise behind Great White Throne, Angels Landing, glowing cottonwoods, snow and river cobble, ice, Great White Throne framed, glint in the red rock frame. photos: mule deer and Great White Throne, 10564

10565 USA: UTAH: Washington Co. Zion National Park, Zion Canyon, Temple of Sinawava, N 37.284798 W 112.944569 1364 m 04-Jan-2013 C. R. Nelson # 10565 & J. K. Nelson 77 Wypt094 sinawava photos: start clear Virgin River, Icons of Temple, Great White Throne in the distance, river and cobble bars, "squirrel" shadow on walls, cottonwood logs, icy tree on the rock, Kaye's shadow on the trail, fuzzy waterfall, river, icy hanging gardens, clear pools, wheelchair (accessibility laws worked!) photos: mule deer spike and three point. 10565

10566 USA: UTAH: Washington Co. Zion National Park, Zion Canyon, Oak Creek Residence Area, N 37.210092 W 112.983459 1227 m 04-Jan-2013 C. R. Nelson # 10566 & J. K. Nelson 77 Wypt095 oak creek photos: dormitory where Riley stayed during Zion study 1981-1982. photos: house finch on cholla cactus. 10566

10567 USA: UTAH: Davis Co. Centerville, Astling home, 105 West 780 South, N 40.909151 W 111.881033, elev. 1307 m, 05-Jan-2013 C. R. Nelson # 10567 & J. K. Nelson 77 Google Earth photo with phone: Paul Wheeler blessing the food at the meal following the baptism of James Astling by Mark Astling. 10567

10568 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 06-Jan-2013 C. R. Nelson # 10568 77 photos: flicker 10568

10569 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 07-Jan-2013 C. R. Nelson # 10569 77 photos: merlin (NO!) or sharp shinned hawk (Yes!) 10569

10570 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.26408 W 111.66390 1389 m 12-Jan-2013 C. R. Nelson # 10570 & class 77 photo011provoriver2230 photos: people and scenery. Two classes, Bio 100 and Bio 220A: 100 Shane wood, Amanda Tomlinson, Mitch Coutu, Diehl Mutamba, Hannah Anderson, Wyatt Hepler, Ryan Montgomery, Kiera Clark, Olivia Haworth, Emily & Joel Blumer, Ethan Brown, Ryan Barrett, Mark Hudak, Taylor Curtis, Sara Moritz, Elsa Rebentisch, Jordan Baker TA, David Golton, Samuel Wood, Lydia Breksa, Kyle Lindsay, Ross Christensen TA, and Cameron Christensen brother. 220a: Sterling Adams, Brian Scroggins friend 220, Alex Andrews friend 220, Rebecca Clement. photos: mallard ducks, hooded merganser (first sighting in wild for me!). sponge, Pteronarcys, Skwala, Hydropsychidae, Baetidae, Asellus, sculpin. 10570

10571 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 16-Jan-2013 C. R. Nelson # 10571 77 photos: repaired Altai slippers photos: birds 10571

10571 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 16-Jan-2013 C. R. Nelson # 10571 77 photos: repaired Altai slippers; Kaye at computer. photos: birds: downy woodpecker, red breasted nuthatch, scrub jay. 10571

10572 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 19-Jan-2013 C. R. Nelson # 10572 77 photos: house sparrows, starlings, robin 10572

10573 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 21-Jan-2013 C. R. Nelson # 10573 & family 77 photos: finger, Jordan Christopher, scenery, moon, animal tracks, people on snowmobiles, mill shed, Kaye in sunglasses, Debbie Smith and family, Andrea Nelson and Jordan Christopher. Riley Nelson, Kaye Nelson, Andrea Nelson, Jordan Christopher, Amy Smith, Todd Smith, Debbie Smith, Tricia Davis, Olivia Davis, Gavin Davis, and Christine? Olivia's friend. 10573

10574 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building, Nelson lab, N 40.24625 W 111.64984 1420 m 26-Jan-2013 C. R. Nelson # 10574 77 photos for CD project: Odonata from John Abbott: Coyrphaeschna from Florida, Epiaeschna from Ohio, Oploaeschna from New Mexico, Triacanthagyna from Florida, Aphylla from Florida, Miathyria from South Carolina, Tanypteryx from California. 10574

10575 USA: UTAH: Salt Lake Co. Sandy, Living Planet Aquarium, 725 East 10600 South, N 40.55931 W 111.87099 1384 m, 02-Feb-2013 C. R. Nelson # 10575 & J. K. Nelson 77 With Kaye, Andrea, Amy, and Todd. photos: otters, Gentoo penguins, archerfish Toxotes jaculatrix, Scat fish, mud skipper Periophthalmus barbarus, axolotl Ambystoma mexicanum, Danube crested newt Triturus dobrogicus, flat fish see names in photos, Prawn goby and snapping shrimp see names in photo, zebra mantis shrimp Lysiosquilla maculata, Anableps four eyed fish, dwarf caiman Paleosuchus palpebrosus, anemone and anemonefish, Aurelia auritus, Chrysaora, Cassiopeia, least chub, canyon tree frog, bluehead sucker, Gila elegans bonytail chub, brook trout, Bonneville cisco Prosopium gemmifer, Bonneville whitefish Prosopium spilonotus, brittlestar, Arapaima gigas. 10575

10576 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 05-Feb-2013 C. R. Nelson # 10576 77 photos: birds, house sparrows, house finch, American goldfinch; Stella the cat. 10576

10577 USA: UTAH: Utah Co., Orem, Utah Valley University, Events Center, N 40.278620 W 111.717044 1400 m 08-Feb-2013 C. R. Nelson # 10577 & family 77 photos: Showdown 2013, mixed Martial arts fights. Riley, Kaye, Amy, Todd. Todd was producing the video portions. 10577

10578 USA: UTAH: Salt Lake Co. Natural History Museum of Utah N 40.764180 W 111.823198 1538 m 09-Feb-2013 C. R. Nelson # 10578 & class 77 photos: Biology 100 Honors class group. Navajo basket, Optical Art, 1998, Elsie Holiday. Twin Rocks Trading Post Collection, ET513.B-18.

Riley Nelson, Kirsten Caceres, Ross Christensen, Cam Christensen, Elsa Rebentisch, Cyndi Mitchell, Marina Hudgens, Hannah Anderson, Liz Holby, Han Zhicheng, Ben Brockbank, Taylor Curtis, Sara Moritz, Tyler Lomas, Ethan Brown, Alena Lopez, Lydia Breksa, Katherine Westmoreland, Diehl Mutamba, Ryan Montgomery, Jon Blackman, and Heidi Phelon. photos: dinosaurs; Gryposaurus monumentensis, Nothronychus graffami. 10578

10579 USA: UTAH: Salt Lake Co. Corner Cafe, Foothill and Wakara Way, N 40.754697 W 111.833919 1454 m 09-Feb-2013 C. R. Nelson # 10579 & class 77 Google Earth photos: Biology 100 Honors class people.

Riley Nelson, Kirsten Caceres, Ross Christensen, Cam Christensen, Elsa Rebentisch, Cyndi Mitchell, Marina Hudgens, Hannah Anderson, Liz Holby, Han Zhicheng, Ben Brockbank, Taylor Curtis, Sara Moritz, Tyler Lomas, Ethan Brown, Alena Lopez, Lydia Breksa, Katherine Westmoreland, Diehl Mutamba, Ryan Montgomery, Jon Blackman, and Heidi Phelon. 10579

10580 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building, near Clark Building, N 40.24625 W 111.64984 1420 m 11-Feb-2013 C. R. Nelson # 10580 77 photos: snowflakes alone and on coat of Heidi Phelon, Biology 100 Honors student from Las Vegas, Nevada. 10580

10581 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 12-Feb-2013 C. R. Nelson # 10581 77 Photos: snowflakes, some on norway maple seed, samara, helicopter. 10581

10581 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 14-Feb-2013 C. R. Nelson # 10581 78 Photos: Hemiptera, "Homoptera" scale insects or mealbugs on AMaryllis leaf, house plant. 10581

10582 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 15-Feb-2013 C. R. Nelson # 10582 78 Photos: mule deer in backyard eating ornamental juniper in the middle of the night. None successful. 10582

10583 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 17-Feb-2013 C. R. Nelson # 10583 78 Photos: red breasted nuthatch, junco, house finh, lesser goldfinch 10583

10584 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 18-Feb-2013 C. R. Nelson # 10584 & J. K. Nelson 78 photos: people and meat on a stick. Riley Nelson, Kaye Nelson, Lisa Astling and sons Spencer, DJ, and James. Kristi and Ben Parker and sons Logan and Lincoln. 10584

10585 USA: UTAH: Utah Co., Timpanogos Highway at Traverse Mountain turnoff, N xx W xx, xx m, 19-Feb-2013 C. R. Nelson # 10585 78 photos: sunrise over Mount Timpanogos 10585

10586 USA: UTAH: Wayne Co. Capitol Reef National Park, Scenic Drive south of Slickrock Divide to Pleasant Creek, N 38.211294 W 111.205527, 1731 m, 21-Feb-2013 C. R. Nelson # 10586 & class 78 Wypt 100 last night photos: Navajo Sandstone and Wingate Sandstone outcrops at sunset. With John Bennion and Stacy Taniguichi's Wilderness Writing class. 10586

10587 USA: UTAH: Wayne Co. Capitol Reef National Park, Pleasant Creek at Capitol Reef Field Station, N 38.185493 W 111.178810, 1850 m, 21-Feb-2013 C. R. Nelson # 10587 & class 78 Wypt 098 098 crfs photos: field station, misty Boulder Mountain, misty Henry Mountains. With John Bennion and Stacy Taniguichi's Wilderness Writing class. 22 February 2013, photos: early morning. 23 February 2013, group photo. 10587

10588 USA: UTAH: Wayne Co. Capitol Reef National Park, Pleasant Creek petroglyphs downstream from Capitol Reef Field Station, N 38.185889 W 111.170059, 1790 m, 22-Feb-2013 C. R. Nelson # 10588 & class 78 Wypt 099 sine wave photos: early morning scenery, petroglyphs, particularly of sine waves and sheep. Shasta grape soda aluminum can. Is it historical or is it trash to be recycled? 10588

10589 USA: UTAH: Wayne Co. Capitol Reef National Park, Cassidy Arch, N 38.185889 W 111.170059, 1833 m, 22-Feb-2013 C. R. Nelson # 10589 & class 78 Wypt 101 Cassidy Arch photos: people and scenery 10589

10590 USA: UTAH: Wayne Co. Capitol Reef National Park, Capitol Gorge, N 38.210616 W 111.164303, 1693 m, 22-Feb-2013 C. R. Nelson # 10590 & class 78 Wypt 102gorge photos: people and scenery. End with ravens. then Henry Mountains from CRFA 10590

10591 USA: UTAH: Wayne Co. Capitol Reef National Park, Cohab Canyon, N 38.283426 W 111.246268, 1659 m, 23-Feb-2013 C. R. Nelson # 10591 & class 78 Wypt 104cohab photos: people and scenery. including Fruita and basalt moraine. 10591

10592 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 26-Feb-2013 C. R. Nelson # 10592 78 Photos: sharp shinned hawk 10592

10593 USA: UTAH: Utah Co., Provo, BYU, Smoot Building N 40.250487 W 111.649560 1421 m 28-Feb-2013 C. R. Nelson # 10593 78 While making a morning phone call on a bench outside the Smoot Administration Building at BYU, I looked up to see a deer bound past and leap over a five foot hedge high into the air. Perhaps the deer didn't realize she was jumping from flat ground to the slope of the north end of the underground library. She then found herself over 20 feet in the air. I watched as she glided to the ground but didn't see her land. Jumping up quickly myself I joined several people looking to see how she fared. No problem. She ran down to the mirrored windows and tried to go through them into the library. I walked softly down to turn her east and shouted to others to hold still to let her escape up the slope from this confined area. She bounded off apparently unhurt. I searched for her heavy landing spot and although I found tracks, none were deeper from such a high landing. mule deer 10593

10594 USA: UTAH: Millard Co. Gunnison Bend Reservoir, north end, N 39.357984 W 112.612894 1410 m 02-Mar-2013 C. R. Nelson # 10594 & Clayton M. White & John S. Bennion. 78 wypt 105geese 9:45 - 11:00 am. photos: snow geese, canada geese, killdeer, pintail ducks. mergansers, scaup, and mallards. 10594

10595 USA: UTAH: Millard Co. Delta, bridge on west end of town, Hwy 6, N 39.352705 W 112.589980 1407 m 02-Mar-2013 C. R. Nelson # 10595 & Clayton M. White & John S. Bennion. 78 wypt 106cosmic photos: University of Utah Cosmic Ray Laboratory and telescope. Also bought a 2 inch Madagascar ammonite, split, sawn and polished from Bob Harris at West Desert Collectors in Delta. \$15.00. Genus, species, and age unknown. 10595

10596 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 05-Mar-2013 C. R. Nelson # 10596 78 Photos: flicker digging a hole in the lawn. 10596

10597 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building, Nelson lab, N 40.24625 W 111.64984 1420 m 05-Mar-2013 C. R. Nelson # 10597 78 "those tardigrades that we were looking at yesterday are from the Garwood Valley in Antarctica. I best I can tell they are the species Acutuncus Antarcticus. We hopefully will be able to confirm that in a few weeks with DNA sequencing. Caj photo session: with Caj Johansson, undergraduate student. Tardigrades from Antarctica. 10597

10598 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 15-16 March 2013 C. R. Nelson # 10598 & J. K. Nelson 78 photos: people and scenery and meat on a stick. Riley Nelson, Kaye Nelson, Stacie Faulk, Ali Campbell, Thad Carlisle, John Bennion, Chris Bennion, Becca Clement, McKall Morris, Samantha Smith, Tanner Thompson, Rachel Fuller, Eric Lenhart. photos: cougar tracks. Eocene fossils from Green River Shale: bird tracks, turtle scutes, fish scales, more. dog or coyote skull, all teeth found. restored on 17 March 2013. 10598

10599 USA: UTAH: Utah Co., Pleasant Grove, 384 East 700 South, N 40.356330 W 111.733134, 1413 m, 15-Mar-2013 C. R. Nelson # 10599 friend of Dawn Schmidt. 78 photo session at home, C. R. Nelson not present when collected: Dermestidae adults, also Collembola and dermestid larva (but these could have come from the wooden prop from outside my house on day photographed. 10599

10600 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building, Nelson lab, N 40.24625 W 111.64984 1420 m 19-Mar-2013 C. R. Nelson # 10600 78 photos: phoridae in cricket colony, determined from photo by Brian Brown as *Megascelia scalaris*. Also prepared shark skin and tail. 10600

10601 USA: UTAH: Utah Co., Provo, BYU, Harold B. Lee Library, N 40.248153 W 111.649887 1422 m 19-Mar-2013 C. R. Nelson # 10601 78 white orchids found on sidewalk, pressed in notebook. 10601

10602 USA: UTAH: Morgan Co. Hogback Summit, 5 mi SW of Henefer, Hwy 65, N 40.954104 W 111.549836 1901 m 23-Mar-2013 C. R. Nelson # 10602 & students 78 wypt 107hogback photos: scenery. With Tom Smith and Randy Larsen and their classes. photos: Greater sage grouse on lek. We arrived at 7:30am golden eagle chased them off at 8:15 am or so 10602

10603 USA: UTAH: Summit Co. Spring Creek, 3 mi SW of Henefer, Hwy 65, N 40.985747 W 111.536336 1729 m 23-Mar-2013 C. R. Nelson # 10603 & students 78 wypt 109springcreek photos: Spring Creek Station monument. With Tom Smith and Randy Larsen and their classes. 10603

10604 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 23-Mar-2013 C. R. Nelson # 10604 78 Photos: birds, 2:00 - 3:00 pm. American goldfinch eclipse, some foraging aspen catkins, dark eyed junco, spotted towhee, red breasted nuthatch, house finch, some with eye virus; black capped chickadee. Also saw mountain chickadee and lesser goldfinch, all at feeder. 10604

10605 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 24-Mar-2013 C. R. Nelson # 10605 78 Photos: birds. 10605

10606 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Mar-2013 C. R. Nelson # 10606 78 spider, Agelenidae, given alive to Michael Porter 10606

10607 USA: UTAH: Morgan Co. Hogback Summit, 5 mi SW of Henefer, Hwy 65, N 40.954104 W 111.549836 1901 m 27-Mar-2013 C. R. Nelson # 10607 78 wypt 107hogback with Rick Gill, Gordon Oborn, and Italu Martinez (student from Bio 220) photos: Greater sage grouse on lek. 10607

10608 USA: UTAH: Morgan Co. Devils Slide, Hwy 84 N 41.063835 W 111.547552 1596 m 27-Mar-2013 C. R. Nelson # 10608 78 Photos: people and scenery. with Rick Gill, Gordon Oborn, and Italu Martinez (student from Bio 220) 10608

10609 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 29-Mar-2013 C. R. Nelson # 10609 78 photos: aspen to test long lens 10609

10610 USA: UTAH: Utah Co., Provo, White LDS Church, Canyon Road, N 40.289554 W 111.655099 1461 m 29-Mar-2013 C. R. Nelson # 10610 & J. K. Nelson 78 photos: Mount Timpanogos, sun at sunset, Kaye and Cajska McKay, doves 10610

10611 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 29-Mar-2013 C. R. Nelson # 10611 78 photos: moon, neighborhood lights. 10611

10612 USA: UTAH: Morgan Co. Hogback Summit, 5 mi SW of Henefer, Hwy 65, N 40.954104 W 111.549836 1901 m 30-Mar-2013 C. R. Nelson # 10612 78 wypt 107hogback with Clayton and Merle White and grandson Walker Wolfgramm photos: Greater sage grouse on lek. Also, red tailed hawks (a mile or so closer to Henefer) 10612

10613 USA: UTAH: Box Elder Co. Woods Creek Duck Club, 1.5 miles southwest of Corinne, "The Farm", house, N 41.517080 W 112.139748 1287 m, 30-Mar-2013 C. R. Nelson # 10613 78 google earth Talked with Tod Young. He gave me a wood spirit carving he had made for Kaye. with Clayton and Merle White and grandson Walker Wolf... chorus frogs, saw birds: raven, pheasant, curlew, scaup, shoveler, cinnamon teal, mallard, bufflehead, sandhill crane, yellow headed blackbird, red winged blackbird, coot, pintail, canada goose, horned lark, canvasback, cormorant, California gull, harrier. 10613

10614 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 03-Apr-2013 C. R. Nelson # 10614 78 photos: half moon. 10614

10615 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 04-Apr-2013 C. R. Nelson # 10615 78 photos: quarter moon with bluing sky in morning. 10615

10616 USA: UTAH: Utah Co., Diamond Fork River, 0.5 miles north of Hwy 6, N 40.033540 W 111.496646, elev. 1532 m, 04-Apr-2013 C. R. Nelson # 10616 & others, see field notes 78 wypt 109 diamond photos: scenery. With BYU Entomology Club: Shawn Clark, Robert Johnson, Michael Todd Porter, Ethan Russell Anderson, Ismaiel Szink. photos: Gerridae, Silphidae, Dermestidae (last two on deer hide), Isogenoides zionensis, Staphylinidae near Stenus.

Carabidae, Pteronarcys, Pteronarcella, 10616

10617 USA: UTAH: Utah Co., Diamond Fork River at Red Ledges Picnic Area, N 40.079096 W 111.402941, elev. 1603 m, 04-Apr-2013 C. R. Nelson # 10617 & others, see field notes 78 wypt 110 red ledges photos: people, scenery, . With BYU Entomology Club: Shawn Clark, Robert Johnson, Michael Todd Porter, Ethan Russell Anderson, Ismaiel Szink. photos: Taeniopterygidae Taenionema uinta; Curculionidae; Trichoptera adult. 10617

10618 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 09-Apr-2013 C. R. Nelson # 10618 78 photos: pink backed juncos, house finch, Cassins finch, red breasted nuthatch, white crowned sparrow, spotted towhee, dark eyed junco. 10618

10618 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 15-Apr-2013 C. R. Nelson # 10618 78 photos: lilies, tulips, forsythia, daffodil, Pinus sylvestris, Euphorbia myrsinites, grape hyacinth, apricot, oregon grape, aspen, yew, moss & lichen on shingle, knife: Machete handle, squaw bush Rhus aromatica, mounted fish. 10618

10620 USA: UTAH: Utah Co., Provo, BYU, Martin Building, Room 231, N 40.246851 W 111.649152 1420 m 15-Apr-2013 C. R. Nelson # 10620 78 Google Earth photos: group, Biology 100H class. 10620

10621 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 16-Apr-2013 C. R. Nelson # 10621 78 photos: \$50 US savings bond from Charles Claybaugh of the Box Elder News & Journal "Great Country" newspapers, for my namesake "Charles Rilen Nelson (sic) Brigham City, Utah #L315852203E note from Kaye: Savings bond #800553-2663 12/31/03 value at \$392.38, 354.88 interest redemption value. 5/5/10 matured 9/1996, 1/12/12 same. 10621

10622 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 17-Apr-2013 C. R. Nelson # 10622 78 evening: Bio 100H class

members at dinner. morning, photos: jumping spider, Salticidae, Phiddippus sp. male.
10622

10623 USA UTAH: Utah Co., Provo, BYU, Maeser Building, Room 321, N 40.24625 W
111.64984 1420 m, 17-Apr-2013 C. R. Nelson # 10623 78 photos: Charles Redd Center,
Interdisciplinary studies of the Intermountain West workshop. 10623

10624 USA UTAH: Utah Co., Provo, BYU, Tree of Life Sculpture, N 40.24625 W 111.64984
1420 m, 17-Apr-2013 C. R. Nelson # 10624 78 photos: sculpture, restored "Tree of Life"
10624

10625 USA UTAH: Utah Co., Provo, BYU, Harris Fine Arts Center, N 40.249857 W
111.648813 1423 m, 17-Apr-2013 C. R. Nelson # 10625 78 photos: robin in magnolia and
flowering pear tree. 10625

10626 USA UTAH: Utah Co., Provo, BYU, Wilkinson Center and Brigham Square, N
40.249189 W 111.648540 1423 m, 17-Apr-2013 C. R. Nelson # 10626 78 also photos:
slopes near Clyde Building, N40.246090 W111.648241 elev. 1420m, dog fetching ball.
photos Windows of Heaven sculpture: N 40.246489 W 111.648664 elev. 1420 m. photos:
Bill Welsh near Smoot Building N 40.251164 W 111.650118 elev. 1421 m. photos: ducks
and people. 10626

10627 USA UTAH: Utah Co., Provo, Canyon Crest Elementary School, N 40.295410 W
111.652644 1476 m, 18-Apr-2013 C. R. Nelson # 10627 78 photos: Insect assembly for
about 160 students who excelled by doing an extra science project. We ran four stations
and rotated every 5 minutes or so. Becca Clement did larvae and life history; Callie
(McAllister) Hall did overall diversity; Russell Anderson did scorpions and spiders; Riley
Nelson did live aquatic insects and biomonitoring. Ross Christensen helped with all.
10627

10628 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 18-Apr-2013 C. R. Nelson # 10628 78 photos: white crowned
sparrow 10628

10629 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 24-Apr-2013 C. R. Nelson # 10629 78 photos: Eurasian collared dove
10629

10630 USA: UTAH: Millard Co. Scipio, I-15 N 39.25526 W 112.11713 1611 m 25-Apr-2013
C. R. Nelson # 10630 & family 78 153scipio trip to Arizona with family: Riley, Kaye, Andrea,
and Jordan Christopher. photos: peacock male. 10630

10631 USA: UTAH: Washington Co. Santa Clara, Dixie Drive near 1820 West, N 37.105763 W 113.622737 797 m 25-Apr-2013 C. R. Nelson # 10631 & family 78 Wypt 111 dave henson Photos: site of death of David Henson on 4 March 2013.

trip to Arizona with family: Riley, Kaye, Andrea, and Jordan Christopher. 10631

10632 USA: UTAH: Wahington Co. Beaver Dam Slope, Lytle Preserve Road, 0.3 miles West of Castle Rock, N 37.064998 W 113.892244 1123 m 25-Apr-2013 C. R. Nelson # 10632 & family 78 Wypt 112 beavstop Photos: scenery

trip to Arizona with family: Riley, Kaye, Andrea, and Jordan Christopher. photos: *Thamnosma montana* with *Papilio polyxenes coloro* caterpillar. *Opuntia* 2 spp., *Calochortus*, *Yucca baccata*, *Yucca brevifolia*. photos: *Efferia* 1m 2f, appears to be near *E. benedicti*. 10632

10633 USA: ARIZONA: Mohave Co. Burro Creek Campground, 1.5 miles West of Hwy 93, 15 miles South of Wickiup, N 34.537617 W 113.451794 578 m 25-Apr-2013 C. R. Nelson # 10633 & family 78 wypt 114burro Trip to Arizona with family: Riley, Kaye, Andrea, and Jordan Christopher. photos: *Efferia albibarbis*, 2 males.

Saw birds: turkey vulture, black necked stilt, pied billed grebe, western grebe, belted kingfisher, raven, killdeer, dunlin?, black hawk, hummingbird, cormorant. 10633

10634 USA: ARIZONA: Maricopa Co. Phoenix, Mountain View Casitas, 1130 Grovers Avenue, N 33.647789 W 112.058018 420 m 26-Apr-2013 C. R. Nelson # 10634 & family 78 wypt 115nelsons trip to Arizona with family: Riley, Kaye, Andrea, and Jordan Christopher, now add Jason, Brandy, and Artemis. photos: yellow cheeked conure named Bernie, Artemis, Kayes.

29 April: photos: people. 10634

10635 USA: ARIZONA: Pinal Co. Boyce-Thompson Arboretum, 3 miles West of Superior, Hwy 60, N 33.280068 W 111.154569 746 m 26-Apr-2013 C. R. Nelson # 10635 & family 78 wypt 116boyce trip to Arizona with family: Riley, Kaye, Andrea, and Jordan Christopher. Brandy & Artemis Nelson.

Bought a horned lizard sculpture: \$21.50 photos: *Krameria white* ratany, birds: turkey vulture, *Phainopepla*, cactus wren, house finch, raven, bushtit, cardinal, Costas hummingbird, mourning dove, "yellow" warbler, white winged dove, curve billed thrasher, lark sparrow?, lesser goldfinch, Aberts towhee, verdin, double crested cormorant, Gambels quail. 10635

10636 USA: ARIZONA: Mariposa Co. Phoenix, Desert Ridge area, park on south side, N 33.664033 W 112.044043 466 m 26-Apr-2013 C. R. Nelson # 10636 & family 78 Kaye, Brandy, & Artemis Nelson.

walk in the dark. photos: full moon rise. 10636

10637 USA: ARIZONA: Mariposa Co. Phoenix, Mountain View Community Center near Mountain View Casitas Apartments, N 33.648392 W 112.060254 419 m 27-Apr-2013 C. R. Nelson # 10637 78 early morning pondering, writing, and birds. many white winged doves calling, photos: common grackle, starlings, curved billed thrasher, house sparrow, "Gila" woodpecker, Eurasian collared dove, mourning dove, Costa's hummingbird. 29 April 2013: photos: Anna's hummingbird, Say's phoebe, and verdin on Hesperaloe. 10637

10638 USA: ARIZONA: Gila Co. Payson, Oxbow Bend, N 34.183590 W 111.337604 1421 m 27-Apr-2013 C. R. Nelson # 10638 & family 78 wypt 119 spurlock At Pat and Nancy Spurlock's house for Artemis's birthday party. Photos: people. Jason, Brandy, Artemis, Andrea, Jordan and more photos: woodpecker. 10638

10639 USA: ARIZONA: Mariposa Co. Phoenix, Turtle Rock Basin, near 12th Street and Bell N 33.645350 W 112.057832 436 m 28-Apr-2013 C. R. Nelson # 10639 78 wypt 120 turtlerock morning: curved billed thrasher, mockingbird, peach faced lovebird (parrot green with short tail), house sparrow, mourning dove, pigeon, white winged dove, verdin? yes, cactus wren, rough winged swallow, starling, Gila woodpecker, Eurasian collared dove, hummingbirds, grackle. Evening: walk with Artemis.

29 April 2013: photos: mockingbird in flight, verdin on trunk, sparrow, Leucophyllum flowers, white winged dove, curved billed thrasher separate and on nest. 10639

10640 USA: ARIZONA: Mariposa Co. Mesa, 2515 North Cabot Circle, N 33.461023 W 111.63078 556 m 27-Apr-2013 C. R. Nelson # 10640 78 Google Earth scorpions, C. R. Nelson not present when collected. Andrea Nelson and Jordan Christopher caught them at Jordan's aunt's house near state park. Photos: scorpions in Nelson Lab at BYU 1 May 2013, *Centruroides sculpturatus* det. D. Sissom by photograph to Canyon, Texas. I photographed the pectines of the last specimen to die on 6 November 2013 in my laboratory. It looked plump and healthy, but had died over the weekend. Perhaps I need to feed them crickets more often, rather than mealworms. 10640

10641 USA: ARIZONA: Mariposa Co. Carefree Highway, Hwy 74, 11 miles West of I-17 at Lake Waddell turnoff, N 33.836590 W 112.316213 541 m 29-Apr-2013 C. R. Nelson #

10641 & J. K. Nelson 78 wypt 121 pleasant soil for cactus. photos: saguaro blossoms, scenery 10641

10642 USA: NEVADA: Clark Co. Logandale, Ryan and Wendy Wheeler's house, N 36.614743 W 114.490388 427 m 30-Apr-2013 C. R. Nelson # 10642 78 Google Earth photos: twins and baby chickens. 10642

10643 USA: UTAH: Utah Co., American Fork Canyon, Deer Creek at Tibble Fork Reservoir, N 40.482457 W 111.647600 1927 m 02-May-2013 C. R. Nelson # 10643 78 Wypt 122tibble photos: scenery, Tibble Fork Reservoir Taenionema , photos: Doddsia photos 4; Prostoia photos 2 and 9 lost voucher of 2; Zapada photos 5 and 8; Capnia photos 9; Paraleuctra photos 7; ground squirrel; Ichneumonidae photos 1; Tenthredinidae photos 3; Phoridae photos 6; Trichoptera small, photos 10; Coccinellidae photos 11. end, now 10644. There were more stoneflies on Douglas fir than on white fir and Engelmann Spruce. 10643

10644 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River, site 3, south of South Fork Ranger Station, N 40.451903 W 111.657216 1876 m 02-May-2013 C. R. Nelson # 10644 78 Wypt 123sfksite3 Eucapnopsis, Zapada, Doddsia, Prostoia. Capnia male photos 1 with myrmecinae ant; Trichoptera, large black, photos 2; Xyelidae photos 3. 10644

10645 USA: UTAH: Utah Co., Mount Timpanogos, Pine Hollow Trailhead, N 40.450074 W 111.644065 2056 m 02-May-2013 C. R. Nelson # 10645 78 Wypt 124pinehollow photos: scenery 10645

10646 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River, at turnoff of South Fork Ranger Station, N 40.453317 W 111.661052 1848 m 02-May-2013 C. R. Nelson # 10646 78 Wypt125sfkguardstation photos: dry stream bed 10646

10647 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763, 1829 m, 05-May-2013 C. R. Nelson # 10647 & J. K. Nelson 78 started the four wheeler and rode to the back chain gate and Glass Cliffs. Shoveled silt out of the irrigation intake reservoir then filled and drained it several times to clean it out. Did not yet hook it to the water lines. Took home 11 buckets of silty sand to add pore space to garden soil. Took home an old turned pioneer porch post to preserve. 10647

10648 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 05-May-2013 C. R. Nelson # 10648 & family 78 photos: Wilford Baird after surgery for droopy eyelids. Gift plants from me to Kaye: a purple bougainvillea and a red japanese maple. photos: honey bees swarming in driveway. David and Austin Baird trying to get them in a hive box. People at Amy's birthday party. Now Amy Leah Smith is 27 years old. photos: apple blossoms 10648

10649 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 07-May-2013 C. R. Nelson # 10649 78 photos: robin and worms; black widow spiders in sprinkler box. 10649

10650 USA: IDAHO: Fremont Co. Island Park, Macks Inn, Hwy 20 N 44.520733 W 111.329759 1973 m 9-11 May 2013 C. R. Nelson # 10650 & others, see field notes 78 Wypt128? islandparkMax cs 9 May: photos: star trail, best at 200 f3.8, iso 200, 15 minutes bulb, need to stop down, light pollution. Mark Hutchings cabin. With D. Mark Hutchings and Brad D. Peterson. Saw two moose driving at night between Sheridan Lake and Island Park, coming from Dubois on I-15 over Yale-Kilgore Road. 10650

10651 USA: IDAHO: Clark Co. Sheridan Creek, free flowing branch East of Sheridan Lake, N 44.455365 W 111.679786 1954 m 10-May-2013 C. R. Nelson # 10651 & others, see field notes 78 Wypt129 Sheridan With D. Mark Hutchings and Brad D. Peterson. Took three First 100 aquatic samples by Riley, Mark, and Kirk Ward from recently modified segment east of "cowboy" cabins below dam. Next two sites all within about 100m. This gps reading taken from bridge in "cowboy cabins" area. Nemouridae, Hesperoperla, small Perlodidae, Ephemerellidae, Baetidae, Leptophlebiidae, Tipulidae, sculpin, Athericidae, Hydropsychidae, Micrasema?, Limnephilidae?, Heptageniidae, Elmidae, Stratiomyidae. 10651

10652 USA: IDAHO: Clark Co. Sheridan Creek, free flowing branch East of Sheridan Lake and West of cowboy cabins near dam, N 44.455365 W 111.679786 1954 m 10-May-2013 C. R. Nelson # 10652 & others, see field notes 78 Wypt129 Sheridan With D. Mark Hutchings and Brad D. Peterson. Kirk Ward. Three First 100 samples, Riley, Mark, and Kirk, same taxa as 10651. Unmodified (or at least not recently) section. sculpin and rainbow trout. 10652

10653 USA: IDAHO: Clark Co. Sheridan Creek, tailwater of Sheridan Lake near cowboy cabins, N 44.455365 W 111.679786 1954 m 10-May-2013 C. R. Nelson # 10653 & others, see field notes 78 Wypt129 Sheridan With D. Mark Hutchings and Brad D. Peterson. Kirk Ward. Three First 100 samples, Riley, Mark, and Kirk, same taxa as 10651. Unmodified (or at least not recently) section. different taxa: leeches, annelida Oligochaeta, Acari, Ephemerellidae, Baetidae, more. 10653

10654 USA: IDAHO: Clark Co. Sheridan Lake, 5 miles Northwest of west end Island Park Reservoir, N 44.455365 W 111.679786 1954 m 10-May-2013 C. R. Nelson # 10654 & others, see field notes 78 Wypt129 Sheridan With D. Mark Hutchings and Brad D. Peterson.

Photos: scenery & people. wolf foot print.

rainbow trout on dam, feather, bird skeletons near dock. 10654

10655 USA: IDAHO: Fremont Co. Island Park, Big Spring of Henrys Fork, N 44.499508 W

111.255575 1924 m 11-May-2013 C. R. Nelson # 10655 & others, see field notes 78

Wypt130bigspring With D. Mark Hutchings and Brad D. Peterson.

Photos: scenery & people, spring.

photos: Mayfly hatch 10655

10656 USA: IDAHO: Fremont Co. Upper Mesa Falls, Henrys Fork Snake River, N 44.186950

W 111.328954 1723 m 11-May-2013 C. R. Nelson # 10656 & others, see field notes 78

Wypt131uppermesafalls With D. Mark Hutchings and Brad D. Peterson.

Photos: scenery 10656

10657 USA: IDAHO: Fremont Co. Lower Mesa Falls, Henrys Fork Snake River, N 44.174902

W 111.315031 1803 m 11-May-2013 C. R. Nelson # 10657 & others, see field notes 78

Wypt132lowermesafalls With D. Mark Hutchings and Brad D. Peterson.

Photos: scenery and falls 10657

10658 USA: IDAHO: Fremont Co. Teton Overlook, Warm River, N 44.139917 W 111.290550

1750 m 11-May-2013 C. R. Nelson # 10658 & others, see field notes 78 Wypt133 teton view

With D. Mark Hutchings and Brad D. Peterson.

Photos: scenery, Teton Mountains 40 miles in the distance. 10658

10659 USA: IDAHO: Fremont Co. Warm River junction Henrys Fork Snake River, N

44.110837 W 111.337276 1596 m 11-May-2013 C. R. Nelson # 10659 & others, see field

notes 78 Wypt134 warmhenry With D. Mark Hutchings and Brad D. Peterson.

Photos: river junction. Fishing *Pteronarcys californica* 10659

10660 USA: IDAHO: Fremont Co. Henrys Fork Snake River, 0.3 miles below Vernon bridge, 4

miles West of Ashton, N 44.051611 W 111.540983 1548 m 11-May-2013 C. R. Nelson #

10660 & others, see field notes 78 Wypt135 vernon bridge With D. Mark Hutchings and Brad D. Peterson.

Photos: gps, fishing in farm country. At boat put-in. 10660

10661 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W

111.268019 1839 m, 12-13 May 2013 C. R. Nelson # 10661 & J. K. Nelson 78 Wypt

136cabin photos: star trails. deer antler on walk, near swimming pond. 10661

10662 USA: UTAH: Millard Co. Meadow Hot Springs, 5 miles West of Meadow, N 38.864551

W 112.503403 1453 m, 15-May-2013 C. R. Nelson # 10662 & others, see field notes 78

Wypt 138 meadowspring With Rebecca A. Clement, Sarah E. Clement, E. Russell

Anderson, and Gordon N. Oborn. photos: scenery and people. Cicindelidae, tiger beetles. Bitten by Ceratopogonidae 10662

10663 USA: UTAH: Washington Co. Santa Clara, Land Hill & Anasazi Valley, Temi Po'op petroglyphs, N 37.153277 W 113.703980 973 m, 15-May-2013 C. R. Nelson # 10663 & others, see field notes 78 Wypt 139tempipoop petro With Rebecca A. Clement, Sarah E. Clement, E. Russell Anderson, and Gordon N. Oborn. photos: scenery and people and petroglyphs. *Promachus aldrichii* 10663

10664 USA: UTAH: Washington Co. Beaver Dam Slope, Bitter Spring, N 37.086353 W 113.928593 1177 m, 15-May-2013 17-May-2013 C. R. Nelson # 10664 & others, see field notes 78 Wypt 140 bitterspring With Rebecca A. Clement, Sarah E. Clement, E. Russell Anderson, and Gordon N. Oborn. Set up malaise trap over water. 17 May 2013: harvested malaise trap, small amount but with *Geranomyia*. Also took pieces of *Psorothamnus fremontii*, *Larrea tridentata*, and *Thamnosma montana* which I photographed at home on 22 May 2013. *Efferia benedicti*?, Tabanidae; *Agave utahensis* on slopes, *Ferocactus* on slope. *Geranomyia*, *Thamnosma montana*, *Psorothamnus*, *Larrea*.
Nearby photos of magenta plant: *Penstemon petiolatus*, det by Robert L. Johnson. Google Earth: N 37.083472 W 113.927489, elev. 1155 m. 10664

10665 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, N 37.143908 W 114.024129 846 m, 15-May-2013 17-May-2013 C. R. Nelson # 10665 & others, see field notes 78 Wypt 141 lytle at creek With Rebecca A. Clement, Sarah E. Clement, E. Russell Anderson, and Gordon N. Oborn. 15 May: Set up 3 malaise trap over creek. Set up mercury vapor lights at stream edge, started one hour after dark and ran for two hours. scorpion hunting on uplands near new bunkhouse, none seen. 17 May 2013: harvested malaise traps, good catch. Photos: scenery and star trails.

16 May: three First 100 samples, 20 yellow pan traps open one hour. Photo: time lapse of bluff and upstream valley. Walked creek from north property line to south. Mercury vapor lights at stream edge, better catch than last night.

17 May 2013: took down the three malaise traps, good catch. Sorted in lab in Provo on 20 May 2013. Took fig tree starts.

One of the vegetation crew members saw a desert tortoise at N 37.111444 W 113.995333, elev. 965 m. on 16 May 2013.

16 May: photos desert cottontail.

Phainopepla, house sparrow, black chinned hummingbirds, Gambels quail, shiners?, suckers, toad, young no red, white stripe with elongate parotids, Woodhouse toad?

Bird list for 15-17 May 2013: black crowned night heron, great blue heron, turkey vulture, Gambels quail, turkey, killdeer, spotted sandpiper, mourning dove, road runner, pygmy owl? NEW RECORD, black chinned hummingbird, ladder backed woodpecker, black phoebe, loggerhead shrike (near Welcome Spring), raven, rough winged swallow, barn swallow, verdin, Bewicks wren, swainsons thrush?, cedar waxwing, Phainopepla, Wilsons warbler, yellow breasted chat, summer tanager, western tanager, black headed grosbeak, Bullocks oriole, house finch, American goldfinch, house sparrow. 10665

10666 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Preserve, big pond near orchard, N 37.150995 W 114.018563 857 m, 17-May-2013 C. R. Nelson # 10666 & others, see field notes 78 Google Earth With Rebecca A. Clement, Sarah E. Clement, E. Russell Anderson, and Gordon N. Oborn. crayfish *Orconectes virilis*; minnow shiner? 10666

10667 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 18-May-2013 C. R. Nelson # 10667 78 photos: house finch with egg stuck to its side near cloaca, house finch standing on one hurt foot. 10667

10668 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 21-May-2013 C. R. Nelson # 10668 79 photos: black headed grosbeak, good ones of female on feeder 10668

10669 USA: UTAH: Utah Co., Orem, Parker home, 1463 South 680 East, N 40.270505 W 111.6788566 1442 m 22-May-2013 C. R. Nelson # 10669 & family & friends 79 wypt 142parkerorem logs came from: 1286 West 500 North, Provo, UT USA 84601. Ben and Kristi Parker's former hom. photos: Scolytidae and Chalcidoidea parasite from wood of Siberian elm, *Ulmus pumila*, probably *Scolytus schevyrewi* 10669

10670 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 25-May-2013 C. R. Nelson # 10670 & J. K. Nelson 79 Wypt 136cabin photos: Sherry Wheeler and scenery. Found a dead black headed grosbeak male. Spent night of 24-25 May 2013. photos: hummingbirds 10670

10671 USA: UTAH: Utah Co., Sandwich and bar building, Ironton, between Provo and Springville, Hwy 89, N 40.211972 W 111.633258 1352 m, 25-May-2013 C. R. Nelson # 10671 79 Wypt 143 sandwiches photos: "sandwiches" painted on old building. Squaw Peak. 10671

10672 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 26-May-2013 C. R. Nelson # 10672 79 photos: test video of ants and aphids on aspen using D600 camera; blue spruce.

Annual grasses near my yard for High Priests' Group lesson accompanying President

Monson's talk, "Obedience Brings Blessings" from April 2013 Conference: *Bromus tectorum*, *Bromus rigidus*, *Aegilops cylindrica*, *Poa pratensis*, *Triticum sativa* wheat, and *Hordeum jubatum*. 10672

10673 USA: UTAH: Utah Co., Provo, Edgemont North Stake Center, Canyon Road and Foothill Drive, N 40.294254 W 111.652368 1476 m 26-May-2013 C. R. Nelson # 10673 79 Google Earth photos: men in High Priests' Group class of Edgemont 10th Ward. 10673

10674 USA: UTAH: Utah Co., Provo, City Center LDS Temple construction site, Center Street and University Boulevard, N 40.232392 W 111.659732 1406 m 26-May-2013 C. R. Nelson # 10674 & J. K. Nelson 79 Wypt 144temple photos: temple, former tabernacle, suspended on scaffolding, from many angles, including northeast corner of U. S. Post Office on First West 10674

10675 USA: UTAH: Utah Co., Provo, history murals on Bingham Cyclery Building, 200 West Center Street, N 40.233540 W 111.662461 1418 m 26-May-2013 C. R. Nelson # 10675 & J. K. Nelson 79 Wypt 145mural photos: four murals of Provo history by Asen Balakchiev, 2006. 1849 Fort Utah; 1850 Mills; 1873 Railroad; 1890 Public Schools. 10675

10676 USA: UTAH: Utah Co., Provo River, Provo, Lakeshore Bridge, airport road, N 40.240004 W 111.712462 1365 m 26-May-2013 C. R. Nelson # 10676 & J. K. Nelson 79 Wypt 146lakeshorebridge photos: river, scenery, spawning june sucker *Chasmistes liorus*, photos and video 10676

10677 USA: UTAH: Utah Co., Provo, Paul Ream Wilderness Park, 1500 West 500 North, N 40.241620 W 111.685024 1355 m 26-May-2013 C. R. Nelson # 10677 & J. K. Nelson 79 Wypt 147reampark photos: view on footbridge 10677

10678 USA: UTAH: Utah Co., Lehi, Parker home, 772 West 100 South, N 40.386606 W 111.861211 1386 m 28-May-2013 C. R. Nelson # 10678 & J. K. Nelson & friends 79 Google Earth photos: swimming pool party. Transplanted a Brigham City peony into Jera's flowerbed. 10678

10679 USA: UTAH - TEXAS American Airline flight from Salt Lake City to Dallas - Fort Worth 02-Jun-2013 C. R. Nelson # 10679 & J. K. Nelson 79 photos: Great Salt Lake. 10679

10680 USA: NEW JERSEY: Camden Co., Voorhees township, Gelhaus home, 14 Round Hill Road, N 39.857255 W 74.999728, 42 m 03-Jun-2013 C. R. Nelson # 10680 & J. K. Nelson 79 wypt 148 14roundhill photos: Rhagionidae, Muscidae, Cantharidae, Syrphidae; photos of Asilidae, out of order in Maryland on 6 June 2013. Home of Evalyn and Jon Gelhaus. 10680

10681 USA: NEW JERSEY: Gloucester Co., Franklinville, cemetery, 3 miles west jct Hwy 47, Colesmill Road, County Road 538, N 39.619901 W 75.026917, 27 m 03-Jun-2013 C. R. Nelson # 10681 & J. K. Nelson 79 wypt 149 franklinville Riley Nelson, Kaye Nelson, Jon & Evalyn Gelhaus, Yin Li, Stephen C. Mason, Jr., Katerina E. Montagnero. photos: magicicada video (brood 2), Arctiidae 10681

10682 USA: NEW JERSEY: Gloucester Co., Malaga, Toni's Treats & Eats, N 39.573113 W 75.052874, 40 m 03-Jun-2013 C. R. Nelson # 10682 & J. K. Nelson 79 wypt 150 Max laga Burgers for lunch. "Where you from?"
Riley Nelson, Kaye Nelson, Jon & Evalyn Gelhaus, Yin Li, Stephen C. Mason, Jr., Katerina E. Montagnero. 10682

10683 USA: NEW JERSEY: Cape May Co., Delaware Bay, 12 miles North of Cape May, Reeds Beach, N 39.127456 W 74.891039, 0 m 03-Jun-2013 C. R. Nelson # 10683 & J. K. Nelson 79 wypt 151 reedsbeach Riley Nelson, Kaye Nelson, Jon & Evalyn Gelhaus, Yin Li, Stephen C. Mason, Jr., Katerina E. Montagnero. photos: horseshoe crabs *Limulus polyphemus* alive and dead, people, catbird, laughing gull.

willet, redwing blackbird, great black backed gull, forsters tern, cormorant, boat tailed grackle. Also photos at night, 10:00 pm, horseshoe crabs. Photos: Scarabaeidae Trox from specimens later in NJ Motel 14 June 2013. 10683

10684 USA: NEW JERSEY: Cape May Co., Delaware Bay, North of Cape May, Cooks Beach, N 39.127456 W 74.891039, 0 m 03-Jun-2013 C. R. Nelson # 10684 & J. K. Nelson 79 wypt 151 reedsbeach
Riley Nelson, Kaye Nelson, Jon & Evalyn Gelhaus, Yin Li, Stephen C. Mason, Jr., Katerina E. Montagnero. Isabelle Betancourt & Ramaan photos: horseshoe crabs *Limulus polyphemus* alive and dead, 10684

10685 USA: NEW JERSEY: Cape May Co., Cape May Lighthouse, N 38.932063 W 74.958986, 0 m 03-Jun-2013 C. R. Nelson # 10685 & J. K. Nelson 79 Google Earth photos: Atlantic Ocean, group photo.
Riley Nelson, Kaye Nelson, Jon & Evalyn Gelhaus, Yin Li, Stephen C. Mason, Jr., Katerina E. Montagnero. Isabelle Betancourt & Ramaan.

Reset!: time and date to local time and date for New Jersey. All photos with my Nikon D600 to this date are off about 12 hours. I had it set for pm not am. This affected the date as well. 10685

10686 USA: NEW JERSEY: Cape May Co., Cape May Courthouse, Doctors Inn, 2 main Street, N 39.082565 W 74.823321, 18 m 04-Jun-2013 C. R. Nelson # 10686 & J. K. Nelson 79 wypt 153 doctorsinn bed and breakfast. Night of 3-4 June 2013. 10686

10687 USA: NEW JERSEY: Cape May Co., Cape May beaches, N 38.932801 W 74.902768, 0 m 04-Jun-2013 C. R. Nelson # 10687 & J. K. Nelson 79 wypt 154 cape May beach gps read 6 m elevation. 10687

10688 USA: NEW JERSEY: Cape May Co., Cape May beaches, road end, N 38.930162 W 74.934949, 0 m 04-Jun-2013 C. R. Nelson # 10688 & J. K. Nelson 79 wypt 155 capeMaybeachendroad gps read 16 m elevation. 10688

10689 USA: NEW JERSEY: Cape May Co., South Cape May Meadows Preserve, Cape May Point, The Nature Conservancy, N 38.937312 W 74.944885, 2 m 04-Jun-2013 C. R. Nelson # 10689 & J. K. Nelson 79 wypt 156 capeMaytnc 10689

10690 USA: NEW JERSEY: Cape May Co., Sunset Beach, Cape May, N 38.944604 W 74.970019, 26 m 04-Jun-2013 C. R. Nelson # 10690 & J. K. Nelson 79 wypt 157 sunset beach cape May 10690

10691 USA: NEW JERSEY: Cape May Co., Higbee Beach, Cape May, N 38.965906 W 74.962219, 19 m 04-Jun-2013 C. R. Nelson # 10691 & J. K. Nelson 79 wypt 158higbeecape May 10691

10692 USA: NEW JERSEY: Cape May Co., Cape May ferry to Lewes, Delaware Bay, N 38.968151 W 74.960115, 15 m 04-Jun-2013 C. R. Nelson # 10692 & J. K. Nelson 79 wypt 159capeMayferry 10692

10693 USA: DELAWARE: Sussex Co., Cape May ferry to Lewes, Delaware Bay, Lewes dock, N 38.782931 W 75.119964, 20 m 04-Jun-2013 C. R. Nelson # 10693 & J. K. Nelson 79 wypt 161lewesferry2 10693

10694 USA: Maryland: Anne Arundel Co., Greenbury Point, Annapolis, radio tower trails, N 38.979640 W 76.451240, 4 m 04-Jun-2013 C. R. Nelson # 10694 & J. K. Nelson 79 wypt 162navalradiotrail walk with Amber Joyce. photos: view to Naval Academy. photos: osprey 10694

10695 USA: Maryland Anne Arundel Co., Annapolis, crab house, Cantlers Riverside Inn, N 39.003000 W 76.458314, 10 m 05-Jun-2013 C. R. Nelson # 10695 & J. K. Nelson 79 wypt 164crab cantlers ate a dozen blue crabs for lunch, then learned of horseshoe and blue crabs from Brian Gross, a waterman. With Amber and Peter Joyce. photos: osprey 10695

10696 USA: Maryland: Anne Arundel Co., Annapolis, docks, N 38.976607 W 76.484543, 14 m 05-Jun-2013 C. R. Nelson # 10696 & J. K. Nelson 79 wypt 166annapolisdocks with Peter and Pierce Joyce. photos: 10696

10697 USA: Maryland: Anne Arundel Co., Annapolis, United States Naval Academy, N 38.978521 W 76.484283, 0 m 5-6 June 2013 C. R. Nelson # 10697 & J. K. Nelson 79 wypt 167naval academy with Amber, Peter, and Pierce Joyce.
Photos:

6 June, The Chapel stained glass; John Paul Jones crypt. photos: 10697

10698 USA: Maryland: Anne Arundel Co., Annapolis, Joyce home, 1913 Delaney Place, N 38.999478 W 76.477903, 28 m 4-6 June 2013 C. R. Nelson # 10698 & J. K. Nelson 79 wypt 168joycehome with Amber, Peter, Connor, Graeme, Owen, Reilly, and Pierce Joyce. Conner gone to a camp at the Naval Academy most of the time.
Photos:

need to change field labels from 19697 to 10698! photos: Lampyridae, Photinus? 10698

10698 USA: Maryland: Anne Arundel Co., Annapolis, Joyce home, 1913 Delaney Place, N 38.999478 W 76.477903, 28 m 4-6 June 2013 C. R. Nelson # 10698 & J. K. Nelson 79 wypt 168joycehome with Amber, Peter, Connor, Graeme, Owen, Reilly, and Pierce Joyce. Conner gone to a camp at the Naval Academy most of the time.
Photos:

need to change field labels from 19697 to 10698! photos: Lampyridae, Photinus? 10698

10699 USA: Maryland: Montgomery Co., LDS temple, Kensington, N 39.01406 W 77.06570, 27 m 06-Jun-2013 C. R. Nelson # 10699 & J. K. Nelson 79 wypt 170temple photos: temple grounds and groves of Liriodendron tulipifera, tulip poplar. photos: tulip poplar 10699

10700 USA: Maryland: Montgomery Co., Germantown, Dean home, 19609 Musser Court, N 39.176182 W 77.282957, 145 m 06-Jun-2013 C. R. Nelson # 10700 & J. K. Nelson 79 wypt 169germantowndeans photos: townhome apartment of Jacob and Danilee Dean with kids Lucy, Elijah, and Mary Jane.

phone number of Wayne Mathis' daughter in northern Virginia: 540-834-3175 10700

10701 USA: WASHINGTON, D. C.: Smithsonian Institution, Natural History Museum, N 39.176182 W 77.282957, 145 m 06-Jun-2013 C. R. Nelson # 10701 & J. K. Nelson 79 wypt

171smithsonian photos: Danilee Dean with kids Lucy, Elijah, and Mary Jane. Later met up with Jacob who works for the US Tax Court. 10701

10702 USA: Maryland: Washington Co., Antietam National Battlefield, Dunker Church, N 39.475337 W 77.746605, 179 m 08-Jun-2013 C. R. Nelson # 10702 & J. K. Nelson 79 wypt 172dunker photos: battle fields and cannons 10702

10703 USA: Maryland: Washington Co., Antietam National Battlefield, Cornfield battle site, N 39.480964 W 77.748017, 164 m 08-Jun-2013 C. R. Nelson # 10703 & J. K. Nelson 79 wypt 173cornfield photos: battle fields and cannons 10703

10704 USA: Maryland: Washington Co., Antietam National Battlefield, Sunken Road, Bloody Lane, N 39.471213 W 77.739596, 133 m 08-Jun-2013 C. R. Nelson # 10704 & J. K. Nelson 79 wypt 174sunkenroad photos: battle fields. 5600 casualties. 10704

10705 USA: Maryland: Washington Co., Antietam National Battlefield, Lower Bridge, Burnside Bridge, N 39.450513 W 77.732060, 104 m 08-Jun-2013 C. R. Nelson # 10705 & J. K. Nelson 79 wypt 176burnside bridge photos: photos: Calopterygidae 10705

10706 USA: WEST VIRGINIA: Jefferson Co., Shepherdstown, N 39.430776 W 77.805880, 126 m 08-Jun-2013 C. R. Nelson # 10706 & J. K. Nelson 79 wypt 177shepherdstown ate lunch at Betty's Cafe, 10706

10707 USA: Maryland: Washington Co., Potomac River at Shepherdstown Bridge, N 39.437164 W 77.799363, 117 m 08-Jun-2013 C. R. Nelson # 10707 & J. K. Nelson 79 wypt 178 Potomac photos: bridge and river. This ford was the retreat of the South after Antietam. 10707

10708 USA: PENNSYLVANIA: Clinton Co., Fishing Creek at Sieg Field Station, N 40.988507 W 79.497651, 307 m 8-10 June 2013 C. R. Nelson # 10708 & J. K. Nelson 79 wypt 179siegfishingcreek Site of the 10th North American Plecopterists Symposium, NAPS10. photos: scenery photos:

8 June: Ephemeridae, Limnephilidae, Chrysomelidae

9 June (start): photos Chrysomelidae mating pair, 2 spp. larvae on birch., Sweltsa, Ephemeridae Litobranchia, Leuctridae Leuctra, Nemouridae, Odontoceridae: Psilotreta, Empididae: Wiedemannia?, Sialidae Sialis, snails.

10 June: Lampyridae, Camponotus. Sieg walking after the heavy rain, photographing from 2-6pm: Isoperla, Agnetina, Nemouridae, Tenthredinidae, slugs, snails, millipede, Rhagionidae, fungus. Also Agnetina and Hydatophylax out of order in Gettysburg motel room. 10708

10709 USA: PENNSYLVANIA: Clinton Co., Bear Creek, west of Lamar, 0.7 miles South of Sieg Center, N 40.985394 W 77.486303, 356 m 09-Jun-2013 C. R. Nelson # 10709 & J. K. Nelson 79 wypt 180bearcreek photos: scenery

With Bill & Lida Stark, Audrey Harrison-Lewis, Ignac Sivec.

Misnumbered on field labels as 10708, change back in the lab! photos: Pteronarcys proteus (det N. Davis & C. R. Nelson 2013), Leuctra, shelf fungus, Nemouridae Amphinemura, Isoperla on shelf fungus, Atherix or Rhagio, Sciomyzidae?, Muscidae, Tenebrionidae on shelf fungus, sawfly, millipede & beetle, Lampyridae. Millipede video taken at home 15 June 2013. 10709

10710 USA: PENNSYLVANIA: Perry Co., Juniata River at Millerstown Park, N 40.541197 W 77.150482, 129 m 11-Jun-2013 C. R. Nelson # 10710 & J. K. Nelson 79 wypt 181juniatamiller photos: scenery

Saw Charlie Nelson briefly. photos: isoperla?, Agnetina?, Neoperla?, photos in 10712 too.; Petrophila, Cantharidae, Lampyridae, Tetragnathidae. Machimus in Gettysburg motel, 10712. 10710

10711 USA: PENNSYLVANIA: Cumberland Co., Susquehanna River, I-81 bridge, near Marysville, N 40.313993 W 76.909756, 93 m 11-Jun-2013 C. R. Nelson # 10711 & J. K. Nelson 79 Google Earth photos: scenery, river and Rock Bridge on Kaye's phone.
10711

10712 USA: PENNSYLVANIA: Adams Co., Gettysburg National Military Park, N 39.810204 W 77.224823, 148 m 11-Jun-2013 C. R. Nelson # 10712 & J. K. Nelson 79 wypt 182 gettylunch photos: civil war battlefield scenes. Lunch at wypt 182 near Visitor's Center. wypt183cemeteryhill N39.817600 W77.231944, elev. 192 m. wypt184lincolnaddress (site of Gettysburg Address) N39.819597 W77.230427, elev. 206m. wypt185elizabeththorne, statue, pregnant with a shovel N39.820529 W77.229379, elev. 194 m. wypt186spanglerspring N39.814424W77.217243, elev. 172 m. wypt187alittleroundtop N39.792288W77.236282, elev. 222m. wypt188highwaterMark (Picketts Charge) N39.812420W77.235620, elev. 192m. wypt189gettysburgmotel (Econolodge) 12 June 2013 N39.839193W77.209612, elev. 171 m.
10712

10713 USA: PENNSYLVANIA: Adams Co., New Oxford, N 39.862379 W 77.062281, 163 m
12-Jun-2013 C. R. Nelson # 10713 & J. K. Nelson 79 wypt 190 new oxford photos: plant,
thought it was tobacco, not. 10713

10714 USA: PENNSYLVANIA: Lancaster Co., Susquehanna River, Hwy 30, near Columbia,
N 40.035832 W 76.522800, 70 m 12-Jun-2013 C. R. Nelson # 10714 & J. K. Nelson 79
Google Earth photos: big river 10714

10715 USA: PENNSYLVANIA: Lancaster Co., Bird in Hand town, N 40.038161 W
76.177363, 127 m 12-Jun-2013 C. R. Nelson # 10715 & J. K. Nelson 79 wypt 191birdinhand
photos: 10715

10716 USA: PENNSYLVANIA: Lancaster Co., Intercourse town, N 40.038740 W 76.107716,
129 m 12-Jun-2013 C. R. Nelson # 10716 & J. K. Nelson 79 Google Earth photos: 10716

10717 USA: PENNSYLVANIA: Delaware Co., Brandywine River Museum, Chadds Ford, N
39.870278 W 75.593413, 60 m 12-Jun-2013 C. R. Nelson # 10717 & J. K. Nelson 79 wypt
192brandywineriver photos: scenery, Brandywine River. photos: Calopteryx maculata
damselflies, box elder trees, Photos on 14 June 2013 NJ motel, Perlesta with bad wing.
10717

10718 USA: DELAWARE: New Castle Co., Highway 202 at Pennsylvania border, near
Talleyville, N 39.838328 W 75.541390, 116 m 12-Jun-2013 C. R. Nelson # 10718 & J. K.
Nelson 79 Google Earth photos: border sign with Kaye's camera. 10718

10719 USA: PENNSYLVANIA: Chester Co., Chester, Commodore Barry Bridge, Delaware
River, Hwy 322 N 39.828736 W 75.371653, 0 m 12-Jun-2013 C. R. Nelson # 10719 & J. K.
Nelson 79 Google Earth photos: bridge with Kaye's camera. 10719

10720 USA: NEW JERSEY: Camden Co., Voorhees township, Gelhaus home, 14 Round Hill
Road, N 39.857255 W 74.999728, 42 m 13-Jun-2013 C. R. Nelson # 10720 & J. K. Nelson
79 wypt 148 14roundhill photos: family, Jon, Evalyn, and Andrew Gelhaus. and George the
dog.

Also, GPS of our Days Inn Motel in Cherry Hill, New Jersey:
N39.935359 W75.050107, elev. 73 m. Photos of Kaye. 10720

10721 USA: PENNSYLVANIA: Philadelphia Co., Philadelphia, street scenes near 12th and
Race, N 39.955825 W 75.159589, 99 m 13-Jun-2013 C. R. Nelson # 10721 & J. K. Nelson
79 wypt 194 12th race photos: street scenes. 10721

10722 USA: PENNSYLVANIA: Philadelphia Co., Philadelphia, Logan Circle, Academy of
Natural Sciences of Drexel University, N 39.956886 W 75.171220, 99 m 14-Jun-2013 C. R.

Nelson # 10722 & J. K. Nelson 79 wypt 195academy photos: Jon Gelhaus office with and without Jon. Jon with Morpho butterflies, insect collection, bird collection, shown by Nate Rice collections manager, Kentucky warblers, shell ducks, Carolina parakeet including J. J. Audubon specimens, ivory billed woodpeckers, passenger pigeons, Eskimo curlew, Audubon signed egg, *Ardea rufa* (now *A. rufescens*), hornbill, parrot, spix Macaw, Titian Peale butterflies, *Tyrannosaurus rex*, *Xiphactinus audax* big fossil fish (*Osteoglossidae*), *Hadrosaurus foulkii*, framed biodiversity, *Elasmosaurus platyrus*. 10722

10723 USA: TEXAS: West of Dallas, American Airlines flight to Salt Lake City N xx W xx, xx m 14-Jun-2013 C. R. Nelson # 10723 & J. K. Nelson 79 photos and video: clouds. 10723

10724 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 14-Jun-2013 C. R. Nelson # 10724 & J. K. Nelson 79 Wypt 136cabin photos: Wheeler land from American Airlines flight from Dallas to Salt Lake City. Coming home. 10724

10725 USA: UTAH: Utah Co., Spanish Fork Canyon, Billys Mountain N xx W xx xx m, 14-Jun-2013 C. R. Nelson # 10725 & J. K. Nelson 79 photos: from American Airlines flight from Dallas to Salt Lake City. Coming home. 10725

10726 USA: UTAH: Utah Co., mouth Spanish Fork Canyon, N xx W xx xx m, 14-Jun-2013 C. R. Nelson # 10726 & J. K. Nelson 79 photos: from American Airlines flight from Dallas to Salt Lake City. Coming home. windmills and maple Mountain. 10726

10727 USA: UTAH: Utah Co., Utah Lake and West Mountain, from air N xx W xx xx m, 14-Jun-2013 C. R. Nelson # 10727 & J. K. Nelson 79 photos: from American Airlines flight from Dallas to Salt Lake City. Coming home. windmills and maple Mountain. Lincoln Beach and view to Sheeprock Mountains. 10727

10728 USA: UTAH: Salt Lake Co. Salt Lake City, south approach to airport N xx W xx xx m, 14-Jun-2013 C. R. Nelson # 10728 & J. K. Nelson 79 photos: from American Airlines flight from Dallas to Salt Lake City. scenery and sunset. 10728

10729 USA: UTAH: Utah Co., Goshen Marshes, 2.5 miles East of Goshen, N 39.963092 W 111.856083, 1369 m, 15-Jun-2013 C. R. Nelson # 10729 & family 79 Wypt 196goshen Riley, Kaye, Andrea Nelson; Amy and Todd Smith. Photos: Lampyridae, fireflies glowing at late dusk - start about 9:45 pm, saw about 100. In sedge, rush dry wetland on north side of paved state road. 10729

10730 USA: UTAH: Utah Co., Provo, Canyon Road, N 40.298238 W 111.653774, 1478 m, 16-Jun-2013 C. R. Nelson # 10730 & A. L. N. Smith 79 Google Earth seen by Andrea on her

trip back to Salt Lake after our Fathers Day party. Photos: Road kill gopher snake, preserved, measured 54 inches, 137 cm. 10730

10730.5 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 16-Jun-2013 C. R. Nelson # 10730.5 79 photos: Chrysididae, photo taken 19 June 2013 10730.5

10731 USA: UTAH: Tooele Co. Rush Valley, 6.7 air miles East of Vernon, N 40.089981 W 112.304224 1661 m 18-Jun-2013 C. R. Nelson # 10731 79 Wypt 197rushdisturb Samuel B. St. Clair and wife Bryn, and her sister Leal (Palmer) _____ & Mark Brunson of USU. photos: site installations for invasion and interactions ecological plots. 10731

10732 USA: UTAH: Tooele Co. Rush Valley, juniper ridge, 7.2 air miles East of Vernon, N 40.101700 W 112.298257 1649 m 18-Jun-2013 C. R. Nelson # 10732 79 Wypt 198ridge Samuel B. St. Clair and wife Bryn, and her sister Leal (Palmer) _____ & Mark Brunson of USU. photos: scattered junipers, diverse shrub community. 10732

10733 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 18-Jun-2013 C. R. Nelson # 10733 & Paul F. Ashton. 79 Wypt 136cabin Rebuilt upper dam for filling big tanks. Pulled four wheeler from precarious spot near tanks; Installed new toilet upstairs in cabin; Watered lawns 10733

10734 USA: UTAH: Utah Co., Provo, East Lawn Cemetery, N 40.298213 W 111.649280 1552 m, 18-Jun-2013 C. R. Nelson # 10734 & scouts 79 Wypt 199cemetery Photos: flag and boys. With Cub Scouts Cooper Wadsworth and Daniel Clark. 10734

10735 USA: UTAH: Utah Co., Provo, Dorton home, 518 East 4380 North N 40.291464 W 111.649856, 1489 m, 19-Jun-2013 C. R. Nelson # 10735 79 Wypt 200dortonquail photos: california quail, parents, chicks, and eggs. 10735

10736 USA: UTAH: Utah Co., Provo, BYU, parking lot East of Hinckley Center, N 40.251446 W 111.651029, 1427 m, 20-Jun-2013 C. R. Nelson # 10736 79 Wypt 201yuccahinckley photos: ornamental Yucca filamentosa with Aphididae, Coccinelidae, Syrphidae (larva), and Hemiptera (Lygaeidae or Rhopalidae). Some photos with iPhone on 19 June 2013, evening. 10736

10737 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 21-23 June 2013 C. R. Nelson # 10737 & family 79 Wypt 136cabin 21 June 2013: photos: Jason, Brandy, and Artemis on hike to Glass Cliffs. Time lapse night shots: moon, Polaris, clouds. 22 June 2013: time lapse night shots.

Wheeler family reunion 2013. Acrididae, *Stenopogon inquinatus*, Cicadidae, Buprestidae
Acmaeodera, Efferia, Bombyliidae, tick *Dermacentor andersoni*, photos: Tabanidae Pilimas
=Stonemyia, at home on 1 July 2013. 10737

10738 USA: IDAHO: Bannock Co. hills of Pocatello, Stoddard home, 1366 Camelback View
Drive N 42.900916 W 112.396352, 1586 m, 24-Jun-2013 C. R. Nelson # 10738 & family 79
Wypt 202stoddards Photos: time lapse, super full moon, morning after. 200 frames spaced
every 10 seconds at 1/100 and f10. The focus was good but the interval choppy. Next time
I'll try 5 second intervals for about 1000 frames. The exposure was good.

Riley, Kaye, Brandy, Jason, and Artemis Nelson. At home of Nick, Maegan, Abby, Parker,
Allison, and Emily Stoddard. Asilidae dead in garage, Efferia benedicti? female. 10738

10739 USA: WYOMING: Park Co. Yellowstone National Park, 1.5 miles West of Madison
Junction, N 44.639974 W 110.886334, 2051 m, 24-Jun-2013 C. R. Nelson # 10739 &
family 79 Wypt 203nearMadisonjct

Riley, Kaye, Brandy, Jason, and Artemis Nelson. Photos: bison. 10739

10740 USA: WYOMING: Park Co. Yellowstone National Park, Firehole Falls, N 44.631852 W
110.863271, 2116 m, 24-Jun-2013 C. R. Nelson # 10740 & family 79 Wypt 204
fireholedrive Photos: waterfalls.

Riley, Kaye, Brandy, Jason, and Artemis Nelson. Photos: elk 10740

10741 USA: WYOMING: Park Co. Yellowstone National Park, Midway Geyser Basin, Grand
Prismatic Spring, N 44.527706 W 110.836624, 2205 m, 24-Jun-2013 C. R. Nelson #
10741 & family 79 Wypt 205middlegeyser Photos: scenery.

Riley, Kaye, Brandy, Jason, and Artemis Nelson. 10741

10742 USA: WYOMING: Park Co. Yellowstone National Park, Midway Geyser Basin, Fairy
Falls Trail, knob to view Grand Prismatic Spring, N 44.521964 W 110.840983, 2297 m, 24-
Jun-2013 C. R. Nelson # 10742 & family 79 Wypt 013hillprism Photos: scenery and people.

Riley, Kaye, Brandy, Jason, and Artemis Nelson. GPS used was from view knob for view of
Grand Prismatic Spring, Wypt 013hillprism of 12 October 2012.

Wypt 206 fairy trail N44.515064 W 110.832629, elev. 2221 m. (Fairy Falls Trailhead). 10742

10743 USA: WYOMING: Park Co. Yellowstone National Park, Old Faithful Geyser, N
44.458584 W 110.829043, 2236 m, 24-Jun-2013 C. R. Nelson # 10743 & family 79 Wypt
207oldfaithful Photos: scenery, rain, geyser, and people.

Riley, Kaye, Brandy, Jason, and Artemis Nelson. 10743

10744 USA: WYOMING: Park Co. Yellowstone National Park, Artist Paint Pots, N 44.692324
W 110.738179, 2262 m, 25-Jun-2013 C. R. Nelson # 10744 & family 79 Wypt

210artistpaintpots Photos: scenery.

Riley, Kaye, Brandy, Jason, and Artemis Nelson. 10744

10745 USA: WYOMING: Park Co. Yellowstone National Park, Gibbon Meadows Picnic Area, N 44.705797 W 110.745783, 2251 m, 25-Jun-2013 C. R. Nelson # 10745 & family 79 Wypt

211gibbonmeadowspicnic Photos: scenery. Lunch stop, Artemis played in the river.

Riley, Kaye, Brandy, Jason, and Artemis Nelson. 10745

10746 USA: WYOMING: Park Co. Yellowstone National Park, Yellowstone River, brink of Lower Falls, N 44.718129 W 110.496379, 2279 m, 25-Jun-2013 C. R. Nelson # 10746 &

family 79 Wypt 212lowerbrink Photos: scenery.

Riley, Kaye, Brandy, Jason, and Artemis Nelson. 10746

10747 USA: WYOMING: Park Co. Yellowstone National Park, Yellowstone River, Artist Point, N 44.720641 W 110.479421, 2340 m, 25-Jun-2013 C. R. Nelson # 10747 & family 79 Wypt

027artist Photos: scenery.

Riley, Kaye, Brandy, Jason, and Artemis Nelson. GPS of 13 October 2013. 10747

10748 USA: WYOMING: Park Co. Yellowstone National Park, Yellowstone River, Hayden Valley, downstream, N 44.668297 W 110.470006, 2393 m, 25-Jun-2013 C. R. Nelson #

10748 & family 79 Wypt 213 downhayden Photos: scenery.

Riley, Kaye, Brandy, Jason, and Artemis Nelson. 10748

10749 USA: WYOMING: Park Co. Yellowstone National Park, Yellowstone River, Hayden Valley, upstream, wildlife viewing area, N 44.655792 W 110.463589, 2354 m, 25-Jun-2013

C. R. Nelson # 10749 & family 79 Wypt 214 downhayden2 Photos: scenery.

Riley, Kaye, Brandy, Jason, and Artemis Nelson. 10749

10750 USA: WYOMING: Park Co. Yellowstone National Park, Yellowstone River, Hayden Valley, upstream, streamside, N 44.614384 W 110.413580, 2365 m, 25-Jun-2013 C. R.

Nelson # 10750 & family 79 Wypt 215bisonwater Photos: scenery.

Riley, Kaye, Brandy, Jason, and Artemis Nelson. photos: bison climbing out of river; mergansers. 10750

10751 USA: WYOMING: Park Co. Yellowstone National Park, Yellowstone River, Fishing Bridge, N 44.566626 W 110.382020, 2373 m, 25-Jun-2013 C. R. Nelson # 10751 & family

79 Wypt 215fishingbridge Photos: scenery.

Riley, Kaye, Brandy, Jason, and Artemis Nelson. photos: merganser, osprey 10751

10752 USA: WYOMING: Park Co. Yellowstone National Park, Yellowstone Lake, burned area near long shore bar, N 44.566626 W 110.382020, 2373 m, 25-Jun-2013 C. R. Nelson #

10752 & family 79 Wypt 217 Yellowstone Lake Photos: scenery.

Riley, Kaye, Brandy, Jason, and Artemis Nelson. This is the spot where Dennis Shiozawa and I lectured to aquatic ecology students about long shore currents and caldera lakes. photos: 10752

10753 USA: WYOMING: Park Co. Yellowstone National Park, Madison Campground, Hwy 20, N 44.646102 W 110.871418, 2087 m, 25-Jun-2013 C. R. Nelson # 10753 & family 79 Wypt 218Madisoncamp Photos: blinking lights of bison sign, "disco buffalo" Riley, Kaye, Brandy, Jason, and Artemis Nelson. photos: bison sign. 10753

10754 USA: WYOMING: Park Co. Yellowstone National Park, Madison River Bridge, Hwy 20, N 44.662178 W 110.962981, 2066 m, 25-Jun-2013 C. R. Nelson # 10754 & family 79 Wypt 219Madisonbridge Riley, Kaye, Brandy, Jason, and Artemis Nelson. photos: great blue heron. 10754

10755 USA: WYOMING: Park Co. Yellowstone National Park, Madison River, near Mount Haynes, Hwy 20, N 44.647088 W 110.931887, 2109 m, 26-Jun-2013 C. R. Nelson # 10755 & family 79 Wypt 220nootter Riley, Kaye, Brandy, Jason, and Artemis Nelson. not otter seen, but Nick Stoddard saw one here last year and we've stopped and looked many times now. 10755

10756 USA: WYOMING: Park Co. Yellowstone National Park, Lewis Falls, N 44.267701 W 110.634915, 2362 m, 26-Jun-2013 C. R. Nelson # 10756 & family 79 Wypt 221lewisfalls Photos: falls and scenery. Riley, Kaye, Brandy, Jason, and Artemis Nelson. photos, bad: Sweltsa, Paraleuctra, and nemourids. 10756

10757 USA: WYOMING: Teton Co. Grand Teton National Park, Mount Moran View point N 43.788923 W 110.715272, 2118 m, 26-Jun-2013 C. R. Nelson # 10757 & family 80 Wypt 222gtfrommoranview Photos: scenery. Riley, Kaye, Brandy, Jason, and Artemis Nelson. photos 10757

10758 USA: WYOMING: Teton Co. Grand Teton National Park, Jenny Lake Overlook, N 43.767844 W 110.717637, 2105 m, 26-Jun-2013 C. R. Nelson # 10758 & family 80 Wypt 223jennyoverlook Photos: scenery. Riley, Kaye, Brandy, Jason, and Artemis Nelson. photos 10758

10759 USA: WYOMING: Teton Co. Grand Teton National Park, view east near South Jenny Lake area, N 43.735659 W 110.726029, 2057 m, 26-Jun-2013 C. R. Nelson # 10759 & family 80 Wypt 224sofjenny Photos: scenery. Riley, Kaye, Brandy, Jason, and Artemis Nelson. photos: pronghorn 10759

10760 USA: WYOMING: Teton Co. Grand Teton National Park, Glacier Overlook, N 43.691103 W 110.673411, 2031 m, 26-Jun-2013 C. R. Nelson # 10760 & family 80 Wypt 225tetonglacier Photos: scenery. panoramas and time lapse.

Riley, Kaye, Brandy, Jason, and Artemis Nelson. 10760

10761 USA: WYOMING: Lincoln Co. Afton, N 42.724627 W 110.933687, 1914 m, 26-Jun-2013 C. R. Nelson # 10761 & family 80 Wypt 226afton Photos: elk antler arch.

Riley, Kaye, Brandy, Jason, and Artemis Nelson. 10761

10762 USA: UTAH: Rich Co. Garden City, Bear Lake, Lebeau's Drive In, N 41.947691 W 111.393403, 1828 m, 26-Jun-2013 C. R. Nelson # 10762 & family 80 Wypt 227lebeausbearlake Photos: scenery.

Riley, Kaye, Brandy, Jason, and Artemis Nelson. photos: ring billed gulls, magpie, milkshakes 10762

10763 USA: UTAH: Rich Co. Bear Lake Overlook, Hwy 89, Visitors Center near Sunrise Campground, N 41.920917 W 111.456804 2290 m, 26-Jun-2013 C. R. Nelson # 10763 & family 80 wypt045bearlake photos: family, panoramas, and hummingbirds.

Riley, Kaye, Brandy, Jason, and Artemis Nelson.

New gps: wypt 228bearlakeoverlook: N41.921360 W111.456776 elev. 2326m. 10763

10764 USA: UTAH: Cache Co. Logan Canyon, Ricks Spring, N 41.840094 W 111.588714 1776 m, 26-Jun-2013 C. R. Nelson # 10764 & J. K. Nelson 80 photo009ricksspring photos: Ricks Spring.

Riley, Kaye, Brandy, Jason, and Artemis Nelson.

New gps: wypt 229ricksspring: N41.839990 W111.588867 elev. 1786m. 10764

10765 USA: UTAH: Utah Co., Mount Nebo Loop, Blackhawk Campground, N 39.888795 W 111.626890 2406 m, 29-Jun-2013 C. R. Nelson # 10765 & scouts 80 wypt230blackhawk photos: stars, Cassiopeia time lapse, sunrise time lapse, Wyethia amplexicaulis time lapse.

Riley Nelson, Doug Baird, Spencer Baird, David Baird, Austin Baird, Jake Parker, Tate Parker, Boyd Blake, Tyler Blake, Max Wadsworth, Aaron Christensen (Baird cousin), Trent Hudgens, Ropert Chapman, Ethan Chapman, Aiden Chapman, 15 total. Wyethia 10765

10766 USA: UTAH: Utah Co., Mount Nebo Loop, Utah Valley Overlook, N 39.902823 W 111.675958 2577 m, 29-Jun-2013 C. R. Nelson # 10766 80 wypt231overlook photos: panorama 10766

10767 USA: UTAH: Utah Co., Mount Nebo Loop, Monument Trailhead, N 39.843282 W 111.720791 2788 m, 29-Jun-2013 C. R. Nelson # 10767 & scouts 80 wypt232monument photos: scenery.

Riley Nelson, Doug Baird, Spencer Baird, David Baird, Austin Baird, Jake Parker, Tate Parker, Boyd Blake, Tyler Blake, Max Wadsworth, Aaron Christensen (Baird cousin), Trent Hudgens, Robert Chapman, Ethan Chapman, Aiden Chapman, 15 total. Wyethia 10767

10768 USA: UTAH: Utah Co., Mount Nebo Loop, near Monument, North Peak Trailhead, N 39.848512 W 111.721943 2816 m, 29-Jun-2013 C. R. Nelson # 10768 & scouts 80 wypt233northpeaktrailhead photos: scenery.

Riley Nelson, Doug Baird, Spencer Baird, David Baird, Austin Baird, Jake Parker, Tate Parker, Boyd Blake, Tyler Blake, Max Wadsworth, Aaron Christensen (Baird cousin), Trent Hudgens, Robert Chapman, Ethan Chapman, Aiden Chapman, 15 total. 10768

10769 USA: UTAH: Utah Co., Mount Nebo Trail, 1 mile west of North Peak Trailhead, N 39.852341 W 111.735575 2944 m, 29-Jun-2013 C. R. Nelson # 10769 & scouts 80 wypt234bless photos: after blessing of Trent Hudgens, allergies.

Riley Nelson, Doug Baird, Spencer Baird, David Baird, Austin Baird, Jake Parker, Tate Parker, Boyd Blake, Tyler Blake, Max Wadsworth, Aaron Christensen (Baird cousin), Trent Hudgens, Robert Chapman, Ethan Chapman, Aiden Chapman, 15 total. 10769

10770 USA: UTAH: Utah Co., Mount Nebo Trail, North Peak Trail, spruce ridge, 2 miles West of trailhead, N 39.849440 W 111.746480 3010 m, 29-Jun-2013 C. R. Nelson # 10770 & scouts 80 wypt235spruceridge Riley Nelson, Doug Baird, Spencer Baird, David Baird, Austin Baird, Jake Parker, Tate Parker, Boyd Blake, Tyler Blake, Max Wadsworth, Aaron Christensen (Baird cousin), Trent Hudgens, Robert Chapman, Ethan Chapman, Aiden Chapman, 15 total. photos: *Cyrtopogon montanus* or *willistoni*, later at home; *Ichneumonidae*, large black and red with long tail. 10770

10771 USA: UTAH: Utah Co., Mount Nebo Trail, North Peak Trail, snow chute, 3 miles West of trailhead, N 39.846790 W 111.749048 3096 m, 29-Jun-2013 C. R. Nelson # 10771 & scouts 80 wypt236snowchute photos: scenery. Riley Nelson, Doug Baird, Spencer Baird, David Baird, Austin Baird, Jake Parker, Tate Parker, Boyd Blake, Tyler Blake, Max Wadsworth, Aaron Christensen (Baird cousin), Trent Hudgens, Robert Chapman, Ethan Chapman, Aiden Chapman, 15 total. 10771

10772 USA: UTAH: Utah Co., Mount Nebo Trail, North Peak Trail, saddle north of North Peak, N 39.844674 W 111.752491 3222 m, 29-Jun-2013 C. R. Nelson # 10772 & scouts 80 wypt237saddle photos: scenery, views to North Peak, False Summit, North summit of Mount Nebo. Riley Nelson, Doug Baird, Spencer Baird, David Baird, Austin Baird, Jake Parker, Tate Parker, Boyd Blake, Tyler Blake, Max Wadsworth, Aaron Christensen (Baird cousin), Trent Hudgens, Robert Chapman, Ethan Chapman, Aiden Chapman, 15 total. photos at home later: Tipula black and red; Cyrtopogon curtistylus? 10772

10773 USA: UTAH: Utah Co., Mount Nebo Trail, North Peak Trail, Wolf Pass, N 39.832170 W 111.750650 3236 m, 29-Jun-2013 C. R. Nelson # 10773 & scouts 80 wypt238saddletwo photos: scenery. Riley Nelson, Doug Baird, Spencer Baird, David Baird, Austin Baird, Jake Parker, Tate Parker, Boyd Blake, Tyler Blake, Max Wadsworth, Aaron Christensen (Baird cousin), Trent Hudgens, Robert Chapman, Ethan Chapman, Aiden Chapman, 15 total. fossils in talus between 10772 and 10773, some in outcrop to 10774. 10773

10774 USA: UTAH: Utah Co., Mount Nebo Trail, North Peak Trail, summit between North Summit Mount Nebo and North Peak, ("false summit") N 39.827672 W 111.755918 3501 m, 29-Jun-2013 C. R. Nelson # 10774 & scouts 80 wypt239summit photos: scenery, people, and panoramas. Riley Nelson, Doug Baird, Spencer Baird, David Baird, Austin Baird, Jake Parker, Tate Parker, Boyd Blake, Tyler Blake, Max Wadsworth, Aaron Christensen (Baird cousin), Trent Hudgens, Robert Chapman, Ethan Chapman, Aiden Chapman, 15 total. 10774

10775 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 01-Jul-2013 C. R. Nelson # 10775 80 photos: tree squirrel, chickaree. 10775

10776 USA: UTAH: Utah Co., Left hand Hobble Creek Canyon, Camp Jeremiah Johnson, N 40.167455 W 111.497947 1548 m 02-Jul-2013 C. R. Nelson # 10776 & scouts 80 wypt 240 jeremiahjohnson photos: cub scout day camp. Riley Nelson, Brandon Douglas, Jay Komenkul, Harlan Komenkul, Cooper Wadsworth, Daniel Clark, Tyler Urry, and Parker Cornilles. Nine total photos: Laphria fernaldi male 10776

10777 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 04-Jul-2013 C. R. Nelson # 10777 & family 80 photos: people and scenery. Video Sherry (Frances Shirlene) Wheeler leading the phonograph in 1812 Overture. Sherry with longhorn beetle, Monochamus oregonus sp?. photos: Cicadidae cicada, rock squirrel, white breasted nuthatch. 10777

10778 USA: UTAH: Utah Co., Provo, Jacob and Alison Parker Home, 04-Jul-2013 C. R. Nelson # 10778 & friends 80 photos: Penelope Parker. with Riley Nelson, Kaye Nelson,

Jacob Parker, Alison Parker, Tate Parker, Lucy Parker, Miles Parker, Calvin Parker, Penelope Parker, Damon Luke, Summer Luke, Hudson, Savannah, ? Luke. 10778

10779 USA: UTAH: Utah Co., Provo, Edgemont, White LDS church, N 40.289554 W 111.655099 1461 m, 04-Jul-2013 C. R. Nelson # 10779 & friends 80 photos: private fireworks displays; Jake and Calvin Parker playing with glow sticks. 10779

10780 USA: UTAH: Utah Co., Provo, Edgemont, junction Foothill and Timpview Drives, N xx W xx xx m, 04-Jul-2013 C. R. Nelson # 10780 & J. K. Nelson 80 photos: fireworks from Stadium of Fire at BYU. 10780

10781 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 06-Jul-2013 C. R. Nelson # 10781 80 photos: fireplace wall in house, animal shapes.

photos: jimson weed in yard, *Datura wrightii*. 7 July 2013, photos in order, seeds and leaves of *Datura*, *Rhus aromatica*, english walnut, norway maple, lilac, oak, *Datura*, hollyhock, *Rhus typhina*, aspen. photos: termites, including running in tandem after rain.

Formicidae, 2 species including *Tetramorium caespitum* and Formicinae.

photos: *Rosalia funebris*, from home of Jeff Nichols, 385 East 4450 North, on apple firewood from property. 10781

10782 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 08-Jul-2013 C. R. Nelson # 10782 80 photos: knitting stand after I repaired a spindle on the lathe; bruise on arm. More bruise on 12 July 2013. Tipulidae, *Nephrotoma*; Buprestidae, *Melanophila* coming to smoky fire, shot out of order on 10 July 2013. 10782

10783 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 09-Jul-2013 C. R. Nelson # 10783 80 I ate my lunch at the mouth of Rock Canyon in the pavilion. photo: ball of live oak turned on lathe by me, from a piece of firewood hauled by Nikki Hanegan from Victoria, Texas. The tree fell in her yard in Hurricane Claudette in 2003.

Housefly on oak table. Saw earwigs, Carabidae, 2nd/3rd instar *Oecanthus gryllidae*. 10783

10784 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 10-Jul-2013 C. R. Nelson # 10784 80 photos: Doe-a-deer in my garden, 7:00 am. 10784

10785 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.956203 W 111.268019 1839 m, 10-Jul-2013 C. R. Nelson # 10785 & M. Hutchings. 80 photos: Mark fishing and catching a cutthroat trout. *Machimus* female flew in truck. Chipping sparrow, swallow. photo: later at home, buprestid out of order from ? 10785

10786 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 12-13 July 2013 C. R. Nelson # 10786 80 Photos and video: Sphecidae: Philanthus with Bombus; Dolichopodidae on red tank, long arista male, short arista female; Chrysomelidae on Apocynum androsaemifolium (or cannibinum?); free living mite on arm; tenebrionidae Eleodes; Lazuli bunting; Muscidae on red tank; Formicidae on red tank; Dolichopodidae stream side; Buprestidae; Mutillidae Dasymutilla sp. 10786

10787 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 15-Jul-2013 C. R. Nelson # 10787 80 photos: lathe work; Harry Potter wand for Isabel Dorton, out of Juniperus chinensis; apricot wood plug, wood from yard; apricot wood cylinder, sumac wood plug; hoe handle for Dennis Shiozawa. 10787

10788 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 01-Jul-2013 C. R. Nelson # 10788 80 photos: Christine and Nick Nelson family, Justin, Jacob, James, and Janae. Harry Potter wand for them out of Juniperus chinensis, broken shaft.

18 July 2013: photos egg turned on lathe from Quercus virginianus, live oak from Victoria, Texas from yard of Mike & Nikki Hanegan, tree blew down in Hurricane Claudette, 14-17 July 2003. photos: Cantaloupe viking ship made by Amy Smith at dinner with Nelsons. 17 July 2013, ship with Guida the cat. 10788

10789 USA: UTAH: Utah Co., Provo, Bown home pool, N 40.292813 W 111.652476 1474 m 18-Jul-2013 C. R. Nelson # 10789 80 google earth at Pack 739 Cub Scout meeting. floating in swimming pool: Cerambycidae, wasp mimic (ichneumonid?); Stratiomyidae. 10789

10790 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trailhead to The Meadow below north edge of Timpanogos Basin, N 40.430153 W 111.639030 2267 m 19-20 July 2013 C. R. Nelson # 10790 & scouts 80 Wypt242trailbegins photos: parking lot view of Timp from Edgemont North Stake Center in Provo; Timp from mouth Provo Canyon at gas station. Group shot at trailhead, boys, pika on switch backs; end at: Wypt245campstar: N40.405346 W111.645471 elev 3056m: moonrise, camp and star trails photos until 2:00am (battery died) good movie and sandwich created. sunrise panoramas 5409-5412. Same spot: N40.405376 W111.645471 elev. 3048m. Cameron Baird found a trilobite impression in the sandy rock at the spring creek falls near Bomber Basin (west end "The Meadow". Third flats on Giant Staircase: Wypt243stairflat N40.413161 W111.644283 elev. 2637m. Slow walk down from the Meadow to Trailhead 1:15pm to 4:00pm, iwith full pack. Start track: DSC_4947-5377. Douglas Baird, Spencer Baird, Joseph Baird, Cameron Baird (cousin), Mark Wadsworth, Max Wadsworth, David Baird, Austin Baird, Tyler Blake, Aiden

Chapman, Tate Parker, and Riley Nelson. *Paraleuctra* from springs west of Scout Falls, former site 6 of 2007; 10790

10791 USA: UTAH: Utah Co., Mount Timpanogos, Timpanogos Basin, N 40.399703 W 111.644328 3105 m 20-Jul-2013 C. R. Nelson # 10791 & scouts 80 Google Earth Douglas Baird, Spencer Baird, Joseph Baird, Cameron Baird (cousin), Mark Wadsworth, Max Wadsworth, David Baird, Austin Baird, Tyler Blake, Aiden Chapman, Tate Parker, and Riley Nelson. photos: sunrise on the mountain; flowers; grove of straight trees at main coordinates above; stream on trail to Bomber Basin (Google Earth N40.404844 W111.647995 elev. 3122m, drinking water pumped (past toilet to the west) *Lasiopogon*. 10791

10792 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trail to summit from Timpanogos Basin, N 40.398978 W 111.654893 3309 m 20-Jul-2013 C. R. Nelson # 10792 & scouts 80 Google Earth Douglas Baird, Spencer Baird, Joseph Baird, Cameron Baird (cousin), Mark Wadsworth, Max Wadsworth, David Baird, Austin Baird, Tyler Blake, Aiden Chapman, Tate Parker, and Riley Nelson. photos: in lab *Cyrtopogon* female; *Sarcophagidae*, posed dead. 10792

10793 USA: UTAH: Utah Co., Mount Timpanogos, summit, N 40.390940 W 111.645938 3582 m 20-Jul-2013 C. R. Nelson # 10793 & scouts 80 Wypt 246 timpsummit Douglas Baird, Spencer Baird, Joseph Baird, Cameron Baird (cousin), Mark Wadsworth, Max Wadsworth, David Baird, Austin Baird, Tyler Blake, Aiden Chapman, Tate Parker, and Riley Nelson. photos: people and scenery. 10793

10794 USA: UTAH: Utah Co., Mount Timpanogos, spring of South Fork American Fork River, near Timpooneke Trailhead, N 40.430196 W 111.638705 2243 m 20-Jul-2013 C. R. Nelson # 10794 & scouts 80 Google Earth main "river" above this spring is dry most years by end of July. photos in lab: *Alloperla severa*? and *Sweltsa borealis* 10794

10795 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 22-Jul-2013 C. R. Nelson # 10795 80 photos: time lapse four *Datura wrightii* blossoms, sacred *Datura*. start 7:30 pm End 12:17 am on 23 July 2013. 5 hours 1 frame every 30 seconds 1/100 second at f18. 10795

10796 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 23-Jul-2013 C. R. Nelson # 10796 80 photos: time lapse *Datura wrightii* single blossom, sacred *Datura*. start 874 frames, one every 10 seconds with on camera flash, 1/50 second f16. Start 7:56pm end 10:21 pm. 2.5 hours. at 30fps 29 seconds; at 24 fps 36 seconds, at 10 fps 1:27 minutes:seconds. at 60 fps 14 seconds. 10796

10797 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 23-Jul-2013 C. R. Nelson # 10797 80 photos: time lapse *Datura wrightii* single blossom, sacred *Datura*. start 874 frames, one every 10 seconds with on camera flash, 1/50 second f16. Start 7:56pm end 10:21 pm. 2.5 hours. at 30fps 29 seconds; at 24 fps 36 seconds, at 10 fps 1:27 minutes:seconds. at 60 fps 14 seconds. 10797

10798 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 24-Jul-2013 C. R. Nelson # 10798 80 photos: rufous hummingbird with remote trigger. 10798

10798 USA: UTAH: Utah Co., Lehi, Parker home, 772 West 100 South, N 40.386606 W 111.861211 1386 m 24-Jul-2013 C. R. Nelson # 10798 & J. K. Nelson & friends 80 Google Earth photos: swimming pool party. fireworks and people. Riley Nelson, Kaye Nelson, Andrea Nelson, David Parker, Jera Parker, Desi Parker, Ben Parker, Kristi Parker, Logan Parker, Lincoln Parker, Macie Parker, Abby Stoddard, Parker Stoddard, Alison Stoddard, and Emily Stoddard. 10798

10799 USA: UTAH: Salt Lake Co. Sandy, Living Planet Aquarium, 725 East 10600 South, N 40.55931 W 111.87099 1384 m, 27-Jul-2013 C. R. Nelson # 10799 & J. K. Nelson & friends. 80 With Kaye, Andrea, Amy, and Todd. photos & video: Pacific octopus, *Chrysora* sp. jellyfish, *Cassiopeia* sp. jellyfish, *Aurelia* sp. jellyfish, anemone and anemone fish, barberpole shrimp, sting rays, brittle stars, hermit crab, sea urchin, horseshoe crabs, Anableps, gentoo penguins, people, Bonneville whitefish, Bonneville cisco, brook trout, Bonneville cutthroat trout, lake trout, tiger trout, red spotted toad, least chub, leatherside chub, june sucker, black bullhead, gray reef shark, black tipped reef shark, unicornfish: spotted, bluespine, and humpnose; poison dart frogs, electric eel, star fish. 10799

10800 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 29-30 July 2013 C. R. Nelson # 10800 & J. K. Nelson 80 photos: stars; clouds at sunset, clouds & stars middle of the night. Time lapse *Scorpius*. photos: hummingbirds broad tailed, black chinned, rufous. 10800

10801 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 30-31 July 2013 C. R. Nelson # 10801 80 photos: stars, time lapse of Big Dipper from roof of house. 10801

10802 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Road, dry pond on northwest face, 3 air miles west south west of Timpooneke Trailhead, N 40.420684 W 111.695730 2575 m 31-Jul-2013 C. R. Nelson # 10802 & R. S. Hansen 80 Google Earth photos: scenery. With Robert Hansen 10802

10803 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Road, full pond on northwest face, 3 air miles west south west of Timpooneke Trailhead, N 40.418770 W 111.694560 2557 m 31-Jul-2013 C. R. Nelson # 10803 & R. S. Hansen 80 Google Earth photos: scenery. With Robert Hansen 10803

10804 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Road, 3.9 air miles south west of Timpooneke Trailhead, large meadow between Grove and Battle Creeks, N 40.387109 W 111.686330 2324 m 31-Jul-2013 C. R. Nelson # 10804 & R. S. Hansen 80 Google Earth photos: scenery. With Robert Hansen photos: lone Gambels Oak at "cliff" edge of meadow 10804

10805 USA: UTAH: Utah Co., Mount Timpanogos, Julie Andrews Meadows, near base of cliffs of Woolly Hole, 1.1 air miles west of Timpooneke Trailhead, N 40.432433 W 111.660435 2555 m 31-Jul-2013 C. R. Nelson # 10805 & R. S. Hansen 80 Google Earth photos: scenery, portraits. With Robert Hansen *Cyrtopogon banksi* male on log 10805

10806 USA: UTAH: Utah Co., Mount Timpanogos, spring of South Fork American Fork River, near Timpooneke Trailhead, N 40.430196 W 111.638705 2243 m 31-Jul-2013 C. R. Nelson # 10806 & R. S. Hansen. 80 Google Earth main "river" above this spring is dry most years by end of July. With Robert Hansen. photos: *Suwallia?* nymph, *Alloperla thalia* nymphs (also caught adults), *Allomyia* larvae. *Ameletus* nymphs, *Limnephilidae*. 10806

10807 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River near Timpooneke Guard Station, site 4, N 40.43226 W 111.63741, 2213 m, 31-Jul-2013 C. R. Nelson # 10807 & R. S. Hansen. 80 With Robert Hansen. photos: *Megarcys signata* female. *Sweltsa borealis* 10807

10808 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, N 40.44749 W 111.68305, 1818 m, 31-Jul-2013 C. R. Nelson # 10808 & R. S. Hansen. 80 With Robert Hansen. *Asilidae* in spider web. Some *Ephemerellidae* in stream. *Machimus* female. 10808

10809 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.43329 W 111.73836, 1547 m, 31-Jul-2013 C. R. Nelson # 10809 & R. S. Hansen. 80 With Robert Hansen. quick look; found slab of narrowleaf cottonwood log, about a foot in diameter. It sanded up beautifully on 1 August 2013. 10809

10810 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 31-Jul-2013 C. R. Nelson # 10810 & R. S. Hansen. 80 photos: Riley and Robert 10810

10811 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 04-Aug-2013 C. R. Nelson # 10811 80 later Todd and Amy Smith joined us. videos: Vespidae wasp eating corn 10811

10812 USA: UTAH: Millard Co. Sevier River Bridge, I-15, below Yuba Reservoir, N 39.409625 W 112.052237 1506 m 05-Aug-2013 C. R. Nelson # 10812 & J. K. Nelson 80 wypt247sevieryuba15 photos: Sevier River 10812

10813 USA: UTAH: Kane Co., Coral Pink Sand Dunes, Ponderosa Grove Campground, N 37.087569 W 112.669705 1916 m 05-Aug-2013 C. R. Nelson # 10813 & J. K. Nelson 80 wypt248coralpinkponderosa photos: scenery some Wyethia scabra in bloom. Swertia? mid day. 10813

10814 USA: ARIZONA: Coconino Co. Grand Canyon National Park, North Rim Entrance meadow, N 36.3244111 W 112.113280 2685 m 05-Aug-2013 C. R. Nelson # 10814 & J. K. Nelson 80 wypt249gcbison photos: bison 10814

10815 USA: ARIZONA: Coconino Co. Grand Canyon National Park, North Rim, Point Imperial, N 36.279142 W 111.977683 2702 m 05-Aug-2013 C. R. Nelson # 10815 & J. K. Nelson 80 wypt250pointimperial photos: scenery. photos: raven, sparrow with yellow rump and white outer tail feathers 10815

10816 USA: ARIZONA: Coconino Co. Kaibab Plateau, Jacobs Lake, N 36.699718 W 112.213786 2496 m 05-Aug-2013 C. R. Nelson # 10816 & J. K. Nelson 80 wypt251firetowerjacobslake photos: fire tower. photos: Kaibab squirrel 10816

10817 USA: ARIZONA: Coconino Co. Colorado River, Navajo Bridge, Hwy 89A, N 36.817371 W 111.630787 1074 m 05-Aug-2013 C. R. Nelson # 10817 & J. K. Nelson 80 wypt252coloradonavajo photos: scenery. 10817

10818 USA: ARIZONA: Maricopa Co. Phoenix, Mountain View Casitas, 1130 Grovers Avenue, N 33.647789 W 112.058018 420 m 06-Aug-2013 C. R. Nelson # 10818 & J. K. Nelson 80 wypt 115nelsons with Jason, Brandy, and Artemis Nelson

11 August, Happy Birthday photos of Brandy Dawn Nelson.
wyptnelsons1130grovers: N33.647759 W112.057959 elev. 417 m. 10818

10819 USA: ARIZONA: Maricopa Co. Phoenix, Lookout Mountain Park, summit, N 33.623369 W 112.047320 623 m 06-Aug-2013 C. R. Nelson # 10819 & B. D. Nelson 80 wypt254lookoutmountain photos: 360 degree panoramas, scenery. Brandy and Riley. foggy 7 misty. 10819

10820 USA: ARIZONA: Maricopa Co. Phoenix, Lookout Mountain Park, cliffs at edge of blue rock outcrop, N 33.624918 W 112.047064 525 m 06-Aug-2013 C. R. Nelson # 10820 & B. D. Nelson 80 wypt255petrolookout photos: petroglyphs 10820

10821 USA: ARIZONA: Gila Co. Payson, Oxbow Estates, Spurlock home, N 34.183841 W 111.337745 1437 m 07-Aug-2013 C. R. Nelson # 10821 & family 80 wypt256spurlockpayson We ate lunch with Nancy and Pat Spurlock. Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, Artemis Nelson, Pat Spurlock, Nancy Spurlock, Allie Spurlock, Page Begay, Seth Begay, Olivia photos: Phengodidae larva 10821

10822 USA: ARIZONA: Navajo Co. Pine Top - Lakeview, Christopher cabin, 8188 Wildhorse Road N 34.110178 W 109.865717 2240 m 8-9 August 2013 C. R. Nelson # 10822 & family 80 wypt257christopherspinetop Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, and Artemis Nelson. photos, Thursday 8 August: Aberts Squirrel, pygmy nuthatch, acorn woodpecker. photos, Friday 9 August: hairy woodpecker, brown creeper, ponderosa pines. 10822

10823 USA: ARIZONA: Navajo Co. Mogollon Rim Road, 3 miles West of Hwy 60 at 2 miles South of Show Low, Forest Road 300, N 34.213718 W 110.121827 2091 m 08-Aug-2013 C. R. Nelson # 10823 & family 80 wyptshowlow300mile3w Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, and Artemis Nelson. Efferia rapax male 10823

10824 USA: ARIZONA: Navajo Co. Show Low Creek, Show Low Bluff, N 34.242307 W 110.022140 1936 m 08-Aug-2013 C. R. Nelson # 10824 & family 80 wypt259showlowcreekbluff Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, and Artemis Nelson. Lunch photos: Diogmites, Cicindela photos later: Lygaeidae 10824

10825 USA: ARIZONA: Navajo Co. Show Low Lake, N 34.194915 W 110.002200 1999 m 08-Aug-2013 C. R. Nelson # 10825 & family 80 wypt260showlake Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, and Artemis Nelson. photos: osprey, horned lizard baby. photos later: Tephritidae. 10825

10826 USA: ARIZONA: Navajo Co. Pine Top - Lakeview, Woodland Park Lake, N 34.125841 W 109.951910 2090 m 08-Aug-2013 C. R. Nelson # 10826 & family 80 wypt261woodlandlakepinetop Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, and Artemis Nelson. Photos: scenery. 10826

10827 USA: ARIZONA: Gila Co. Salt River, Hwy 60, N 33.797308 W 110.502353 1071 m 09-Aug-2013 C. R. Nelson # 10827 & family 80 wypt262saltriver60 Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, and Artemis Nelson. photos: Coreidae, Acanthocephala, taken in house on 10 August in Phoenix, 10827

10828 USA: ARIZONA: Pinal Co. Superior, N 33.293797 W 111.097293 861 m 09-Aug-2013 C. R. Nelson # 10828 & family 80 wypt 263superior Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, and Artemis Nelson. Photos: scenes around a hot, deserted town. 10828

10829 USA: ARIZONA: Maricopa Co. Turtle Rock Basin Park and Mountain View Park, N 33.645352 W 112.060782 408 m 11-Aug-2013 C. R. Nelson # 10829 & family 80 wypt 264turtlerockbasin Riley Nelson, Kaye Nelson, Brandy Nelson, and Artemis Nelson. photos: bird of paradise plant, Caesalpinia; seeds of red yucca Hesperaloe parviflora, and a tree acacia. Evening: saw coyote. Photos Embiidina (shot in house in morning of 12 August 2013). Photos: fire ants - Solenopsis xyloni, with microscope in lab, continuous scale. They sting! See photos of 20130819 and consider the art of changing to a video. 10829

10830 USA: ARIZONA: Yavapai Co. Hwy 93 Roadside Table, 15 miles south of Hwy 97, 30 miles South of Burro Creek Bridge, N 34.228609 W 113.070181 881 m 12-Aug-2013 C. R. Nelson # 10830 & J. K. Nelson 80 wypt 265reststop photos: spider soil turrets, joshua tree fruits. 10830

10830 USA: ARIZONA: Yavapai Co. Hwy 93 Roadside Table, 15 miles south of Hwy 97, 30 miles South of Burro Creek Bridge, N 34.228609 W 113.070181 881 m 12-Aug-2013 C. R. Nelson # 10830 & J. K. Nelson 80 wypt 265reststop photos: spider soil turrets, joshua tree fruits. 10830

10831 USA: ARIZONA: Mohave Co. Nothing, south of Wickiup, Hwy 93, N 34.479722 W 113.335278 1000 m 12-Aug-2013 C. R. Nelson # 10831 & J. K. Nelson 80 Google Earth Photos: signs of Nothing, Arizona. 10831

10832 USA: NEVADA: Clark Co. Lake Mead National Recreation Area, Rogers Spring, N 36.377580 W 114.443816 455 m 12-Aug-2013 C. R. Nelson # 10832 & J. K. Nelson 80 wypt rogersspring Photos: scenery. photos: fish, mollies, cichlids, Jack Dempseys? 10832

10833 USA: NEVADA: Clark Co. Lake Mead National Recreation Area, Blue Point Spring, N 36.390015 W 114.429506 460 m 12-Aug-2013 C. R. Nelson # 10833 & J. K. Nelson 80 wypt267bluepointspring Photos: scenery. 10833

10834 USA: NEVADA: Clark Co. Logandale, Ryan and Wendy Wheeler's house, N 36.614743 W 114.490388 427 m 12-Aug-2013 C. R. Nelson # 10834 & J. K. Nelson 80 Google Earth photos: Wendy Wheeler with newborn Morgan Grace Wheeler, born 29 July?. Wendy, Mason, Sam, Miles, xx, and Morgan. 10834

10835 USA: UTAH: Washington Co. Santa Clara, Henson home, 2293 Malaga Avenue, N 37.117167 W 113.631989 832 m 12-Aug-2013 C. R. Nelson # 10835 & J. K. Nelson 80 Google Earth photos: Kaye with Leslee. 10835

10836 USA: UTAH: Washington Co. Santa Clara, Paul & Kathy Wheeler home, 2126 Jacob Drive, N 37.144240 W 113.664873 883 m 12-Aug-2013 C. R. Nelson # 10836 & J. K. Nelson 80 wypt 268santaclara2126 Watched Perseid Meteors at 2:30am on 13 August 2013. Spent night of 12-13 August with Paul. Kathy is in Logandale. This is their rental home before their mission. photos: Embiidina at porch lights, photos at home on several occasions on 15 August 2013. Searched leaf litter of exotic shrubs around house for Embiidina. There were abundant silk tunnels. Later at home I searched about 5 gallons of litter and found two immatures and two adult females with help from Amy and Todd Smith. 10836

10837 USA: UTAH: Washington Co. Virgin River junction Santa Clara River, St. George, near convention center, N 37.072955 W 113.579969 765 m 13-Aug-2013 C. R. Nelson # 10837 & J. K. Nelson 80 wypt 269virgin photos: scenery. photos at home: Mallophora, Triorla interrupta, Scarabaeidae Cetoninae large green Cotinus nitida. Dragonfly diversity seen, but none collected: Anax, Platythemis?, Erythemis, Libellula, Sympetrum, Brechmorhoga mendax and more. Coenagrionidae, Gomphidae Erpetogomphus? and Progomphus. 10837

10838 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 15-Aug-2013 C. R. Nelson # 10838 80 evening video: Camponotus modoc?, Tetramorium caespitum, and phoridae on a piece of cooked chicken breast from the compost heap.
morning: Embiidina from 10836, photos: Cerambycidae Prionus californicus from nearby in ward, Parker home. 10838

10839 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 18-Aug-2013 C. R. Nelson # 10839 & J. K. Nelson 80 photos with visitors, Jera Parker and parents Joyce & Jerry Mann. 10839

10840 USA: UTAH: Utah Co., Provo, Edgemont, Foothill Drive between University Blvd and Canyon Road N 40.293612 W 111.654633 1471 m 21-Aug-2013 C. R. Nelson # 10840 80 photos: moonset at 7:10am. 10840

10841 USA: UTAH: Salt Lake and Utah Co., Jacobs Ladder Trailhead, Corner Canyon, to Lone Peak, N 40.494486 W 111.817229 1758 m 21-Aug-2013 C. R. Nelson # 10841 & Mark Astling. 80 wypt 270 jacobs ladder trailhead Hike from developed trailhead up steep, slippery granite trail to Enniss Peak and into cirque below southwest face of Lone Peak.

main trail follows Utah/Salt Lake County line. Good view of Utah Valley.

1, wypt 270 jacobs ladder trailhead, start 8:30am: The best route to get to the trailhead from Provo is probably I-15 north to 14600 South, north on frontage to 13800 South, east to Highland Drive, north to Orson Smith Trailhead (near 2000 East about 12500 South) with gate on Corner Canyon dirt road south to Jacobs Ladder Trailhead after 2.6 miles of dirt road. Now mapping waypoints in order: wypt 274 utah valley ridge, first good view Utah Valley, N 40.494713 W 111.801914, 1933 m, 9:14am. 3, wypt 275 left ridge, slight left turn, N 40.495223 W 111.798789, elev 1979 m, 9:24am. wypt 276 megaphorus, trail split caught robber fly Megaphorus willistoni? photos at home, N 40.497538 W 111.790310, elev. 2081 m, 9:45 am. 5, wypt 277 rest, long rest stop, N 40.500955 W 111.789170 elev. 2181 m, 10:11 am. 6, wpt 278 rest 2 Mahogany, another long rest, afterwards I left Mark for a time. N 40.503207 W 111.793026, elev. 2285 m, 10:32 am. 7, wypt 279 clearing rock, forest ends on rocky outcrop, N 40.503849 W 111.791406 elev. 2389 m, now only very scattered tall trees in oak scrub, grasses, and forbs; walking alone. 8, wypt 280 lone rock pan (-orama), view to Lone Peak, pushing for Ennis Peak, N 40.504428 W 111.790768 elev. 2389 m, 11:04 am, photos: panorama 1 of Utah Valley. 9, wypt 281 limber pine, first limber pine on trail, N 40.508524 W 111.789148 elev. 2610 m, 11:34 am, photos limber pine. 10, wypt 280 view to lone, first trail view to Lone Peak, N 40.509089 W 111.788843 elev. 2633 m, 11:44 am. 11, wypt 281 limbertwo, second limber pine, N 40.510605 W 111.789114. elev. 2714 m, 11:58 am, I was trying for Ennis Peak by noon, without Mark. 12, wypt 282 Ennis Peak pan. Spectacular! N 40.514144 W 111.786817 elev. 2847 m, 12:31 pm, 1963 map reads 9322 feet = 2841 m, photos 360 degree panorama, lunch with Mark on top. 13, wypt 283 spring up, small seep up stream bed (flows to Utah Valley) N 40.517245 W 111.778936, elev. 2807 m. 3:01 pm, no stoneflies, saw baetid nymph, photos seep and near, apex of hike for the day. Lone Peak another day, caught Machimus male, photos dead at home. 14, wypt 284 spring down, lower pool, pumbable for drinks in August!, N 40.515557 W 111.778854, elev. 2771 m, 3:10 pm. 15, wypt 285 saddle, saddle of meadow east of Ennis Peak, N 40.514185 W 111.785155, elev. 2781 m, 3:30 pm, begin descent to cars. 16, wypt 286 trail end, back to cars, N 40.494362 W 111.817103, elev. 1721 m, 6:11 pm, photo: Mark & Riley. 17, wypt 287 east bench (bear?) trailhead, big parking, find trailhead, N 40.506106 W 111.834851 elev. 1564 m. 6:22 pm, find trailhead to go to Lone Peak called Cherry Canyon on signs, guide sheets on internet call Bear Canyon Trail. 18, wypt 288 pavement ends, Orson Smith Trailhead on Highland Drive, N 40.521306 W 111.834818 elev. 1426, 6:28 pm, goodbye Mark, now south to 13800 South and home for cub scout meeting. 10841

10842 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 22-Aug-2013 C. R. Nelson # 10842 81 photos: red hibiscus with

black chinned hummingbird. Also a young female flew into the house, I held her carefully and photographed her. 10842

10843 USA: UTAH: Utah Co., Provo, Utah State Hospital, N 40.234078 W 111.631361 1436 m 23-Aug-2013 C. R. Nelson # 10843 81 photos: view from amphitheater to Utah Lake. 10843

10844 USA: UTAH: Davis Co. Antelope Island, Great Salt Lake, White Rocks Bay, N 41.02464 W 112.25643 1278 m 24-Aug-2013 C. R. Nelson # 10844 & W. N. mathis 81 158whitedg (2012) photos: scenery, Wayne mathis interview. photos: bison, brine flies 10844

10845 USA: UTAH: Cache Co. South of Logan, Hwy 89/91, College Ward, N 41.02464 W 112.25643 1278 m 24-Aug-2013 C. R. Nelson # 10845 & W. N. mathis 81 wypt 289pierce photos: scenery, barn, sign: The Woman's Tonic Dr. Pierce's Favorite Prescription. at 2595 S Hwy 89/91 10845

10846 USA: UTAH: Box Elder Co. Brigham City LDS Temple, N 41.505965 W 112.016201 1358 m 24-Aug-2013 C. R. Nelson # 10846 & W. N. mathis 81 Google Earth photos: peaches from temple grounds 10846

10847 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Laboratory, N 40.246327 W 111.649534 1420 m 26-Aug-2013 C. R. Nelson # 10847 81 Google Earth photos: corn earworm larva, on corn from local farm, nearby, *Helicoverpa zea* 10847

10847.5 USA: UTAH: Utah Co., Cascade Mountain ascent, couloir North of Rock Canyon, N 40.29444 W 111.59421 2759 m 29-Aug-2013 C. R. Nelson # 10847.5 & Clinton Whipple 81 wypt294couloirthree I list main gps as height of couloir three, third spot in couloir. Photos: scenery and people. Clint is a plant evolution and development professor in our department at BYU.

Wypt291trailheadcascade N 40.29255 W 111.60362 elev. 2317 m. Wypt 292couloirtwo, second point in couloir on Cascade, N 40.29355 W 111.59607 elev. 2583 m. Wypt 296apex, highest point we got on right N 40.29654 W 111.59050 elev 2833 m. Wypt 297left, highest point on left, N 40.29631 W 111.59244 elev. 2993 m. Wypt 298goats, dead goats in couloir, N 40.29465 W 111.59462 elev. 2817 m. Photos: Polemoniaceae: *Collomia debilis* det Leigh Johnson 2013; Ranunculaceae: *Actaea rubra*. Fossils in Oquirrh Formation. photos: Cerambycidae, taken dead at home. Mountain goat skeletons. *Viguiera* sunflower seeds dispersed in garden. 10847.5

10848 USA: UTAH: Washington Co. Santa Clara, Paul & Kathy Wheeler rental home, 2126 Jacob Drive, N 37.14424 W 113.66487 883 m 29-Aug-2013 C. R. Nelson # 10848 81

tarantula escaped in our house in Provo. Collected by Paul Wheeler. C. R. Nelson not present, but took photographs of ant lion in Provo later, Myrmeleontidae 10848

10849 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 30-Aug-2013 C. R. Nelson # 10849 & J. K. Nelson 81 With Kelly & Sherry Wheeler and Jan Gray. Photos: Berothidae Lomamyia texana from porchlight 10849

10850 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 1-2 September 2013 C. R. Nelson # 10850 & friends 81 photos: star trails, working on stairs. Riley Nelson, Kaye Nelson, Hank Pond, Rexanne Pond, Blair Parrish, Cynthia Parrish, Tracy Smith, Penny Smith, Erin Smith, Mikaela Smith. USU friends. I mentioned at 3pm that we had been lucky to not have floods this year then we went home. At about 9:00 pm a huge flood came down, blocking the highway. This event ate much of my time in the next few weeks as I got friends to help clean up to prepare for Andrea and Jordan's wedding on 5 October 2013. photos: rock squirrel 10850

10851 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 04-Sep-2013 C. R. Nelson # 10851 81 surveyed and photographed damage from the flood of evening of 2 September 2013. 10851

10852 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 05-Sep-2013 C. R. Nelson # 10852 & family 81 Work day at cabin after flood of 2 September 2013 with Kaye. Patched pipe at drinking water source, cleaned lower and upper catchments for irrigation water (flood filled again about the next day . . .), dug away mud and rocks from valves on the storage tanks, cleared debris off lawns, Kevin xxx, from state road crew used a heavy loader to clear mud from road to Y between cabin and mill, graded road to the Y to house, tanks, and mill, added fill to low water crossing of driveway. Also helped by Amy and Todd Smith. 10852

10938 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.264005 W 111.663997 1435 m 11-Jan-2014 C. R. Nelson # 10938 & classes 82 Wypt 342provoriver About 54 people. Air temp: 12 deg C, water temp: 4 deg C. Velocity (time over 10 m: 21.3, 16.6, 16.7, 15.0, 18.5

Bio 100: Kaai Kauwe, Shelbi Anderson, Sarah Leber (with sisters Rachel and Rebecca), Dave Dixon, Kerbert Carter, Justin Boswell, Nathaniel Waggoner, Tim Richardson, Meriah Otterstrom, Tanner Combs, Caleb Greaves, Elizabeth Hancock, Lovien Brown, April McLane, Daniel Newville, Aaron Fjeldsted, Todd Workman. John Bennion plus 2. animal Diversity Class: Brenna Cragun, Weston Gleave, Tyler Huffaker, Tommie Valentine, Sterling Stolle, Sarabeth Brown, Kyle Ashcroft, Matthew Dugan, Camille Hull, Courtney Cluff fainted in river, Katie Pattillo (bio 100), Maya Franks (bio 100), Maddy Purves (bio 100),

Andrea McRae fell near falls, Nicole Hancock, Andrian Rivera, Michael Cawley, Donovan Chambers, Daniel Dekker, Tyson Wayment, Makani Fisher, Arianne Swapp, Ian McCrary, Anne Thomas, Shelby Kurtz, Bailee Guymon, Shane Smith, Kevin Mock, Rachel Kubosumi, maillet Aguirre, Daniel Hawks, madeleine Homer, Colton Dixon. saw: black capped chickadee, mallard duck, American dipper, Canada goose. Cottus bairdi. Baetidae, Simuliidae, Hydropsychidae, Asellus aquatic pill bug, Perlodidae Skwala, Chironomidae, sponge, Hydrobiidae small snail right handed, Physidae Physa large snail left handed, earthworms, leeches. 10938

10854 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 06-Sep-2013 C. R. Nelson # 10854 & family 81 clean up day at cabin after flood of 2 September 2013. Help from ward friends and other friends: Riley Nelson, Kaye Nelson, John Bennion, John Hawkins, Ken Myers, Douglas Baird, matthew Baird, Andrea Nelson, Paul Ashton, Davis Ashton, Jordan Christopher. 10854

10855 USA: UTAH: Box Elder Co. Perry, Maddox Restaurant, N 41.475611 W 112.025053 1321 m, 06-Sep-2013 C. R. Nelson # 10855 & J. K. Nelson 81 Google Earth Kaye and Riley Nelson ate with Jera and David Parker at the restaurant. I have a rib eye steak, perhaps the first full steak I've had at Maddox despite eating there throughout my life. It was very good. 10855

10856 USA: IDAHO: Bannock Co. hills of Pocatello, Stoddard home, 1366 Camelback View Drive N 42.900916 W 112.396352, 1586 m, 6-7 September 2013 C. R. Nelson # 10856 & friends 81 Wypt 202stoddards Riley, Kaye, Jera & David Parker; Nick, Maegan, Abby, Parker, Allison, and Emily Stoddard. mantis religiosa that Abby had found. They love to show me what insects they can find. Allie is adventuresome now with these small animals. 10856

10857 USA: IDAHO: Madison Co. Rexburg, LDS Temple, 750 South 200 East, N 43.8109 W 111.7795, 1545 m, 07-Sep-2013 C. R. Nelson # 10857 & friends 81 Google Earth Wedding of Jacob and Kristi Pearce, Texas friends. Photos: people and scenery. Walking in mown wheat fields next to the temple. Jan Pearce is gone. photos: moths on the temple 10857

10858 USA: IDAHO: Madison Co. Rexburg, LDS Church, 315 Gary Drive, N 43.8323 W 111.7656, 1486 m, 07-Sep-2013 C. R. Nelson # 10858 & friends 81 Google Earth Wedding luncheon and reception preparation of Jacob and Kristi Pearce, Texas friends. Photos: people. 10858

10859 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 08-Sep-2013 C. R. Nelson # 10859 81 Dinner, Texas friends reunion, group photo. Riley Nelson, Kaye Nelson, David Parker, Jera Parker, Desi Parker, Ben Parker,

Kristi Parker, Logan Parker, Lincoln Parker, Macie Parker, Ben Alger, Rachael Alger, Andy Tarver, Bobby (from Austin), Paul Tenney, wife and two daughters. 10859

10860 USA: UTAH: Utah Co., Provo, BYU, McKay Building, N 40.246620 W 111.651529 1421 m 09-Sep-2013 C. R. Nelson # 10860 81 Honey locust pods on ground, green after a windstorm, for rearing Bruchidae, first emerged 14 October 2013. that was the only one seen, no more by 30 October 2013. 10860

10860 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 10-Sep-2013 C. R. Nelson # 10860 & P. F. Ashton 81 More flood clean up. Tightened union on the four inch culinary water line. Rebuilt lower catch basin with sand bags, it didn't stop the water, need to cement in a pipe. Tenebrionidae, saw Bombyliidae 10860

10861 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 13-14 September 2013 C. R. Nelson # 10861 & J. K. Nelson 81 Entomology class field trip. Paul, Scot, and Cassie Ashton were rebuilding driveway crossing after a new flood today. Riley Nelson, Kaye Nelson, Doug Sakaguchi, Kevin Mitchell, Samantha Roan, Carrie Ingram, Westen Archibold, Michelle Townsend, Rebecca Schenk, Bret Hansen, Mike Porter, Brian Bailey. photos & video: people photos on pinyon: Elateridae, narrow with hanging blades for palps, family? specimen with Rebecca Schenk. Noctuidae, Forficulidae, Chrysopidae, Cerambycidae Crossidius, Raphidophoridae in water pit. Photos and video Syrphidae Spilomyia session at home on rabbit brush flowers (like where I caught it). 10861

10862 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, waterfall, N 39.95963 W 111.2678 1881 m, 13-Sep-2013 C. R. Nelson # 10862 & J. K. Nelson 81 Wypt300waterfall Entomology class field trip. Riley Nelson, Kaye Nelson, Doug Sakaguchi, Kevin Mitchell, Samantha Roan, Carrie Ingram, Westen Archibold, Michelle Townsend, Rebecca Schenk, Bret Hansen, Mike Porter, Brian Bailey. Trichoptera, Tipulidae, photos in cabin: Dolichopodidae on Green River Shale (specimen to Kevin Mitchell) Liancalus hydrophilus or new species determined by photo by Justin Runyon in Montana, 16 Sep 2013. Buprestidae 10862

10863 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, N 39.9532 W 111.2646 1801 m, 13-14 September 2013 C. R. Nelson # 10863 & J. K. Nelson 81 Creek running flood, walk in the night. Collected cone galls on Salix exigua Rabdophaga strobiloides, rough determination by C. R. Nelson 2013. kept in lab to rear. Riley Nelson, Kaye Nelson, Doug Sakaguchi, Kevin Mitchell, Samantha Roan, Carrie

Ingram, Westen Archibold, Michelle Townsend, Rebecca Schenk, Bret Hansen, Mike Porter, Brian Bailey. 10863

10864 UNITED STATES: UTAH: Utah Co., Provo, old Edgemont North Stake Center, N 40.28963 W 111.65455 1462 m, 14-Sep-2013 C. R. Nelson # 10864 & J. K. Nelson 81 photos: people at Dutch Oven Social of Edgemont 10th Ward, in White Church pavilion; and scenery. Google Earth: N 40.289488 W 111.654493 elev. 1465 m, same location as 10 Sep 2011, CRN10018 10864

10865 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 17-Sep-2013 C. R. Nelson # 10865 81 18 Sep 2013, 3:30 pm: set up six jars with growth media, 3 Wards blue and 3 potato flakes plus 50:50 water:vinegar and a pinch of yeast. Introduced one pair, one male and one female in each. Jar A pair dead 19 Sep 2013 8:00 am, replaced with fresh pair. Also 18 Sep 2013 one jar each medium with 2 pairs of flies. Set up experiment in front of Biology 100 class. Experiment monitored and counts in the future made by Ivan Rodriguez, teaching assistant. Detailed counts in a separate Excel spreadsheet, experiment ended about 20 November 2013. Ask Ivan for results.

Photographs of bottles at end of experiment, 26 November 2013. *Drosophila melanogaster* from compost, to set up lab colonies. *Culiseta mosquito*. 10865

10866 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 20-22 September 2013 C. R. Nelson # 10866 & J. K. Nelson 81 arrived 3:00 pm or so on 20 Sep, Friday.

morning, 22 September 2013: photos washouts on road past tanks, results of workday, yesterday. Asilidae: *Laphria fernaldi*. 20 Sep 2013: photos: *Ammophila* with green caterpillar. Box elder trees just starting to change leaf color to yellow.

22 Sep 2013: photos: fossil fish Jordan Christopher found in large block of Green River Shale near spring. 10866

10867 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 27-28 September 2013 C. R. Nelson # 10867 & J. K. Nelson 81 another work day at the cabin, fixed fence by gate, put in drainage diagonals on road to tanks, hung old garage door inside opening of the mill shed, cleaned lower flat for parking, gathered wood for decorations, spread a load of gravel. Riley Nelson, Kaye Nelson, Jan Gray, Sabryna Mead, Mychigan Mead, Daisy Mead, Ryver Mead, Sawyer Mead, Ben Parker, Steve scout, Levi scout, Paul Ashton, Allen Ashton, Stephnie Mead, Dell Mead, Don Dorton, Justine Dorton, Jocelyn Dorton, Ben Dorton, Isabelle Dorton, Sophie Dorton, Isaac Dorton, Dave Parker, Jera Parker. 10867

10868 USA: UTAH: Utah Co., Spanish Fork, Little Acorn Drive In, mouth Spanish Fork Canyon, N 40.086643 W 111.593461 1435 m, 28-Sep-2013 C. R. Nelson # 10868 & J. K. Nelson 81 Wypt302littleacorn hamburger dinner with Dave and Jera Parker, part of a newspaper review for Kaye. photos: coral in salt water aquarium. 10868

10869 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 01-Oct-2013 C. R. Nelson # 10869 & P. F. Ashton 81 checked water, still not filling; mowed lawn; cut fossil fish from Green River Shale, about 15 cm long, no head, used diamond saw but it still broke in about 5 pieces. Reglued and painted at home using plaster of paris for bulk and mix of Green River Shale dust and Elmer's glue; fair job. 10869

10870 USA: UTAH: Utah Co., Provo, BYU, Martin Building, N 40.246928 W 111.6491070 1421 m 02-Oct-2013 C. R. Nelson # 10870 81 Google Earth photos: C. R. Nelson art of warthog teeth eating a tank on chalkboard. 10870

10871 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 05-Oct-2013 C. R. Nelson # 10871 & family 81 Wedding Day for Andrea and Jordan. Set up and decoration, walk to tanks with Brandy and Artemis Nelson. Level more parking area with David Parker. Wedding ceremony. Dinner for about 120. Photos by others, not me, I was mingling and talking with friends. With Kaye, Jason, Brandy, Artemis, Amy, Todd, and many others.
6 October 2013: Nelson home, Provo, photos Artemis and Kaye Nelson. 10871

10872 USA: UTAH: Utah Co., Thanksgiving Point, Lehi, N 40.424623 W 111.889970 1394 m, 07-Oct-2013 C. R. Nelson # 10872 & J. K. Nelson 81 Google Earth photos: with Hapairai family in the corn mazes. First meeting with Limb's 10 month old daughter Alix, up from Tahiti. 10872

10873 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 09-Oct-2013 C. R. Nelson # 10873 81 dead Tettigoniidae and Mantidae (female still alive but sluggish) at porch light. Gave to students in Entomology class. 10873

10874 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 12-Oct-2013 C. R. Nelson # 10874 & J. K. Nelson 81 Buried water line that was exposed in gully. All leaks have stopped! Yay! 10874

10875 USA: UTAH: Utah Co., Provo, Edgemont, Miner home, N 40.294639 W 111.648068 1513 m, 12-Oct-2013 C. R. Nelson # 10875 81 Google Earth O'Dell Miner and Allen Laird cut down a big Colorado Blue Spruce, *Picea pungens*, and gave two thin slabs to C. R. Nelson 10875

10876 USA: UTAH: Washington Co. Leeds Creek, 3 miles West of Leeds and I-15, N 37.273318 W 113.388588 1323 m, 17-Oct-2013 C. R. Nelson # 10876 & class 81 Wypt303leedsup Entomology class, Bio 441: Riley Nelson, Shelby Nelson, Doug Sakaguchi, Samantha Roan, Michael Byrd, Rebecca Schenk, Michelle Townsend, Michael Porter, Keith Condie, Westen Archibald Archibold?, Kevin Mitchell, Bret Hansen, Brian Bailey, MaKayla Clement, Donna Showalter, Mary Sperry, Carrie Ingram. Photos: Scirtidae larva. Stenopelmatidae, Myrmecophilidae, Hydroptilidae, Perlidae *Hesperoperla pacifica*, Pteronarcyidae *Pteronarcella badia*, Gerridae, Veliidae, Tachinidae esp. *Paradejeania rutiloides*, Gryllidae, Lestidae, Calopterygidae. 10876

10877 USA: UTAH: Washington Co. Leeds Creek, 2 miles West of Leeds and I-15, N 37.265430 W 113.368338 1184 m, 17-Oct-2013 C. R. Nelson # 10877 & class 81 Wypt304leedsdown Entomology class, Bio 441: Riley Nelson, Shelby Nelson, Doug Sakaguchi, Samantha Roan, Michael Byrd, Rebecca Schenk, Michelle Townsend, Michael Porter, Keith Condie, Westen Archibald Archibold?, Kevin Mitchell, Bret Hansen, Brian Bailey, MaKayla Clement, Donna Showalter, Mary Sperry, Carrie Ingram. Megaloptera, *Corydalus texanus* larvae; *Sintoria cazieri*, Tarantula - 2, Lestidae adults, Calopterygidae nymphs, Syrphidae, Myrmeleontidae, Naucoridae, Tachinidae. 10877

10878 USA: UTAH: Washington Co. Red Cliffs Campground, 2 miles South of Leeds, N 37.224909 W 113.405252 982 m, 17-18 October 2013 C. R. Nelson # 10878 & class 81 Wypt305redcliffs Photos: people. 18 October 2013: sunrise 7:20 am or so. Entomology class, Bio 441: Riley Nelson, Shelby Nelson, Doug Sakaguchi, Samantha Roan, Michael Byrd, Rebecca Schenk, Michelle Townsend, Michael Porter, Keith Condie, Westen Archibald Archibold?, Kevin Mitchell, Bret Hansen, Brian Bailey, MaKayla Clement, Donna Showalter, Mary Sperry, Carrie Ingram. Largidae, Tachinidae *Paradejeania rutiloides*, baby tarantula (not baby! very small male, photos in lab 30 October 2013, Arctiidae lichen moths, Carabidae, Blatellidae, photos: night jar a poor will under a shrub. Coyotes at 6:00 am and 7:12 am. owl at 6:45 am. 10878

10879 USA: UTAH: Washington Co. Virgin River junction Santa Clara River, St. George, N 37.072825 W 113.580020 769 m, 18-Oct-2013 C. R. Nelson # 10879 & class 81 Wypt306virginsantaclara Entomology class, Bio 441: Riley Nelson, Shelby Nelson, Doug Sakaguchi, Samantha Roan, Michael Byrd, Rebecca Schenk, Michelle Townsend, Michael Porter, Keith Condie, Westen Archibald Archibold?, Kevin Mitchell, Bret Hansen, Brian Bailey, MaKayla Clement, Donna Showalter, Mary Sperry, Carrie Ingram. Afterwards went to Irmita's Taco stand on St. George Blvd. photos of the group with Irmita. Calopterygidae, Corydalidae, Gomphidae, Dolichopodidae, Acrididae, Chrysomelidae, Naucoridae, Gelastocoridae, Lycaenidae, Mantidae. 10879

10879.5 USA: UTAH: Washington Co. Beaver Dam Slope, Lytle Ranch Road, N 37.098798 W 113.970717 1030 m, 18-Oct-2013 C. R. Nelson # 10879.5 & class 81

Wypt306virginsantaclara Entomology class, Bio 441: Riley Nelson, Shelby Nelson, Doug Sakaguchi, Samantha Roan, Michael Byrd, Rebecca Schenk, Michelle Townsend, Michael Porter, Keith Condie, Westen Archibald Archibold?, Kevin Mitchell, Bret Hansen, Brian Bailey, MaKayla Clement, Donna Showalter, Mary Sperry, Carrie Ingram. photos: people with gopher snake. 10879.5

10880 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Preserve, base of Bluff to mouth of Cat Claw Canyon, N 37.144080 W 114.024163 845 m, 18-19 October 2013 C. R. Nelson # 10880 & class 81 Google Earth Entomology class, Bio 441: Riley Nelson, Shelby Nelson, Doug Sakaguchi, Samantha Roan, Michael Byrd, Rebecca Schenk, Michelle Townsend, Michael Porter, Keith Condie, Westen Archibald Archibold?, Kevin Mitchell, Bret Hansen, Brian Bailey, MaKayla Clement, Donna Showalter, Mary Sperry, Carrie Ingram. malaise Trap over wash at base of Bluff, also mercury vapor lamps, but cold night. Photos: Time lapse Bluff and North Star; Time Lapse Beaver Dam Mountains from top of Bluff (Google Earth: N37.144035 W114.025173 elev. 896 m. photos: Meloidae 3 spp. photos of gray with orange pronotum on composite rabbitbrush?? (*Ericameria paniculatus* det R. Johnson 2013). Pompilidae Pepsis; Efferia albibarbis; Cicindelinae tiger beetles three in one swing - twice! 10880

10881 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Preserve, wash and Joshua tree forest East of bunkhouse, N 37.142611 W 114.018547 868 m, 19-Oct-2013 C. R. Nelson # 10881 & class 81 Google Earth Entomology class, Bio 441: Riley Nelson, Shelby Nelson, Doug Sakaguchi, Samantha Roan, Michael Byrd, Rebecca Schenk, Michelle Townsend, Michael Porter, Keith Condie, Westen Archibald Archibold?, Kevin Mitchell, Bret Hansen, Brian Bailey, MaKayla Clement, Donna Showalter, Mary Sperry, Carrie Ingram. Students caught scorpions at night near here using UV lights and flipping stones. Chrysomelidae and Miridae on creosote bush *Larrea tridentata*; *Backomyia*? photos in lab on 24 October 2013; *Promachus aldrichii* small photos in lab 24 October 2013 still alive in sealed 50 ml vial morning of 24 October 2013, dead by 29 October 2013. Berytidae on "Hilara" bunchgrass; Thysanura under Joshua tree wood litter; *Papilio polyxenes* caterpillars (aka coloro and rudkini) on *Thamnosma montana*, adults in flight. 10881

10882 USA: UTAH: Kane Co., Zion National Park, east side Checkerboard Mesa turnoff, N 37.225940 W 112.887726 1675 m, 19-Oct-2013 C. R. Nelson # 10882 & class 81 Wypt308checkerboard Entomology class, Bio 441: Riley Nelson, Shelby Nelson, Doug Sakaguchi, Samantha Roan, Michael Byrd, Rebecca Schenk, Michelle Townsend, Michael Porter, Keith Condie, Westen Archibald Archibold?, Kevin Mitchell, Bret Hansen, Brian

Bailey, MaKayla Clement, Donna Showalter, Mary Sperry, Carrie Ingram. Walked to hoodoos and talked of iron concretions and wonderstone in Navajo sandstone. photos: people and scenery. Met Katie and Dave Stanworth, Brandy Nelson's aunt and uncle. 10882

10883 USA: UTAH: Kane Co., Mount Carmel Junction, Hwys 9 and 89, Chevron gas station, N 37.223129 W 112.681481 1587 m, 19-Oct-2013 C. R. Nelson # 10883 & class 81 Google Earth Entomology class, Bio 441: Riley Nelson, Shelby Nelson, Doug Sakaguchi, Samantha Roan, Michael Byrd, Rebecca Schenk, Michelle Townsend, Michael Porter, Keith Condie, Westen Archibald Archibold?, Kevin Mitchell, Bret Hansen, Brian Bailey, MaKayla Clement, Donna Showalter, Mary Sperry, Carrie Ingram. Stopped around 5:00 pm, end of collecting trip. Photos at home: blue one armed toy soldier found in Cedar City on 17 October 2013. Scarabaeidae: dead *Dynastes granti* females, dead *Polyphylla decemlineata* 10883

10884 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 23-Oct-2013 C. R. Nelson # 10884 81 Wednesday, photos: people, Kathy and Paul Wheeler before they leave on their mission to South Africa on Monday, with mother Sherry Wheeler, Kaye & Riley Nelson. Also shot copy of old photo of Kathy and Paul on a beach when younger. 10884

10885 USA: UTAH: Utah Co., Provo, BYU, 238 H. R. Clark Building, N 40.247518 W 111.649284 1421 m 25-Oct-2013 C. R. Nelson # 10885 81 photos: Mary Evelyn Tucker and John Grim of Yale University, with George Handley, talk sponsored by the Environmental Ethics Initiative. Journey of the Universe. 10885

10886 USA: UTAH: Emery Co. San Rafael Swell, Coppertop Road, apex of this trip, N 38.815305 W 110.897461 2156 m 02-Nov-2013 C. R. Nelson # 10886 & others, see field notes 81 wypt309coppertop hiking with Steve Clark, Steve Olson, and Jared Farmer. Photos: scenery, missed turn to get to base of San Rafael Knob. Hiking trip with new friends. Steve Clark is my co Den leader in the ward, son of Wayne and Colleen Clark. Stephen Olson is his n28 year old junior high math teacher nephew with a father named Eric. Jared Farmer is his cousin, son of genetics professor Jim and Gladys Farmer. 10886

10887 USA: UTAH: Emery Co. San Rafael Swell, San Rafael Knob, N 38.813118 W 110.854587 2423 m 02-Nov-2013 C. R. Nelson # 10887 & others, see field notes 81 wypt313sanrafaelknob Photos: scenery and people. Followed rough road off (-70 exit 116 to Devils Canyon. Passed it about 0.1 mile into wash. First took road on right bank, Coppertop Road, bad choice took us away from San Rafael Knob (that was clearly visible) which was on the "left" side of wash. Retraced to wash, went in wash for a couple hundred (or less) meters, crossed out on left bank, continued on bad roads to a small maze of roads

at base of knob. Climbed shoulder of knob, rimmed out to the south so traversed on cairn marked faint trail to north (clockwise) scary Navajo sandstone traverse for 50 meters then slickrock scrambled in open, but steep drainages to summit. Three USGS Markers. Nice view. kippered snack tortilla lunch. Wypt 310knobtrailhead, parked truck, end of road to ascend knob N 38.816240 W 110.854905 elev. 2258 m, 12:03 pm. Wypt 311swknobrimout, cliffs on south? turned to be able to climb further up further on the north?, N38.813505 W 110.856113 elev. 2347 m. Wypt 313sanrafaelknob, summit, see recorded for this field number. wypt 315back, back at truck, N 38.816298 W 110.854918 elev. 2236 m wypt 315back, back at truck, N 38.816298 W 110.854918 elev. 2236 m hike elapsed time 2:20 hrs. N 38.816298 W 110.854918 elev. 2236 m, 2:28 pm. 10887

10888 USA: UTAH: Emery Co. San Rafael Swell, Devils Canyon, N 38.844198 W 110.928275 1969 m 02-Nov-2013 C. R. Nelson # 10888 & others, see field notes 81 wypt318devilspouroff photos: scenery, people, video of tinaja, elapsed time for hike 2:45 hr. Back to Provo through Price, 9:00 pm or so.

Wypt 316devilstrhead, parked truck out of wash on north side of canyon, N 38.837200 W 110.895901 elev. 2075 3:08 pm. wypt317devilpicto, fading petroglyphs, N 38.840154 W 110.907928 elev. 2010 m, 3:27 pm. Wypt318devilspouroff, "waterfall", apex of trip, used for field number 4:33 pm. wypt319devilsend, back at truck, N 38.837241 W 110.896095 elev. 2041 m, 5:52 pm. photos: video of grass, 10888

10889 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 03-Nov-2013 C. R. Nelson # 10889 & A. L. Nelson Smith 81 Heiva had a dead tree squirrel. I saved the atail and the head, to dry out during the winter outside. 10889

10890 USA: UTAH: Salt Lake & Davis Counties, Great Salt Lake and Antelope Island from Frontier Airline flight N xx W xx xx m 08-Nov-2013 C. R. Nelson # 10890 & J. K. Nelson 81 photos: scenery 10890

10891 USA: TEXAS: Travis Co., Austin, Robert Hansen home, Spicewood Springs Road area, 8202 Cliffsage Avenue, N 30.425908 W 97.780026 278 m 09-Nov-2013 C. R. Nelson # 10891 & J. K. Nelson 81 wypt 320robertshouse photos: scenery photos: squirrel. saw: carolina chickadee, bewicks wren, carolina wren, cardinal, white winged dove, lesser goldfinch 10891

10892 USA: TEXAS: Blanco Co., Pedernales Falls State Park, loop to falls from downstream end of parking lot to above falls, N 30.337090 W 98.251747 294 m 09-Nov-2013 C. R. Nelson # 10892 & J. L. Neff 81 wypt 321pedernalesfalls photos: scenery. gps taken from overlook to falls. Cicindelinae tiger beetles; Empididae in swarm, photos: bees:

Melissodes, Agapostemon. Photos: Mutillidae Dasymutilla magnifica det Justin O. Schmidt. Xylocopa virginiana. Asilidae Heteropogon. photos: bald cypress changing color. 10892

10893 USA: TEXAS: Travis Co., Austin, Brackenridge Field Laboratory, N 30.281775 W 97.780411 137 m 09-Nov-2013 C. R. Nelson # 10893 81 Google Earth photos: Firefly Meadow. photos: Reduviidae Emesiinae thread legged bug, from Boathouse light, photos taken 14 November 2013 in Robert Hansen's house. Hardpan flat of Firefly Meadow by Google Earth is: N 30.285822 W 97.781483 elev. 146 m. 10893

10894 USA: TEXAS: Travis Co., Austin, Bull Creek, Franklin Tract, N 30.419116 W 97.815238 220 m 11-Nov-2013 C. R. Nelson # 10894 & R. S. Hansen. 81 Wypt 322franklin photos: scenery and Mark Sanders, caretaker who walked with us. photos: fungus, butterflies, people, scenery, photos: 14 November 2013 in Robert Hansen's house of Syrphidae Ocyrtamus fascipennis and scorpion Centruroides vittatus. some things from Cistern Springs, called hillside spring on some labels: Photos: Calamoceratidae: Phylloicus ornatus larvae.. 10894

10895 USA: TEXAS: Travis Co., Austin, Bull Creek, Hanks Tract, Collapsed bridge, N 30.425398 W 97.814755 231 m 11-Nov-2013 C. R. Nelson # 10895 & R. S. Hansen. 81 Wypt 323collapsed photos: scenery and people, including Robert Hansen and Riley Nelson. photos: Jollyville Plateau Salamander. 10895

10896 USA: TEXAS: Travis Co., Austin, downtown, Cesar Chavez and Red River streets, The Ironworks Barbeque, N 30.262080 W 97.738920 139 m 11-Nov-2013 C. R. Nelson # 10896 & J. K. Nelson 81 Google Earth photos: Riley Nelson, Kaye Nelson, Shawn Clark, Parrish Brady, Courtney Darrington, Mark Fisher, and Ray Layton. 10896

10897 USA: TEXAS: Travis Co., Austin, Robert Hansen home, Spicewood Springs Road area, 8202 Cliffsage Avenue, N 30.425908 W 97.780026 278 m 14-Nov-2013 C. R. Nelson # 10897 & J. K. Nelson 81 wypt 320robertshouse photos: Ulidiidae, fancy brown, Delphinia picta, det. C. R. Nelson, 2013. Exuviae of Cicadidae. 10897

10898 USA: TEXAS to COLORADO Austin to Denver, Frontier Airline Flight, N xx W xx xx m 14-Nov-2013 C. R. Nelson # 10898 & J. K. Nelson 81 photos: aerial scenery, flight started 3:00 pm CST and landed 4:00 pm MST: Austin and nearby lakes near beginning; prairies, clouds, isolated towns, and center pivot irrigation about half way through. 10898

10899 USA: COLORADO to UTAH Denver to Salt Lake City, Frontier Airline Flight, #579 N xx W xx xx m 14-Nov-2013 C. R. Nelson # 10899 & J. K. Nelson 81 photos: aerial scenery,

flight started 5:00 pm MST and landed 6:10 pm MST: Denver airport on ground and aerial at sunset. Night shots of Utah and Salt Lake Valleys. 10899

10900 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 23-Nov-2013 C. R. Nelson # 10900 81 photos: Spica the star, hoping for Ison the comet. black widow spider; Tipulidae - probably from new sod, from house across the street, close to church. 10900

10901 USA: UTAH: Utah Co., Provo, BYU, Smoot Building N 40.250844 W 111.649863 1421 m 25-Nov-2013 C. R. Nelson # 10901 81 Google Earth with iPhone. photos: oak leaves staining cement sidewalk. 10901

10902 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 28-Nov-2013 C. R. Nelson # 10902, J. K. Nelson, Sherry Wheeler, and Jan Gray. 81 photos: Thanksgiving Dinner. 10902

10903 USA: UTAH: Salt Lake Co. west of Salt Lake City, I-80 at 7200 West N 40.772095 W 112.063763 1273 m 29-Nov-2013 C. R. Nelson # 10903 81 Wypt 3267200w180 photos: scenery, highway and Oquirrh Mountains. Magna smelter, hidden by fog. 10903

10904 USA: UTAH: Salt Lake Co. Saltair, I-80, 15 miles West of Salt Lake City, N 40.746572 W 112.184942 1278 m 29-Nov-2013 C. R. Nelson # 10904 81 Wypt 327saltair photos: scenery, highway and Oquirrh Mountains. Magna smelter, hidden by fog. Kennecott tailings pile and Salt Flats to north. 10904

10905 USA: UTAH: Salt Lake Co. Lee Creek Preserve, Great Salt Lake, I-80, 13 miles West of Salt Lake City, 2.5 miles East of Saltair, N 40.770175 W 112.155084, 1278 m 29-Nov-2013 C. R. Nelson # 10905 81 Wypt 328leecreek photos: scenery, creek pool, Great Salt Lake (mostly salt flats) Kennecott tailings pile, creek, Oquirrh Mountains in fog, duck or goose feather in frost, tunnel of power line poles. 10905

10906 USA: UTAH: Tooele Co. Bonneville Salt Flats, I-80 Rest Area on westbound side, N 40.740975 W 113.852886, 1278 m 29-Nov-2013 C. R. Nelson # 10906 81 Wypt 329 saltflatsrestarea photos: scenery, salt flats, tire tracks in salt, Silver Lake Mountains, crumpled salt, shadow self-portrait, salt, salt polygons, child playing, foot wash, isolated tree - russian olive?, pet area. 10906

10907 USA: NEVADA: Elko Co. Pilot Peak from I-80, 8 miles West of Wendover, N 40.800210 W 114.165008, 1429 m 29-Nov-2013 C. R. Nelson # 10907 81 Wypt 330 pilotpeak photos: highway, scenery, Pilot Peak photos: Halogeton, rodent burrows 10907

10907.5 USA: NEVADA: Washoe Co. Reno, Caires/Davis home, 2100 King Edward Drive, N 39.540430 W 119.841606, 1457 m 29-Nov-2013 01-Dec-2013 C. R. Nelson # 10907.5 , Andrea Caires, and Clinton Davis. 81 Wypt 331 caireshome photos: home 10907.5

10908 USA: NEVADA: Washoe Co. Reno, lab of University of Nevada at Reno, N 39.538023 W 119.811877, 1383 m 29-Nov-2013 C. R. Nelson # 10908 , Andrea Caires, and Clinton Davis. 81 Google Earth GPS above is Andrea's microscope lab. The photo session was actually in the storage lab: Google Earth: N 39.538090 W 119.807148 elev. 1374 m. Photos in microscope lab of live caught 10910 and of Andrea Caires and Clinton Davis on 30 November 2013. photos in storage lab at night: *Capnia lacustra*, collected: USA: CALIFORNIA: Placer Co., Lake Tahoe, Camp Richardson Chara beds, N 38.951255 W 120.039991, elev. 1802, depth 35 m, 6 November 2013, Andrea Caires. Ponar dredge. same spot as CRN 10910, Wypt 333 camprichchara. Photos (in storage lab): *Capnia lacustra* with eggs, yellow adult, eggs not clear. Clear adult females with eggs visible through body wall - yellowness of adult seems to fade as eggs mature. 10908

10909 USA: NEVADA: Douglas Co. Lake Tahoe, Cave Rock State Park, Cave Rock Boat Launch, N 39.044694 W 119.951314, 1887 m 30-Nov-2013 C. R. Nelson # 10909 , Andrea Caires, and Clinton Davis. 81 Wypt 332caverock photos: scenery and people; video underwater; mixed light and dark sand sample, rock sample: two colors of granite. common merganser. 10909

10910 USA: CALIFORNIA: Placer Co. Lake Tahoe, Camp Richardson Chara Bed, 35 meter depth, N 38.951255 W 120.039991, 1892 m 30-Nov-2013 C. R. Nelson # 10910 , Andrea Caires, and Clinton Davis. 81 Wypt 333 camprichchara Sampled with nine inch ponar dredge on winch: CRRN (Camp Richardson Riley Nelson) 1, 36 m depth: several *Capnia*, amphipoda, mysid. CRRN 2, 37 m: *Oligochaeta*. CRRN 3, 34 m: *Capnia*. CRRN 4, 30 m: *Capnia*, amphipoda. CRRN 5, 35 m: *Capnia* - many. Also yellow sand from Camp Richardson near beach, 3 m depth, contrasts with darker white and dark sand from Cave Rock. Sorted CRRN samples in lab and photographed living specimens night of 30 November 2013 with collectors and student pickers: Joel, Joe, and Brittany. Also photographed more *Capnia lacustra* caught on their site on 6 November 2013 by Andrea Caires in this night session (same specimens as last night). photos in lab: *Capnia lacustra*, amphipoda (*Hyaella* sp), Annelida *Oligochaeta*, Hydracarina, snails, Hydra, Chironomidae. Saw eared grebe and bald eagle. 10910

10911 USA: CALIFORNIA: Placer Co. Lake Tahoe, Emerald Bay, just inside neck to main lake, N 36.963680 W 120.084247, 1902 m 30-Nov-2013 C. R. Nelson # 10911 , Andrea Caires, and Clinton Davis. 81 Google Earth photos: scenery in and around bay, then on boat trip back across to Cave Rock. 10911

10912 USA: NEVADA: Humboldt Co. Iron Point, I-15 above Pumpernickel Valley, N 40.899954 W 117.303772, 1362 m 01-Dec-2013 C. R. Nelson # 10912 81 Wypt 334ironpoint photos: diversity roads, scenery 10912

10913 USA: UTAH: Tooele Co. Bonneville Salt Flats, Rest Area Eastbound I-15, N 40.737445 W 113.857997, 1291 m 01-Dec-2013 C. R. Nelson # 10913 81 Wypt 335saltflatsend photos: scenery, Keep Utah clean. 10913

10914 USA: UTAH: Tooele Co. Bonneville Salt Flats, Tree of Life Sculpture, N 40.731765 W 113.537329, 1280 m 01-Dec-2013 C. R. Nelson # 10914 81 Wypt 336tree photos: scenery, Tree of Life sculpture in passing. GPS past tree to east. 10914

10915 USA: UTAH: Tooele Co. Delle, Skull Valley, N 40.761177 W 112.782868, 1311 m 01-Dec-2013 C. R. Nelson # 10915 81 Wypt 337delle photos: scenery, Skull Valley and Skull Valley Mountains. Two panoramas to stitch. 10915

10915.5 USA: UTAH: Salt Lake Co. Great Salt Lake, view to Black Rock from Magna Smelter Road, N 40.722877 W 112.223356, 1317 m 01-Dec-2013 C. R. Nelson # 10915.5 81 Wypt 338 blackrock photos: scenery, Great Salt Lake, Promontory Mountains, Fremont Island, Antelope Island, Magna Smelter stack. Black Rock itself is in Tooele County, barely. 10915.5

10916 USA: UTAH: Utah Co., Orem, Utah Valley University, basketball arena, N 40.278617 W 111.717051, 1400 m 04-Dec-2013 C. R. Nelson # 10916 & J. K. Nelson 81 Google Earth photos: NuSkin Christmas Party with Justine and Don Dorton, and Tamela and Boyd Blake. Concert by country singer Leann Rimes. 10916

10917 USA: UTAH: Utah Co., Orem, Carraba's Grill, N 40.273625 W 111.679457, 1449 m 05-Dec-2013 C. R. Nelson # 10917 & J. K. Nelson 81 Google Earth photos: people at BYU Biology Department Party. 10917

10918 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 08-Dec-2013 C. R. Nelson # 10918 81 photos: birds: spotted towhee and dark eyed juncos. 10918

10919 USA: UTAH: Utah Co., Provo, BYU, breezeway between Martin and Widtsoe Buildings, N 40.246651 W 111.649192 1420 m 09-Dec-2013 C. R. Nelson # 10919 81 Google Earth photos: view to Y Mountain with satellite dish of Clyde Building in foreground. 10919

10919 USA: UTAH: Utah Co., Provo, BYU, breezeway between Martin and Widtsoe Buildings, N 40.246651 W 111.649192 1420 m 09-Dec-2013 C. R. Nelson # 10919 81 Google Earth photos: view to Y Mountain with satellite dish of Clyde Building in foreground. 10919

10921 USA: UTAH: Utah Co., Provo, Velour Night Club N 40.235566 W 111.658926 1390 m 11-Dec-2013 C. R. Nelson # 10921 & J. K. Nelson 82 Google Earth photos: Chris Bennion and his band Coral Bones. 10921

10922 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 12-Dec-2013 C. R. Nelson # 10922 82 photos: Maupiti T-shirt from Violette Taiore in 2007; wool felt art with yak and endless knots from Mongolia 2005 in Khatgal from artist Santia; sunrise through the aspens. 10922

10923 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 21-Dec-2013 C. R. Nelson # 10923 82 photos: family party with Nelson family: Rick & Lana Nelson; Sally & Jerry Wright with kids William, Henry, Andrew, Genevieve, and Griffin; Amy Leah Nelson Smith; Jason, Brandy, and Artemis Nelson; Riley and Kaye Nelson. 10923

10924 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 24-Dec-2013 C. R. Nelson # 10924 82 photos & video: clouds blowing over Mount Timpanogos and Cascade Mountain. 10924

10925 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Dec-2013 C. R. Nelson # 10925 & family 82 photos & video: peppernut dough, pebernoder pronounced paywer nothah (according to Bio 100 student Harry Williamson, missionary to Denmark). Photos: family at evening dinner of Cambodian lok lap. Riley and Kaye Nelson; Sherry Wheeler; Jason, Brandy, Artemis Nelson; Amy Leah Nelson and A. Todd Smith; Andrea Nelson, Jordan Christopher. and Katie Giauque. 10925

10926 USA: UTAH: Utah Co., Provo, Utah Lake, Utah Lake State Park, south jetty, N 40.240771 W 111.746395 1368 m 25-Dec-2013 C. R. Nelson # 10926 & family 82 photos: group, sunset, Utah Lake, Mount Timpanogos, Cascade Mountain. Riley Nelson, Andrea Nelson, Jordan Christopher, Brandy Nelson, Artemis Nelson, Amy Leah Nelson Smith, Todd. 10926

10927 USA: UTAH: Utah Co., Hobble Creek at Kellys Grove, E of Springville 01-Jan-2014 C. R. Nelson # 10927 & J. K. Nelson 82 Good snow streamside, no stoneflies or other insects seen. 10927

10928 USA: UTAH: Utah Co., Hobble Creek, county park below golf course up canyon, E of Springville 01-Jan-2014 C. R. Nelson # 10928 & J. K. Nelson 82 Photos of Kaye and Riley Nelson with Kaye's phone. Good snow streamside, no stoneflies or other insects seen.

10928

10929 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 01-Jan-2014 C. R. Nelson # 10929 & J. K. Nelson 82 Patches of snow on our road, solid to house, patchy to spring. Hiked to flat at turnoff to Glass Cliffs. Photos: scenery and people, water flowing in creek, no insects seen. Road repaired by Ashtons. Saw our waterfall frozen up canyon, from a distance. 10929

10930 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 02-Jan-2014 C. R. Nelson # 10930 82 photos: sunrise over Wasatch Range. Sun appeared at 9: am MDT at base of second cliff down on Squaw Peak, viewed from sunroom chair. panorama photos taken from east patio at outside corner of washroom. panorama taken from driveway junction with Foothill Drive. Feet over x in driveway asphalt. sun centered at compass bearing 130 deg, thus 40 South of due magnetic East. 10930

10931 USA: UTAH: Utah Co., Provo, BYU, Nelson lab in Widtsoe Building 123, N x W x x m 03-Jan-2014 C. R. Nelson # 10931 82 photos: former student: Sarah Walker Judson with son Michael. 10931

10932 USA: UTAH: Utah Co., Diamond Fork River, just above Diamond Fork Campground, N 40.075619 W 111.418299 1591 m 04-Jan-2014 C. R. Nelson # 10932 & P. B. Frandsen. 82 Wypt 340diamond photos: scenery and ice and Paul Frandsen. *Pteronarcys californica*, *Brachycentrus americanus*, *Glossosomatidae*, *Isogenoides zionensis*. 10932

10933 USA: UTAH: Utah Co., Diamond Fork River, just below Diamond Fork Campground, N 40.070174 W 111.436225 1589 m 04-Jan-2014 C. R. Nelson # 10933 & P. B. Frandsen. 82 Wypt 341diamondcamp photos: scenery photos: turkeys 10933

10934 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 04-Jan-2014 C. R. Nelson # 10934 & P. B. Frandsen. 82 photos: Paul and Riley. Downy woodpecker 10934

10935 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 05-Jan-2014 C. R. Nelson # 10935 82 photos: sharp shinned hawk (it had killed a junco 15 minutes earlier in the day. 10935

10936 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 07-Jan-2014 C. R. Nelson # 10936 82 photos: turkeys on Schumann's house and in spruce and maple trees. 10936

10937 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 11-Jan-2014 C. R. Nelson # 10937 82 photo session: Scarabaeidae, *Dynastes granti* female pupa, dead. Reared from egg from specimens collected 24 September 2011 at Mount Carmel Junction CRN10030. 10937

10939 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 14-Jan-2014 C. R. Nelson # 10939 82 photos: frost on car windows 10939

10940 USA: UTAH: Utah Co., Springville, Wheeler home, 161 East 200 South, N 40.164138 W 111.607781 1399 m 15-Jan-2014 C. R. Nelson # 10940 82 photos: sewer line repairs to house, 200 South dug up. 10940

10941 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 19-Jan-2014 C. R. Nelson # 10941 82 Cerambycidae- black, dull metallic blue green. Photos in lab: 21 January 2014 on pinyon bark (no host implied). 10941

10942 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 20-Jan-2014 C. R. Nelson # 10942 82 photos: sunrise over Squaw Peak. 9:17 am, 11x degrees, aspen grove, Timpanogos. 10942

10943 USA: UTAH: Utah Co., Springville, Wheeler home, 161 East 200 South, N 40.164138 W 111.607781 1399 m 21-Jan-2014 C. R. Nelson # 10943 & J. K. Nelson 82 photos: yard in chaos with digging and installing new sewer and water lines. Chris Kelly, plumber. 10943

10944 USA: UTAH: Utah Co., Utah Lake, Lincoln Beach N 40.143165 W 111.800245 1370 m 20-Jan-2014 C. R. Nelson # 10944 & J. K. Nelson 82 wypt 343lincoln photos: mountain panoramas, Kaye and Riley, Lake. marl rock. 10944

10945 USA: UTAH: Utah Co., Utah Lake, Pelican Point, N 40.274739 W 111.866823 1400 m 20-Jan-2014 C. R. Nelson # 10945 & J. K. Nelson 82 wypt 344pelicanpoint photos: panorama lake and mountains. Encroachment of Saratoga Springs. 10945

10946 USA: UTAH: Utah Co., Lehi, main Street and Redwood Road N 40.385721 W 111.915034 1385 m 20-Jan-2014 C. R. Nelson # 10946 & J. K. Nelson 82 wypt 345lehi photos: dirty snow in parking lot of Smiths market. "Greatest Snow on Earth." 10946

10947 USA: UTAH: Utah Co., Lehi, Cabela's Outdoors Store, N 40.437204 W 111.889650 1434 m 20-Jan-2014 C. R. Nelson # 10947 & D. B. Parker 82 wypt 345lehi photos: white sturgeon (five feet) and walleye (one foot) in aquarium. 10947

10948 USA: UTAH: Utah Co., Provo, BYU, Nelson lab in Widtsoe Building 123, N 40.426686 W 111.649422 1420 m 23-Jan-2014 C. R. Nelson # 10948 82 Google Earth photos: Dynastes larvae & 1 adult male in lab. split and mixed compost in the two buckets: 9 larvae in each, reared from eggs of CRN 10030 of 24 September 2011. 10948

10949 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 26-Jan-2014 C. R. Nelson # 10949 82 photos: sunrise 9:08 am, sun peeked over "plateau" of Squaw Peak at 9:08 am North of peak, seven/eighths distance to small north notch. photos: Eurasian collared doves courting. Mule deer on hillside, spotted towhees on feeder. 10949

10950 USA: UTAH: Sevier Co. Fish Lake, west shore just South of north end narrowing, N 38.562938 W 111.691231 2693 m 01-Feb-2014 C. R. Nelson # 10950 & class 82 Wypt 347fishlake photos: people, fish, scenery. photos at home: dead splake and yellow perch. 3 February 2014: photos at home: splake and yellow perch cooked and eaten. flowered plate 13.25 inches longest + 2 inch overhang of splake off plate. ice fishing for yellow perch, rainbow trout, and splake trout. fished along shelf at depths of 12 feet, 30 feet, and 70 feet. 10950

10951 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 02-Feb-2014 C. R. Nelson # 10951 82 photos: sunrise from sunroom, 9:00 am and 109 degrees. 10951

10952 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 04-Feb-2014 C. R. Nelson # 10952 82 photos: raccoon footprints in fresh snow on porch. More photos of some, 5 February 2014 10952

10953 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building 301, N 40.426686 W 111.649422 1420 m 05-Feb-2014 C. R. Nelson # 10953 82 Google Earth photos: Dean Rodney Brown at desk in office. 10953

10954 USA: UTAH: Salt Lake Co. Salt Lake City, University of Utah, Museum of Natural History of Utah. N 40.764180 W 111.823198 1538 m 08-Feb-2014 C. R. Nelson # 10954 & class, Biology 100H 82 Google Earth Leland Roberts, former student in Entomology, now works at Rio Tinto. Jennie Pulsipher (BYU history professor and visitor). Helped by Nikka, Randy Irmis, vertebrate paleontologist; Paul Michael Maxfield. Photos: group, Randy and Acristavus, fibula of Lythronax argestes. Allosaurus jaws and teeth, Gryphosaurus monumentensis, Ceratosaur wall, Hagryphus giganteus, Tyrannosaurus rex, hadrosaurid

baby. Lythronax argestes head, Leland Roberts and boys, Camilla Stark framing ceratopsids, Riley and wall of diversity. Riley Nelson, Kevin Mitchell, Jessica Mitchell, Clint Laidlaw, Sarah Leber, Camilla Stark, Lexi Prier, Meriah Otterstrom, Katie Pattillo, Elizabeth Hitchcock, Tanner Coombs, Lindsay Coombs, Angel Kalra, Tim Richardson, Maddie Purvis. 10954

10955 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.5 miles South of Vivian Park and Hwy 189, N 40.347824 W 111.548038 1581 m 15-Feb-2014 C. R. Nelson # 10955 82 Wypt 348southfork photos: stream, Zapada cinctipes.

Lab preparation:

vial 1: Capnia gracilaria 17 m and 8 f in RNA Later; Vial 2: Zapada cinctipes 10 m 5 f in RNA Later; vial 3: Zapada cinctipes 29 m 5 f in 100% ethanol; vial 4 Capnia gracilaria 33 m 10 f in 100% ethanol; vial 5: Saldidae 2 in 100% ethanol; vial 6: Capnia gracilaria 36m 9 f in 100% ethanol; photo vouchers: vial 7: Zapada cinctipes 6 m 4 f in 70% ethanol. 10955

10956 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 16-Feb-2014 C. R. Nelson # 10956 82 photographed ultrasound fetal pictures of "Skutumpah" Smith, baby of Amy Leah and Todd Smith. Not the highest quality scans. I'll try again. 10956

10957 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, Glass Cliffs N 39.955473 W 111.27277 1942 m, 17-Feb-2014 C. R. Nelson # 10957 & J. K. Nelson 82 Wypt 349 glasscliffs photos: Kaye and Riley at the Glass Cliffs. Found some fish fossils on road between cabin overlook and Glass Cliffs. 10957

10958 USA: UTAH: Utah Co., view to Glass Cliffs from Hwy6 at milemarker 199, N 39.951792 W 111.272889 1769 m, 17-Feb-2014 C. R. Nelson # 10958 & J. K. Nelson 82 Wypt 351 199glasscliffs photos: 199 sign, truck, and Glass Cliffs with GPS. See back. 10958

10958.5 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 19-Feb-2014 C. R. Nelson # 10958.5 82 leaves from compost, about two years on ground. Air temperature 20 deg F, berlese sample. Photos: large Collembola. Collembola, Acari, Dermestidae larvae, Lepidoptera larvae. 10958.5

10959 USA: UTAH: Utah Co., Provo River, Canyon View Park, Hwy 189, N 40.324151 W 111.644855 1491 m 22-Feb-2014 C. R. Nelson # 10959 & students 82 Google Earth with undergraduate students Nicole Martin and David Lee. We searched for Gerridae water striders. Th only insects we found (didn't collect) were diamesine midges. The spring pond near the parking lot was dry! This makes me sad. Diamesinae 10959

10960 USA: UTAH: Utah Co., Provo River, Canyon Glen Park, Hwy 189, N 40.329505 W 111.620938 1513 m 22-Feb-2014 C. R. Nelson # 10960 & students 82 Google Earth with undergraduate students Nicole Martin and David Lee. We searched for Gerridae water striders. Found none. Saw Diamesinae midges. Diamesinae 10960

10961 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.5 miles South of Vivian Park and Hwy 189, N 40.347824 W 111.548038 1581 m 22-Feb-2014 C. R. Nelson # 10961 & students 82 Wypt 348southfork With Nicole Martin and David Lee. Near beaver ponds: Lycosidae, wolf spiders, Pardosa?; Dixidae larvae, Dixa or Dixella; Gerridae, water strider, one Aquarius remigus. From creek: Nemouridae, Zapada cinctipes adults, mottled wings, no visible tails. Capniidae: Capnia gracilaria adults, small and narrow; wing color uniform, long tails visible. Returned live specimens to lab for surface tension study. 10961

10962 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Feb-2014 C. R. Nelson # 10962 82 Photos, sunrise at 8:28 am in canyon notch at 79 degrees. I've watched it move from 130 deg on 2 January to 79 deg today. 26 February 2014: sliver of moonrise at 6:25 am. 10962

10963 USA: UTAH: Grand Co. Green River, Swazeys boat landing, 8.7 miles North of Green River City, N 39.116052 W 110.111813 1238 m 07-Mar-2014 C. R. Nelson # 10963 & family 82 with Kaye, Andrea Nelson, Jordan Christopher, and Garrett Christopher. photos: Taeniopterygidae nymphs, Oemopteryx fosketti, chance they are Taenionema . 10963

10964 USA: UTAH: Grand Co. Utah/Colorado State Line, old highway frontage road north of I-15, N 39.206769 W 109.051187 1462 m 08-Mar-2014 C. R. Nelson # 10964 & family 82 with Kaye, Andrea Nelson, Jordan Christopher, and Garrett Christopher. photos: state line Marker, C. R. Nelson 58th birthday portraits. 10964

10965 USA: UTAH: Grand Co. Book Cliffs, East Tavaputs Plateau, bear den 14 miles North of Three Forks Ranch House, N 39.436373 W 109.478621 2247 m 08-Mar-2014 C. R. Nelson # 10965 & family 82 Wypt 357bearbleach with Kaye, Andrea Nelson, Jordan Christopher, and Garrett Christopher.

Hal Black and 60 or so others.

Photos: den of Bleach the bear.

Wypt 354ranch, N 39.276117 W 109.286448, elev. 1583 m; Wypt 355topfork, Book Cliffs Road, top Hay? Canyon, N 39.414889 W 109.401873, elev. 2405 m, 11:58am. Wypt 356bearpark, parking spot near den for Bleach and three new cubs, N 39.436914 W 109.475979, elev. 2271 m. 10965

10966 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 16-Mar-2014 C. R. Nelson # 10966 82 photos: sunrise, 77 deg, 8:58 am MDT. 10966

10966.5 USA: UTAH: Grand Co. Green River, Swazeys boat landing, 8.7 miles North of Green River City, N 39.116052 W 110.111813 1238 m 23-Mar-2014 C. R. Nelson # 10966.5 & J. K. Nelson 82 Looked for stoneflies, none seen. many large Chironomidae larvae, none kept 10966.5

10967 USA: UTAH: Emery Co. Temple Mountain Campground, 2 miles West of Goblin Valley Spur, N 38.668818 W 110.684478 1667 m 21-22 March 2014 C. R. Nelson # 10967 & J. K. Nelson 82 Wypt 358templecamp photos: 10:30 pm - 3:30 am. North Star trails time lapse. Morning hike to Mesa of Chinle, tilted Kayenta and Navajo above San Rafael Reef. D300 star trails start 7116, end 7852. D600 star trails start 3477 to 4440 end. 10967

10967 USA: UTAH: Emery Co. Goblin Valley State Park, overlook, N 38.564188 W 110.703202 1520 m 22-Mar-2014 C. R. Nelson # 10967 & J. K. Nelson 82 photos: scenery and people. Hoodoo cloud time lapse start 4490 end 4648. 10967

10969 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 27-Mar-2014 C. R. Nelson # 10969 82 photos: apricot blossoms in snow, spring surprise. 10969

10970 USA: UTAH: Utah Co., Provo, Brigham Young University, Widtsoe, Martin, and Hinckley Buildings, N 40.251594 W 111.651593 1418 m 27-Mar-2014 C. R. Nelson # 10970 82 Google Earth: Martin 456 N 40.246960 W 111.649049, 1421 m. Widtsoe 401: N 40.246439 W 111.649539, 1420 m. Hinckley Center Hall, N 40.251594 W 111.651593, 1418 m. photos: people, talks of Harry Greene, herpetologist of Cornell University; Ivy and Warren ?; Tanners. 10970

10971 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 28-29 March 2014 C. R. Nelson # 10971 & J. K. Nelson 82 overnight with Ben Parker's scout group. Photos: time lapse set up for stars before midnight then 2:00 am timer start. D600 pointed north; D300 pointed south. Wypt 361waterfall N 39.959659 W 111.267794, elev. 1883 m. 10971

10972 USA: UTAH: Utah Co., Springville, Wheeler home, 161 East 200 South, N 40.164149 W 111.607757 1399 m, 29-Mar-2014 C. R. Nelson # 10972 & J. K. Nelson 82 Google Earth Emptied shale sand and reset the paving stones under the kitchen window. they were torn up from the January sewer line repairs. video: Cerambycidae neoclytus adults abundant on green ash logs, Fraxinus pennsylvanicus, cut down 31 January 2014 after 120 years growing. 10972

10973 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building 123 lab, N 40.426686 W 111.649422 1420 m 03-Apr-2014 C. R. Nelson # 10973 82 Google Earth See CRN 10030, 10195, 10937 refreshed wingless *Drosophila* colonies. Checked and refreshed *Dynastes granti* colonies, Bucket 1: 2 male pupae, 1 female pupa, 5 healthy larvae, though small. Bucket 2: 1 adult female, 3 male pupae, 1 female pupa, 4 larvae. 10973

10974 USA: UTAH: Utah Co., Provo, BYU, Wilkinson Center Room 3264, N 40.426686 W 111.649422 1420 m 03-Apr-2014 C. R. Nelson # 10974 82 Google Earth photos: Mongolia diplomat luncheon. Hoop dance by Jerad Todacheenie (spelling correct). 10974

10975 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 09-Apr-2014 C. R. Nelson # 10975 82 photos: red tulip, red & green tulip, white daffodil. 10975

10976 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 13-Apr-2014 C. R. Nelson # 10976 82 photos: sunrise, 8:26 am MDT, 75 degrees from north. 10976

10977 USA: UTAH: Utah Co., Provo, BYU, Martin Building 257, N 40.426xx W 111.649xx 1420 m 14-Apr-2014 C. R. Nelson # 10977 82 Photos: last lecture of Dr. Gary Booth after 42 years at BYU. He was on my PhD dissertation committee. We recited, "Oh Captain, My Captain." 10977

10978 USA: UTAH: Utah Co., Provo, BYU, Martin Building 366, N 40.426xx W 111.649xx 1420 m 14-Apr-2014 C. R. Nelson # 10978 82 my final lecture to Biology 100H 10978

10979 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, hillside near spring and tanks, GPS not exact, N 39.956203 W 111.268019 1839 m, 14-Apr-2014 C. R. Nelson # 10979 & J. K. Nelson 82 With some animal Diversity class members: Riley Nelson, Kaye Nelson, maillet Aguirre, Makani & Chelsea Fisher, Taylor Ellis & Seki, Eric Christensen, Sean Wade, Jordan & MaKayla Clement, Shane Smith, matt Dungan, Brenna Cragun, Weston Gleave, Andrew Gee, and Adrian Rivera. photos: golden eagle, people, Ichneumonidae; photos: fossil reptile jaw in Green River Shale, photos sent to Brooks Britt on 18 April 2014 10979

10980 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 15-Apr-2014 C. R. Nelson # 10980 82 photos: end of lunar eclipse, 3:35 am, missed trajectory on time exposure. 10980

10980.5 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building 123 lab, N 40.426686 W 111.649422 1420 m 18-Apr-2014 C. R. Nelson # 10980.5 82 Google Earth See CRN 10030, 10195, 10937 photos: teneral small male of *Dynastes granti* from lab colony CRN

10030. Also: Bucket 1: 2 male pupae, 1 female emerged, 4 healthy and 1 sick larvae.
Bucket 2: small adult teneral male, 1 adult female of 3 April still alive, 2 male pupae, 1 female pupa, 4 healthy larvae. Photos: reptile jaw from CRN 10979 10980.5

10981 USA: ARIZONA: Coconino Co. Colorado River, Marble Canyon, Navajo Bridge, Hwy 89A, N 36.817112 W 111.631474 1075 m 22-Apr-2014 C. R. Nelson # 10981 & J. K. Nelson 82 Wypt 362condors photos: California condors 10981

10982 USA: ARIZONA: Maricopa Co. Phoenix, 2520 West Columbine, Nelson home, N 33.599147 W 112.113709 379 m 22-27 April 2014 C. R. Nelson # 10982 & family 82
Photos: Artemis and house, New home for Brandy and Jason. birds: house sparrows, house finch, Great tailed grackle, rock dove - pigeon, mourning dove, white whinged dove, inca dove, eurasian collared dove, verdin, peach faced lovebird, starling, aberts towhee, curve billed thrasher, mockingbird. 10982

10983 USA: ARIZONA: Maricopa Co. Phoenix, Barrio Cafe N 33.478631 W 112.047720 334 m 23-Apr-2014 C. R. Nelson # 10983 & family 82 Wypt 364 barriocafe Kaye, Riley, Jason, Brandy, Artemis Nelson and Jordan Christopher. photos: graffiti murals, cafe. 10983

10984 USA: ARIZONA: Maricopa Co. Verde River, North of Rio Verde town, Needle Rock Recreation Area, N 33.772655 W 111.663748 462 m 25-Apr-2014 C. R. Nelson # 10984 & family 82 Wypt 365needlerock photos: river; Stichopogon at Nelson home, Rhagovelia at Nelson home. 10984

10985 USA: ARIZONA: Maricopa Co. Desert Foothills Scenic Drive, near Happy Valley Ranch, N 33.722600 W 111.924770 614 m 25-Apr-2014 C. R. Nelson # 10985 & family 82 Wypt 366desertfoothills photos: ironwood tree, Asilidae Haplopogon at home with Chalcidoidea prey. 10985

10986 USA: ARIZONA: Maricopa Co. Desert Foothills town, plant nursery, N 33.715729 W 111.924930 599 m 25-Apr-2014 C. R. Nelson # 10986 & family 82 Wypt 367rattlesnakenursery photos: western diamondback rattlesnake 10986

10987 USA: ARIZONA: Gila Co. Payson, Oxbow Estates, Spurlock home, N 34.183841 W 111.337745 1437 m 26-Apr-2014 C. R. Nelson # 10987 & family 82 wypt256spurlockpayson Photos: Artemis Valborg Nelson's 2nd birthday party, also parties for Jason Nelson, age 33; Allie Spurlock, age 40s, Kaye Nelson, age 54. Birthday party downstairs. Recruiting meeting of John Birch Society upstairs. Returned home by way of East Mesa. 10987

10988 USA: ARIZONA: Mohave Co. Burro Creek Campground, 1.5 miles West of Hwy 93, 15 miles South of Wickiup, N 34.537617 W 113.451794 578 m 27-Apr-2014 C. R. Nelson #

10988 & J. K. Nelson 82 wypt 114burro water mostly stagnant with filamentous green algae and Chara. Looking for Veliidae, Rhagovelia, none seen. many small Gerridae, Mesoveliidae, etc. No specimens kept. 10988

10989 USA: NEVADA: Clark Co. Hoover Dam, Colorado River, N 36.013696 W 114.743639 472 m 27-Apr-2014 C. R. Nelson # 10989 & J. K. Nelson 82 wypt 368hooverdam photos: dam, scenery, and people: Kaye & Riley. 10989

10990 USA: UTAH: Washington Co. Santa Clara River junction Virgin River, St. George, N 37.072920 W 113.579890 769 m 28-Apr-2014 C. R. Nelson # 10990 & J. K. Nelson 82 Wypt 371junction Empididae on riffles near spillway dam and foot bridge. Wypt 369 santaclarariver N 37.073538 W 113.582716, elev. 765 m. 10990

10991 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building 123 lab, N 40.426686 W 111.649422 1420 m 01-May-2014 C. R. Nelson # 10991 82 Google Earth Cleaned beetle colonies. See CRN 10030, 10195, 10937 photos, video: mite crawling on mouthparts of dead *Dynastes granti*: male (died during emergence from pupa). 10991

10992 USA: UTAH: Salt Lake Co. Draper, Living Planet Aquarium, N xx W xx xx m 05-May-2014 C. R. Nelson # 10992 & J. K. Nelson 82 Google Earth with Amy & Todd and Jeff Smith. photos: new aquarium animals. 10992

10993 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, bunkhouse and nearby creek, N 37.143666 W 114.021344 858 m 06-May-2014 C. R. Nelson # 10993 & class 82 Wypt 372lytlebunkhouse Insects, Writing, and Art Class 2014 (IWA): Riley Nelson, John Bennon, Kheng Saik Lim, Sterling Adams, Weston Gleave, Andrea McRae, Ellie Gillett, Hadley Griggs, Brandon Harris, Ismaiel Szink, maillet Aguirre, Jeff Andrus, Alice Waldron, Heather Perazzo, Andrew Perazzo, Jessica Powers. Scarabaeidae, *Cotalpa flavipes*; *Efferia albibarbis*; photos later: *Danaus plexippus* (monarch), *Danaus gilippus* (queen), Lycaenidae; photos: Tenebrionidae (John Bennion); Myrmeleontidae; Leptoceridae; Veliidae; Gerridae; Apidae; Pompilidae; crayfish *Orconectes neglectus* (?). bushtit, Canada geese, verdin, great blue heron, red tailed hawk, xx wren, xx sparrow, western tanager, bullocks oriole, summer tanager, gambels quail, merlin, house finch, black chinned hummingbird, raven, turkey vulture, turkey, chicken (domestic), Says phoebe (on nest over door), western kingbird, lesser goldfinch, brown towhee, loggerhead shrike, mockingbird. *Uta stansburiana*, zebra tail lizard, desert spiny lizard, southwestern toad, other toad (woodhouse?). 10993

10994 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, bunkhouse and upland desert, N 37.142727 W 114.018941 859 m 6-7 May 2014 C. R. Nelson # 10994 & class 82 Wypt 373eribertowash Time lapse of afternoon, clouds from porch: D610

north, start dsc-0295 - 0593; d600 east, dsc_6103-6502.

Insects, Writing, and Art Class 2014 (IWA): Riley Nelson, John Bennon, Kheng Saik Lim, Sterling Adams, Weston Gleave, Andrea McRae, Ellie Gillett, Hadley Griggs, Brandon Harris, Ismaiel Szink, maillet Aguirre, Jeff Andrus, Alice Waldron, Heather Perazzo, Andrew Perazzo, Jessica Powers. photos: Joshua tree uplands, *Oenothera* yellow, *Mirabilis*, black chinned hummingbird, stink gourd, *Datura wrightii*, love (heart but made of light sources), fungus, *Oenothera* white, *Trimerotropis pallidipennis*. photos: Mantidae: *Litaneutria minor*, ground mantis collected by Alice Waldron. 10994

10995 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, orchard and big pond, N 37.151099 W 114.018670 844 m 08-May-2014 C. R. Nelson # 10995 & class 82 Wypt 380pond Set up malaise trap near pond.

malaise trap at pond: start 8 May 2014

changed: 11 May 2014

changed: 16 May 2014

changed: 21 May 2014

changed: 26 May 2014

End: 3 June 2014

Insects, Writing, and Art Class 2014 (IWA): Riley Nelson, John Bennon, Kheng Saik Lim, Sterling Adams, Weston Gleave, Andrea McRae, Ellie Gillett, Hadley Griggs, Brandon Harris, Ismaiel Szink, maillet Aguirre, Jeff Andrus, Alice Waldron, Heather Perazzo, Andrew Perazzo, Jessica Powers. photos: bladder Fabaceae (no, Lamiaceae; Salazaria); Empididae on *Rhus aromatica* at pond. photos: Scarabaeidae *Cotalpa flavipes* by creek, Ellie Gillett. photo: Scoliididae, near pond, collected by Alice Waldron. photos: Carabidae, *Calosoma scrutator*, collected by Sterling Adams. photos: Tenebrionidae *Eleodes* sp. caught by John Bennion. Lycosidae by Brandon Harris.

Adding more bird: phainopepla, black headed grosbeak, white winged dove.

10995

10996 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, south ridge uplands, south of bunkhouse, N 37.140713 W 114.020339 884 m 09-May-2014 C. R. Nelson # 10996 & class 82 Wypt 374southridge photos: early morning scenery, mid morning talking with class. 50 sweep net samples on big galleta *Hilaria rigida*?, one sample per person.

Insects, Writing, and Art Class 2014 (IWA): Riley Nelson, John Bennon, Kheng Saik Lim, Sterling Adams, Weston Gleave, Andrea McRae, Ellie Gillett, Hadley Griggs, Brandon

Harris, Ismaiel Szink, maillet Aguirre, Jeff Andrus, Alice Waldron, Heather Perazzo, Andrew Perazzo, Jessica Powers. 10996

10997 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, Kayes Bluff, just north of Bens Bluff, N 37.146523 W 114.026410 913 m 10-May-2014 C. R. Nelson # 10997 & class 82 Wypt 375kayesbluff photos: scenery, red tailed hawk, saw peregrine falcon. I named this second bluff up from the south Kaye's Bluff after my wife Kaye. I called her at 7:45 am to tell her. It is also in remembrance of BYU botanist Kaye Thorne who loved Lytle and May have climbed to this spot. It is just north of "Ben's Bluff" named for Ben "Merten?" Franklin, botanist grad student of 1980s.

Insects, Writing, and Art Class 2014 (IWA) added birds: peregrine falcon, black chinned sparrow, small wren (number 2) 10997

10998 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, first draw north of bunkhouse, N 37.143882 W 114.015491 885 m 10-May-2014 C. R. Nelson # 10998 & class 82 Wypt 376tortoise Gunlock bishop is Joseph Smith, 435-574-2050.

Insects, Writing, and Art Class 2014 (IWA), collecting with Alice Waldron who found tortoise and Sterling Adams who ran back and forth for camera stuff. photos: desert tortoise, 8 inch length. photos: Rhipiphoridae - lost specimen. photos: Acalypterate on Joshua tree, Platystomatidae?; photos: Histeridae. 10998

10999 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, cottonwood grove by creek at south end of alfalfa field, N 37.144650 W 114.023136 854 m 10-May-2014 C. R. Nelson # 10999 & class 82 Wypt 377cottonwoodclassroom first called this point: Wypt 377quietgrove.

Insects, Writing, and Art Class 2014 (IWA) photos: grove and sky, honey bee nest, summer tanager. Photograph: Lycosidae large, at night by creek, collected by Jeff Andrus. Gambels quail, yellow warbler, road runner. 10999

11000 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, walk between big pond and north gates, N 37.160294 W 114.017176 848 m 11-May-2014 C. R. Nelson # 11000 & J. S. Bennion 83 Wypt 379northgate photos and gps reading.

Insects, Writing, and Art Class 2014 (IWA)

Wypt 378northmangate, N 37.160651 W 114.016581, elev. 860 m. narrow gate on north property line. photo voucher: centipede from women's bathroom, caught by maillet Aguirre. 11000

11001 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, first draw north of bunkhouse, Desert Tortoise Point, N 37.143882 W 114.015491 885 m 12-May-2014 C. R. Nelson # 11001 & J. S. Bennion 83 Wypt 376tortoise photos: scenery and self-portrait shadow.

Insects, Writing, and Art Class 2014 (IWA)

11001

11002 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, orchard, N 37.144691 W 114.020270 856 m 12-May-2014 C. R. Nelson # 11002 & class 83 Wypt 391orchard Set up malaise trap in stand of white flowered, shiny dark green, linear leafed shrub, *Eriodictyon angustifolium*. Ate old pecans from the ground.

Start: 12 May 2014. Changed: 13 May 2014, 16 May 2014, 21 May 2014, 26 May 2014. End 3 June 2014.

Insects, Writing, and Art Class 2014 (IWA)

11002

11003 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, creek near base of Bens Bluff, N 37.143966 W 114.024247 854 m 12-May-2014 C. R. Nelson # 11003 & class 83 Wypt 386creekbensbluff Set up two malaise traps over the creek. Upper trap at Cottonwood Classroom, lower at base of Bens Bluff.

Start: 12 May 2014. Changed: 13 May 2014, 16 May 2014, 21 May 2014, 26 May 2014. End 3 June 2014.

Wrote in Cottonwood Classroom on good and bad in humans. Watched summer tanager hunting honey bees. Tried to loop a desert spiny lizard, close but unsuccessful.

Insects, Writing, and Art Class 2014 (IWA)

Argia, *Gomphidae*, *Pompilidae*, *Tetrigidae*. 11003

11004 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, mouth Cat Claw Canyon, N 37.151817 W 114.020922 837 m 13-May-2014 C. R. Nelson # 11004 83 Wypt 381washatcatclaw 7:30am: photos: scenery, *Brassicaceae* (NO! *Onagraceae*, *Camissonia* sp.) yellow, large on gravel. *Papaveraceae*: *Argemone*

Found dead yellow warbler. Spotted? sandpiper, rough winged swallow.

Morning solitary walk.

Insects, Writing, and Art Class 2014 (IWA)

Argia, *Gomphidae*, *Pompilidae*, *Tetrigidae*. 11004

11005 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, orchard, N 37.144691 W 114.020270 856 m 13-May-2014 C. R. Nelson # 11005 & class 83 Wypt

391orchard photos: exploration. Later students found many *Pepsis pompilidae* at dusk gathering to sleep. violet green swallows.

Insects, Writing, and Art Class 2014 (IWA)

11005

11006 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, Snow plot near Bull Valley Wash, N 37.141424 W 114.029794 878 m 14-May-2014 C. R. Nelson # 11006 & class 83 Wypt 392bullvalleyjct Morning walk. photos: scenery and *Nicotiana* plots of German Research group. American goldfinch, white throated swift, cedar waxwings, Bells? vireo?

Insects, Writing, and Art Class 2014 (IWA)

11006

11007 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, first draw north of bunkhouse (Desert Tortoise Point), N 37.143882 W 114.015491 885 m 14-May-2014 C. R. Nelson # 11007 & class 83 Wypt 376tortoise midday.

Insects, Writing, and Art Class 2014 (IWA)

photos: ground snake *Sonora semiannulata*, *Thysanura*, *Formicidae*, centipedes, large 10 cm, mystery acalyptrate on *Yucca brevifolia*, *Efferia albibarbis*, *Mutillidae*, *Nicoletiidae*, photos: banded gecko *Coleonyx variegatus*. 11007

11008 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, creek near base of Bens Bluff, N 37.143966 W 114.024247 854 m 14-May-2014 C. R. Nelson # 11008 & class 83 Wypt 386creekbensbluff First Beach Party Wednesday. Kheng and I set up time lapse cameras focused on Bens Bluff. Nice shots 2-7 am on 15 May. Set up lights around 9:00 pm, full moon rose around 10:00 pm good collecting, Frisbee toads tossed in the pale moonlight. morning climb of Bens Bluff,

Insects, Writing, and Art Class 2014 (IWA)

set up mercury vapor lights: *Geometridae*, *Noctuidae*, *Hydroptilidae* adults, *Hydropsychidae* adults, southwestern toads abundant, night wasps *Tiphiidae*/*Mutillidae*, *Helicopsychidae* adults, *Sphingidae* *manduca sexta*? sp1, *Pachysphinx modesta*, *Tipulidae*. frisbee toads (toss them away from the light so they don't get stepped on . . .), white throated swifts, chunky wren. 11008

11009 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, fountain parking area, N 37.143149 W 114.022265 826 m 15-May-2014 C. R. Nelson # 11009 & class 83 Wypt 389fountainparking met Jerry Hill from Oregon. He was Clayton White's first graduate student. Talked at noon with BYU Geology professor Ron Harris, staying in Harrisburg to map Beaver Dam Mountains.

Insects, Writing, and Art Class 2014 (IWA)

found dead black chinned hummingbird, saw white crowned sparrow. house sparrow
11009

11010 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, cottonwood grove by creek at south end of alfalfa field, "Cottonwood Classroom", N 37.144650 W 114.023136 854 m 15-May-2014 C. R. Nelson # 11010 & class 83 Wypt 377cottonwoodclassroom Insects, Writing, and Art Class 2014 (IWA) figure drawings of Ismaiel Szink and Jeff Andrus. 11010

11011 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, first draw north of bunkhouse (Desert Tortoise Point), N 37.143882 W 114.015491 885 m 15-May-2014 C. R. Nelson # 11011 & class 83 Wypt 376tortoise Walked with UV lights looking for scorpions. Saw only one. It got away. Kheng found a coconut sized piece of petrified wood. I convinced him to leave it here. We visited it and photographed it in the early morning of 16 May 2014. I also called Kaye and Amy. All is well with Wolfgang (unborn).
Insects, Writing, and Art Class 2014 (IWA)
Centipedes, solpugid, Thysanura. 11011

11012 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, fountain parking area, N 37.143149 W 114.022265 826 m 16-May-2014 C. R. Nelson # 11012 & class 83 Wypt 389fountainparking Insects, Writing, and Art Class 2014 (IWA)
missed tarantula, tried to dig, we couldn't find it, 18 inches down. shrub beating on creosote, 4 wing saltbush, Lycium. hard collecting in a stand of Phacelia anelsonii, many bees and wasps. Acalypterate on wound of chinese elm. 11012

11013 USA: UTAH: Washington Co. Quail Creek road crossing 3 miles south of Leeds, below Red Cliffs Recreation area, N 37.207255 W 113.396847 914 m 17-May-2014 C. R. Nelson # 11013 & class 83 Wypt 383quailcreekleeds Photos: people chasing snake. Insects, Writing, and Art Class 2014 (IWA). Riley Nelson, Weston Gleave, Hadley Griggs, Ellie Gillett, Sterling Adams, Jeff Andrus, Ismaiel Szink, maillet Aguirre, and Kheng Lim. others went to the St. George temple: John Bennion, Jessica Powers, Alice Waldron, Brandon Harris, Andrea McRae, Heather and Andrew Perazzo.
tried to collect Megaloptera in creek. Rocks too imbedded. Saw very large (3.5 ft) Great Basin Rattlesnake. It slid to the middle of too big a shrub before I could photograph it. Hadley Griggs and maillet Aguirre collected a long series of water surface dancing dance flies, Empididae. 11013

11014 USA: UTAH: Washington Co. Quail Creek slot canyon above Red Cliffs Recreation area, N 37.229057 W 113.412065 1046 m 17-May-2014 C. R. Nelson # 11014 & class 83 Wypt 384redcliffstinaja sweepings on sedges. Photos: Weston and Jeff jumping into pool.

Done at 12:00 noon. Ate at Irmita's in St. George, then went shopping for food and supplies. Insects, Writing, and Art Class 2014 (IWA). Riley Nelson, Weston Gleave, Hadley Griggs, Ellie Gillett, Sterling Adams, Jeff Andrus, Ismaiel Szink, maillet Aguirre, and Kheng Lim. others went to the St. George temple: John Bennion, Jessica Powers, Alice Waldron, Brandon Harris, Andrea McRae, Heather and Andrew Perazzo.

photos: Saururaceae Anemopsis californica lizardtail yerba mansa. photos: Bufo punctatus in amplexus, red spotted toads. saw Hyla arenicolor canyon tree frogs. Saw Lestidae nymphs (collected by Hadley Griggs), Photos:California sister Adelphia bredowii californica, given to Ellie. nice photos. Buprestidae, Scarabaeidae, Therevidae, no Asilidae, No Phasmida, walkingsticks, good blooming creosote. 11014

11015 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, cottonwood grove by creek at south end of alfalfa field, "Cottonwood Classroom", N 37.144650 W 114.023136 854 m 17-May-2014 C. R. Nelson # 11015 & class 83 Wypt 377cottonwoodclassroom Insects, Writing, and Art Class 2014 (IWA) photos: summer tanager female 11015

11016 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, bunkhouse, N 37.144650 W 114.023136 854 m 17-May-2014 C. R. Nelson # 11016 & class 83 Wypt 372lytlebunkhouse Insects, Writing, and Art Class 2014 (IWA) ran a mercury vapor light and sheet on the porch. It was very productive for the students: Myrmeleontidae, Chrysopidae, Sphingidae, Mutillidae, Tiphiidae and much more. 11016

11017 USA: UTAH: Washington Co. 5 miles north of Gunlock, Lemuel and Laura Leavitt home, N 37.347958 W 113.715287 1266 m 18-May-2014 C. R. Nelson # 11017 & class 83 Wypt 385leavittgunlock Lunch and talk after church with class. Photos with phone: Laura and Lem.Insects, Writing, and Art Class 2014 (IWA) 11017

11018 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, fountain parking area, N 37.143149 W 114.022265 826 m 18-May-2014 C. R. Nelson # 11018 & class 83 Wypt 389fountainparking Insects, Writing, and Art Class 2014 (IWA) photos: gopher snake caught by Jessica Powers and Brandon Harris. 11018

11019 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, cottonwood grove by creek at south end of alfalfa field, "Cottonwood Classroom", N 37.144650 W 114.023136 854 m 19-May-2014 C. R. Nelson # 11019 & class 83 Wypt 377cottonwoodclassroom First 100 samples from creek: 12. at 3:00pm. Joined in morning by Dr. Mark Graham, our art professor returning from Nepal's Annapurna region. Insects, Writing, and Art Class 2014 (IWA) Leptoceridae, Helicopsychidae, Hydropsychidae, Baetidae Fallceon quilleri, crayfish, Nematomorpha, Acari, Leptohyphidae Tricorythodes,

Naucoridae *Ambrysus mormon*, Platyhelminthes "Planaria", *Brechmorhoga mendax* nymphs, Gomphidae, Calopterygidae, Tetrigidae, saw *Libellula saturata*. thousands of southwestern toad tadpoles. 11019

11020 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, "Peregrine Cliffs", bluff between Catclaw Canyon and Bens Bluff, N 37.150540 W 114.023906 975 m 20-May-2014 C. R. Nelson # 11020 83 Wypt 387peregrinecliff Photos: scenery. Test to family. Morning walk. 11020

11021 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, rim rock half way up south slope at "Peregrine Cliffs", bluff between Catclaw Canyon and Bens Bluff, N 37.150137 W 114.025682 943 m 20-May-2014 C. R. Nelson # 11021 83 Wypt 388oddmentzelia Photos: Loasaceae: *Eucnide urens*, rock nettle with nymphs of Berytidae. Guessed the right family, keyed by Ismaiel Szink. 11021

11022 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, Snow Flats, jct Bull Valley Wash and Beaver Dam Wash, N 37.141424 W 114.029794 878 m 19-May-2014 C. R. Nelson # 11022 & class 83 Wypt 392bullvalleyjct out of order.

Insects, Writing, and Art Class 2014 (IWA)

Photos: Tenebrionidae, big blue dusted. photos by C. R. Nelson 19 May 2014. Collected by Heriberto Madrigal. 11022

11023 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, The Pit Bunkhouse near fountain parking lot, N 37.142938 W 114.022132 828 m 20-May-2014 C. R. Nelson # 11023 & class 83 Wypt 390thepit Insects, Writing, and Art Class 2014 (IWA) Blattidae *Blatta orientalis* found indoors in "The Pit" given to Ellie Gillett to draw. 11023

11023.5 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, bunkhouse, N 37.144650 W 114.023136 854 m 20-May-2014 C. R. Nelson # 11023.5 & class 83 Wypt 372lytlebunkhouse Also painting on back porch of bunkhouse.

Insects, Writing, and Art Class 2014 (IWA) photos: *Hadrurus arizonensis*, desert hairy scorpion, found in house! Also more photos 18 June 2014 in lab on proper local substrate. Photos: Gryllidae big black caught by Andrea McRae. 11023.5

11024 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, Kayes Bluff, north of Bens Bluff, N 37.146523 W 114.026410 913 m 21-May-2014 C. R. Nelson # 11024 & class 83 Wypt 375kayesbluff Watercolor scenery. Photos: scenery and group shot. Insects, Writing, and Art Class 2014 (IWA) 11024

11025 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, top of Bens Bluff, N 37.143998 W 114.025318 905 m 21-May-2014 C. R. Nelson # 11025 & class 83 Wypt 382bensbluff CRN alone now. 8:45am. Abstract water color. malaise traps emptied

and reset in all four locations.

Insects, Writing, and Art Class 2014 (IWA) photos: out of order, more snake *Sonora semiannulata* from earlier also scorpion *Hadrurus arizonensis* from earlier CRN11023.5 11025

11026 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, creek near base of Bens Bluff, N 37.143966 W 114.024247 854 m 21-22 May 2014 C. R. Nelson # 11026 & class 83 Wypt 386creekbensbluff Beach Party Wednesday. insects at mercury vapor lamps. students eating *Diplotaxis* scarabs "skittles" candy on dares. set up two cameras for time lapse of stars and Bens Bluff. 1600 ISO 10 seconds f3.5 every 35 seconds: D600 with 12-24 fisheye DX, D610 with 28-200 DX.

Insects, Writing, and Art Class 2014 (IWA)

set up mercury vapor lights. photos: Scarabaeidae *Polyphylla decemlineata* caught by Hadley Griggs. Phainopeplas on the beach willows in the morning. 11026

11027 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, bunkhouse, N 37.144650 W 114.023136 854 m 23-May-2014 C. R. Nelson # 11027 & class 83 Wypt 372lytlebunkhouse Insects, Writing, and Art Class 2014 (IWA) photos: *Hypsiglena torquata*, night snake in the evening on the driveway to the bunkhouse, collected by Heather Perazzo. photos 23 May 2014. 11027

11028 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, Snow plot near Bull Valley Wash, N 37.141424 W 114.029794 878 m 23-May-2014 C. R. Nelson # 11028 & class 83 Wypt 392bullvalleyjct photos: scenery. Petrified wood for Kheng.

Poem for Sherry Wheeler on her 85th birthday:

Golden Crown

Her puffy golden hair

crowns her caring soul

And flashing smile says without words

Taht all is well.

Her worried brow

under the golden crown

Hints of her clear care for all

in the family and friends

Scattered to the four winds

Her folded hands and ivory painted nails

Rest now in her lap

I know love through Sherry.

Verdin and phainopepla. 11028

11029 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, orchard and nearby creek, N 37.144691 W 114.020270 856 m 23-May-2014 C. R. Nelson # 11029 & class 83 Wypt 391orchard Insects, Writing, and Art Class 2014 (IWA)

Photos: Chrysopidae, Curculionidae, large on Encelia?, Gelastocoridae caught by Andrea McRae, Carabidae, large green, Gryllidae small female brown, Chrysomelidae? larvae on Senecio douglasii, big black spider caught by Andrew Perazzo. 11029

11030 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, Catclaw Canyon and nearby wash, N 37.157646 W 114.026284 803 m 23-May-2014 C. R. Nelson # 11030 & class 83 Wypt catclawsnake Photos: scenery.

Wypt catclawtortoise N37.159727 W 114.027235 elev. 907m. Farthest reach I walked to: Wypt 393catclawback N 37.161245 W 114.023305 elev. 932 m. Insects, Writing, and Art Class 2014 (IWA)

photos: great basin rattlesnake 7 and a button!, Braconidae, desert tortoise hatchling Gopherus agassizi. Photos: centipede caught by Ellie Gillett, Cerambycidae on catclaw caught by Ellie Gillett, Berytidae, on Camissonia caught by maillet Aguirre. rodent" bones in packrat nest. 11030

11031 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, bunkhouse, N 37.144650 W 114.023136 854 m 23-May-2014 C. R. Nelson # 11031 & class 83 Wypt 372lytlebunkhouse Insects, Writing, and Art Class 2014 (IWA) photos: Mutillidae, Dasymutilla gloriosa and creosote bush 11031

11031.5 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, fountain parking area, N 37.143149 W 114.022265 826 m 24-May-2014 C. R. Nelson # 11031.5 & class 83 Wypt 389fountainparking Insects, Writing, and Art Class 2014 (IWA)

with classes from BYU Idaho.

photos: Scolytidae 11031.5

11032 USA: UTAH: Washington Co. Santa Clara, Lands Hill, Tempipoop trail petroglyphs, N 37.153857 W 113.704533 978 m 24-May-2014 C. R. Nelson # 11032 & class 83 Wypt 396tempipoop photos: scenery, people, petroglyphs.

Insects, Writing, and Art Class 2014 (IWA)

Photos: California kingsnake 11032

11033 USA: UTAH: Washington Co. Virgin River junction Santa Clara River, St. George, N 37.072977 W 113.579822 749 m 24-May-2014 C. R. Nelson # 11033 & class 83 Wypt

397virginjct Insects, Writing, and Art Class 2014 (IWA)

Saw many Gomphidae nymphs in Virgin River. NO Megaloptera. 11033

11034 USA: UTAH: Washington Co. St. George, swimming pool at Dixie High School, 350 East 700 South N 37.09578250 W 113.578250 806 m 24-May-2014 C. R. Nelson # 11034 & class 83 Google Earth Swimming with class.

Insects, Writing, and Art Class 2014 (IWA)

11034

11035 USA: UTAH: Washington Co. Gunlock, 1 mile north, Tobin Creek, Eagle Mountain Ranch, N 37.301660 W 113.747974 1142 m 25-May-2014 C. R. Nelson # 11035 & class 83 Google Earth Lunch with Larry & Stacie Shurtleff and Hyrum & Gail Smith.

Insects, Writing, and Art Class 2014 (IWA)

11035

11036 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, hill behind bunkhouse, N 37.14366 W 114.021344 858 m 26-May-2014 C. R. Nelson # 11036 & class 83 Wypt 372lytlebunkhouse Also, evening photos: Cottonwood classroom, Fremont cottonwood, bee tree.

morning: watercolor IWA in Joshua Trees.

Insects, Writing, and Art Class 2014 (IWA) 11036

11037 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, fountain parking area, N 37.143149 W 114.022265 826 m 26-May-2014 C. R. Nelson # 11037 & class 83 Wypt 389fountainparking Photos: BYU Idaho group with professors: Van Christman, Gary Baird, and John Zenger.

Insects, Writing, and Art Class 2014 (IWA)

with classes from BYU Idaho.

11037

11038 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, bunkhouse, N 37.143666 W 114.021344 858 m 26-May-2014 C. R. Nelson # 11038 & class 83 Wypt 372lytlebunkhouse Insects, Writing, and Art Class 2014 (IWA) light trap on porch: Phengodidae, Cerambycidae, Pompilidae Pepsis at lights, Cossidae, Scarabaeidae, Myrmeleontidae, Chrysopidae. Great tailed grackle. 11038

11039 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, creek near base of Bens Bluff, N 37.144650 W 114.023136 854 m 27-May-2014 C. R. Nelson # 11039 & class 83 Wypt 377cottonwoodclassroom morning pondering. reset fallen malaise trap, lower creek trap.

Insects, Writing, and Art Class 2014 (IWA)

11039

11040 USA: UTAH: Washington Co. Beaver Dam Slope, trough 3 miles south of Welcome Spring, 1 mile south of Lytle Ranch Road, N 37.059733 W 113.920217 1038 m 27-May-2014 C. R. Nelson # 11040 & class 83 Wypt 398troughwelcome Insects, Writing, and Art Class 2014 (IWA)

Efferia benedicti, Microcoryphia, Thysanura, photos: cactus Echinocereus?. Callibaetis on Chara in trough, Libellulidae nymphs in trough, Dolichopodidae skater on trough. photos: flock of 30 pinyon jays and western kingbird. Lots of Salazaria, few blooms. photos: horned lizard. 11040

11041 USA: UTAH: Washington Co. Beaver Dam Slope, Welcome Spring, 2 miles north of Lytle Ranch Road, N 37.097061 W 113.911257 1316 m 27-May-2014 C. R. Nelson # 11041 & class 83 Wypt 399welcomespring Insects, Writing, and Art Class 2014 (IWA) Hydrophilidae, Cicindela tiger beetle, Papilio polyxenes, Bembix type sphecidae, Ammophila with caterpillar prey, Buprestidae, Efferia albibarbis, dead Great Basin Rattlesnake, road runner, gambels quail. 11041

11038 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, Joshua tree forest east of bunkhouse, N 37.143574 W 114.018072 869 m 27-28 May 2014 C. R. Nelson # 11038 & class 83 Wypt 414joshuatreebunkhouse Writing about joining science and humanities. Essay "On Pies" in small black notebook. Set up time lapse of stars over Joshua trees. Start 9:45 pm. D300 and D610 dsc_3705-4103 Insects, Writing, and Art Class 2014 (IWA) Photos: joshua trees at sunset. 11038

11043 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, porch of bunkhouse, N 37.143666 W 114.021344 858 m 28-May-2014 C. R. Nelson # 11043 & class 83 Wypt 372lytlebunkhouse Watercolor to north and east. Sunrise: The White Line. (named for layer near bottom of Peregrine Bluff. Insects, Writing, and Art Class 2014 (IWA) 11043

11044 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, big pond, N 37.151229 W 114.018613 844 m 28-May-2014 C. R. Nelson # 11044 & class 83 Wypt 402pond Same spot as other "pond" coordinates. night mercury vapor light insects. many crayfish caught on liver bait. Insects, Writing, and Art Class 2014 (IWA) crayfish; bufflehead female duck, first thought might be a grebe from a distance, then a goldeneye, but the eyestripe is clear. New bird for Lytle list. 11044

11045 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, cliffside pond, N 37.153484 W 114.017511 840 m 29-May-2014 C. R. Nelson # 11045 & class 83 Wypt 400owlpool Insects, Writing, and Art Class 2014 (IWA) photos: great horned owl baby. 11045

11046 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, east rim between ponds, N 37.152236 W 114.017723 869 m 29-May-2014 C. R. Nelson # 11046 & class 83 Wypt 401eastrim photos: Cat Claw Canyon. Watercolor Cat Claw Canyon. the White Line.

Insects, Writing, and Art Class 2014 (IWA) photos: kestrel 11046

11047 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, cottonwood grove at base of Bens Bluff, N 37.144458 W 114.024998 836 m 29-May-2014 C. R. Nelson # 11047 & class 83 Wypt 413bensbluffbasegrove Discussed "Desert Solitarie", down the river chapter.

Insects, Writing, and Art Class 2014 (IWA)

photos: Baetidae Fallceon quilleri female caught by Jessica Powers. 11047

11048 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, south ridge above Max Planck Camp, N 37.140619 W 114.020348 879 m 30-May-2014 C. R. Nelson # 11048 & class 83 Wypt 403 southridgeagain photos: scenery, panoramas, drawing. Self-portraits.

Insects, Writing, and Art Class 2014 (IWA)

11048

11048 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, orchard, alfalfa field, and nearby creek, N 37.144691 W 114.020270 856 m 30-May-2014 C. R. Nelson # 11048 & class 83 Wypt 391orchard Insects, Writing, and Art Class 2014 (IWA) Alfalfa: photos: Membracidae, Cixiidae, Libellulidae Erythemis, Miridae Lygus, Nabidae Nabis, Lauxaniidae, Chrysomelidae. also Reduviidae, Chrysopidae.

creek: Photos: Tabanidae Chrysops and Tabanus?, Leptoceridae Nectopsyche, Stratiomyidae Euparyphus?, Cixiidae, Helicopsychidae adult, Gomphidae Progomphus and Ophiogomphus?, also Hetaerina americana. 11048

11049 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, bunkhouse, N 37.143666 W 114.021344 858 m 30-May-2014 C. R. Nelson # 11049 & class 83 Wypt 372lytlebunkhouse Night time lapse from porch: North Star with D300 out of focus, darn. North star with D610 split series, start both at 9:55 pm.

Insects, Writing, and Art Class 2014 (IWA) photos: Asilidae Polacantha composita? collected by Brandon Harris.

photos: Collembola: *Seira knowltoni* det C. R. Nelson 2 Feb 2016, collected by Sterling Adams 11049

11050 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, Joshua tree forest east of bunkhouse, N 37.143574 W 114.018072 869 m 31-May-2014 C. R. Nelson # 11050 & class 83 Wypt 414joshuatreebunkhouse Set up time lapse of stars over Joshua trees. D600 28mm time lapse, Milky Way start 3:45am.
Insects, Writing, and Art Class 2014 (IWA) 11050

11051 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, orchard, alfalfa field, and nearby creek, N 37.144691 W 114.020270 856 m 31-May-2014 C. R. Nelson # 11051 & class 83 Wypt 391orchard Insects, Writing, and Art Class 2014 (IWA)
Baetidae swarm near creek.
Photo series of apricots in the desert

continued walk to pond: blue grosbeak, summer tanager, Say's phoebe, Phainopepla, Lucy's warbler, turkey, Gambel's quail, house finch, Bullock's oriole. 11051

11052 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, big pond, N 37.151229 W 114.018613 844 m 31-May-2014 C. R. Nelson # 11052 & class 83 Wypt 402pond photos: ultralight aircraft, pond.
Insects, Writing, and Art Class 2014 (IWA) female bufflehead duck on pond, roadrunner, rough winged swallow, Great blue heron, Say's phoebe. 11052

11053 USA: ARIZONA: Mohave Co. Little Jamaica Springs, Virgin River, Littlefield I-15 bridge, N 36.893483 W 113.918350 540 m 31-May-2014 C. R. Nelson # 11053 & class 83 Wypt 405littlejaMax ica Photos: scenery and people. Photos of rock: You litter you die.
Traveled to St. George on I-15, construction.
Insects, Writing, and Art Class 2014 (IWA) Photos: Salticidae red Phidippus caught by Weston Gleave. NO Megaloptera! Veliidae Rhagovelia, Calopterygidae Hetaerina americana, Libellula saturata, Tramea lacerta? Argia, saw Apioceridae Apiocera female.
11053

11054 USA: UTAH: Washington Co. St. George library, N 37.106987 W 113.584774 827 m 31-May-2014 C. R. Nelson # 11054 & class 83 Wypt 406stgeorgelibrary painting, welcome to our world Wolfgang Winston Smith
Insects, Writing, and Art Class 2014 (IWA) 11054

11055 USA: UTAH: Washington Co. Santa Clara River, 3 miles north of Gunlock, home of Glenna and Ed Burdick, N 37.317186 W 113.722731 1200 m 01-Jun-2014 C. R. Nelson # 11055 & class 83 Wypt 407scrburdick Insects, Writing, and Art Class 2014 (IWA) photos:

Megaloptera: Corydalidae, *Corydalus texanus* larva. Hydropsychidae, crayfish, *Papilio multicaudata*. 11055

11056 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, ridge above bunkhouse, N 37.143750 W 114.020014 849 m 02-Jun-2014 C. R. Nelson # 11056 & class 83 Wypt 415joshuatreeclassroom photos: sunrise time lapse. Also, wash north of bunkhouse: Bennion prompt: what is your advice to Andrea as she begins her mission? Insects, Writing, and Art Class 2014 (IWA) 11056

11057 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, Cat Claw Canyon Bluff, divide between Cat Claw Canyon and Beaver Dam Wash, N 37.156087 W 114.022859 944 m 03-Jun-2014 C. R. Nelson # 11057 83 Wypt 409southcliff walked with Chocolate the dog. Morning panoramas. Joshua tree "brontosaurus" or "llama" viewed from bunkhouse is actually two big trees on the horizon, tall one has 50 living rosette limbs, shorter one has 54 living rosette branches. Other GPS: "brontosaurus tree" Wypt 408bronto1 N 37.158636 W 114.021220, elev. 961 m. Last yucca (Joshua Tree) before South Cliff, Wypt 410lastyucca N 37.156602 W 114.022258, elev. 978 m. North extent of walk in Cat Claw Canyon (turned to ascend divide) N 37.163608 W 114.023274, elev. 917 m. USGS corner Marker in Cat Claw Canyon, Wypt 412usgscorner, N 37.161401 W 114.023116, elev. 853 m.

Insects, Writing, and Art Class 2014 (IWA)

Argia, Gomphidae, Pompilidae, Tetrigidae. 11057

11058 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, creek near base of Bens Bluff, N 37.143966 W 114.024247 854 m 03-Jun-2014 C. R. Nelson # 11058 & class 83 Wypt 386creekbensbluff Took down and emptied two malaise traps along creek, see CRN11003. Also took down trap at pond, see CRN10995

Also took down trap in orchard above *Eriodictyon*, see CRN 11002

Insects, Writing, and Art Class 2014 (IWA)

11058

11059 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, first draw north of bunkhouse (Desert Tortoise Point), N 37.143882 W 114.015491 885 m 04-Jun-2014 C. R. Nelson # 11059 & class 83 Wypt 376tortoise photos: time lapse of Milky Way to south, start around 2:45 am.

Insects, Writing, and Art Class 2014 (IWA)

11059

11060 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, first draw north of bunkhouse (Desert Tortoise Point), N 37.143882 W 114.015491 885 m 04-Jun-

2014 C. R. Nelson # 11060 & class 83 Wypt 376 tortoise photos: time lapse of Milky Way, start around 3:00 am.

Insects, Writing, and Art Class 2014 (IWA)

Photos: *Stenopelmatus fuscus* in bunkhouse, caught by Ismaiel Szink. also 3 June 2014: photos banded gecko caught in pitfall trap by Andrew Perazzo. Photos: "tiger" mottled whiptail lizard hand caught by C. R. Nelson on porch. 4 June 2014: orchard, photos: *Megaphorus willistoni*? or *guldiana*?, caught by Alice Waldron. 11060

11061 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, creek near base of Bens Bluff, N 37.143966 W 114.024247 854 m 4-5 June 2014 C. R. Nelson # 11061 & class 83 Wypt 386 creek bens bluff Time lapse stars, north and south with D300 and D610, starting around 2:30 am. I slept next to the creek while the north south cleft of the Milky Way passed overhead. I am together and apart. small and large. In and out. The Max Planck group climbed the bluff south of Bens Bluff in the predawn light. they saw their work, their plots from above.

Insects, Writing, and Art Class 2014 (IWA)

Beach Party Wednesday, mercury vapor lights: Photos: California kingsnake. 11061

11062 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, orchard to pond, N 37.144691 W 114.020270 856 m 05-Jun-2014 C. R. Nelson # 11062 & class 83 Wypt 391 orchard with Heather Perazzo, Ellie Gillett, Hadley Griggs, and maillet Aguirre. Insects, Writing, and Art Class 2014 (IWA)

swept insects from alfalfa, mixed barley oats, hand collected *Xylacopa* bees on *Chilopsis linearis* and *Datura wrightii*. Caught and released one large *manduca sexta* that came to the *Datura*. 11062

11063 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, Joshua Tree Forest, ridge above bunkhouse, N 37.143750 W 114.020014 849 m 06-Jun-2014 C. R. Nelson # 11063 & class 83 Wypt 415 joshua tree classroom Time lapse: D300 and D610, started around 3:00am.

morning: photos: scenery, people painting: Ellie Gillett, Sterling Adams, Dr. Mark Graham. Afternoon: Dictyopharidae nymph on Joshua tree caught by Jessica Powers and Tenebrionidae smooth Eleodes.

Insects, Writing, and Art Class 2014 (IWA) 11063

11064 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, Persimmon Grove N 37.156845 W 114.017136 866 m 06-Jun-2014 C. R. Nelson # 11064 & class 83 Google Earth photo: plaque honoring Hannah Leavitt Terry. Photos with Lemuel Leavitt his boys and grandson at the bunkhouse.

Insects, Writing, and Art Class 2014 (IWA) 11064

11065 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, south ridge uplands, south of bunkhouse, N 37.140713 W 114.020339 884 m 07-Jun-2014 C. R. Nelson # 11065 & class 83 Wypt 374southridge photos: wash, bluffs, and hikers. Painting: Bens Bluff from South Ridge, details and abstraction. drawing: Bens Bluff from South Ridge.

Insects, Writing, and Art Class 2014 (IWA). 11065

11066 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, creek near base of Bens Bluff, Cottonwood Classroom, N 37.144650 W 114.023136 854 m 07-Jun-2014 C. R. Nelson # 11066 & class 83 Wypt 377cottonwoodclassroom Rambling essay on the end of the trip, in black notebook.

Insects, Writing, and Art Class 2014 (IWA)

11066

11067 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, top of Bens Bluff, N 37.143998 W 114.025318 905 m 07-Jun-2014 C. R. Nelson # 11067 & class 83 Wypt 382bensbluff Called Kaye in Provo: she was walking on 4300 North. Sent her the last photo of the day. She sent me one of the proper edge of the sky. Cascade Mountain.

Insects, Writing, and Art Class 2014 (IWA) 11067

11068 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, bunkhouse, N 37.143666 W 114.021344 858 m 08-Jun-2014 C. R. Nelson # 11068 & class 83 Wypt 372lytlebunkhouse Photos: group in the morning then dinner and group photo with folks from the Max Planck Institute. End of our time at Lytle Ranch Preserve.

Insects, Writing, and Art Class 2014 (IWA) 11068

11069 USA: UTAH: Washington Co. Virgin River, Springdale City Park, N 37.176372 W 113.00861 1174 m 09-Jun-2014 C. R. Nelson # 11069 & class 83 Wypt 416springdaleriverpark lunch.

Insects, Writing, and Art Class 2014 (IWA) Corydalidae, Heptageniidae. 11069

11070 USA: UTAH: Washington Co. Zion National Park, Virgin River, paved trail to the narrows, N 37.295689 W 112.948040 1387 m 09-Jun-2014 C. R. Nelson # 11070 & class 83 Google Earth Photos: wet walls. Walked from Temple of Sinawava up river to Mystery Falls, relaxed and painted. Google Earth of Mystery Falls is about N 37.298730 112.944450, elev. 1421m. Reliable?

Insects, Writing, and Art Class 2014 (IWA) 11070

11071 USA: UTAH: Washington Co. Zion National Park, Virgin River, Temple of Sinawava, N 37.284931 W 112.947520 1350 m 09-Jun-2014 C. R. Nelson # 11071 & class 83 Google

Earth Photos: the Pulpit and mule deer buck in velvet, probably a four point.

Insects, Writing, and Art Class 2014 (IWA) 11071

11072 USA: UTAH: Washington Co. Zion National Park, Virgin River, Weeping Rock bus stop, rivers edge, N 37.271729 W 112.940316 1325 m 09-Jun-2014 C. R. Nelson # 11072 & class 83 Google Earth Photos and painting: Great White Throne.

Insects, Writing, and Art Class 2014 (IWA) 11072

11073 USA: UTAH: Kane Co., Coral Pink Sand Dunes, Ponderosa Grove BLM camp, N 37.087501 W 112.669720 1915 m 9-10 June 2014 C. R. Nelson # 11073 & class 83 Wypt 418ponderosaduneend Morning: painting, sunrise, sweet smell of rabbitbrush on dunes. Photos: sunrise, tracks on dunes. Campground: Wypt ponderosagrove N 37.088837 W 112.672224, elev. 1907m.

Insects, Writing, and Art Class 2014 (IWA) night: mercury vapor light: Phyllophaga obsoleta, Chrysopidae Eremochrysa, moths. Walk on dunes: Tenebrionidae, Rhaphidophoridae sand treaders. Morning: blooming: Tradescantia, sand verbena, Yucca, Senecio, composite H____ppus with no rays. Oenothera white, sand bean. 11073

11075 USA: UTAH: Washington Co. Zion National Park, Hwy 9, hoodoo slope northeast of Checkerboard Mesa, N 37.226280 W 112.887746 1673 m 10-Jun-2014 C. R. Nelson # 11075 & class 83 Wypt 420checkerboard Photos: people and scenery.

Insects, Writing, and Art Class 2014 (IWA) 11075

11074 USA: UTAH: Kane Co., Coral Pink Sand Dunes State Park, picnic table access point on main road, N 37.050514 W 112.716594 1844 m 10-Jun-2014 C. R. Nelson # 11074 & class 83 Wypt 419coralpinkdunes view of dunes, discussion of multiple use.

Insects, Writing, and Art Class 2014 (IWA) 11074

11076 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 13-Jun-2014 C. R. Nelson # 11076 83 photos on 18 June 2014: scale insects on indoor lemon tree. shared specimens with IWA students. 11076

11077 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 13-14 June 2014 C. R. Nelson # 11077 & J. K. Nelson & K. J. Wheeler. 83 friday evening: talk. Saturday: work, rebuild lower dam, patch leaks in irrigation system, clear plugged sprinklers, get four wheelers running, ride up to top and to back chain. saw: cicadas, Machimus, Cyrtopogon, and Laphria fernaldi. 11077

11078 USA: UTAH: Utah Co., Diamond Fork River at Three Forks Trailhead, N 40.084623 W 111.355351 elev. 1709 m, 17-Jun-2014 C. R. Nelson # 11078 & class 83 Wypt 421threeforks same site as CRN8028 and several other visits.

Photos: people and scenery, most of people by John Bennion.

Insects, Writing, and Art Class 2014 (IWA) 20 Orders of Arthropods and 65 families, group final exam. *Pteronarcys californica*, *Pteronarcella badia*, *Isoperla fulva*, Perlodidae *Isogenoides zionensis?*, Chloroperlidae *Triznaka?*. Photos in lab: beetle, very flat and broad under bark of box elder log, photographed on cottonwood bark: Nitidulidae: *Phenolia grossa*! 11078

11079 USA: UTAH: Utah Co., Diamond Fork Canyon, 1 mile north of Hwy 6, N 40.047024 W 111.473888 elev. 1578 m, 17-Jun-2014 C. R. Nelson # 11079 & class 83 Wypt 422diamond same site as CRN8028 and several other visits.

Photos: people and scenery, most of people by John Bennion.

Insects, Writing, and Art Class 2014 (IWA) road kill deer: Dermestidae larvae, Silphidae Silpha beetle. 11079

11080 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building 180 lab, N 40.426686 W 111.649422 1420 m 19-Jun-2014 C. R. Nelson # 11080 83 Google Earth Photos: working on collections. Probably the last class that will be taught in this room, as we move to the new Life Sciences Building (LSB).

Insects, Writing, and Art Class 2014 (IWA) 11080

11081 USA: UTAH: Utah Co., Provo, BYU, Widtsoe Building 123 lab, N 40.426686 W 111.649422 1420 m 20-Jun-2014 C. R. Nelson # 11081 84 Google Earth photos by maillet Aguirre of David Robinson and C. R. Nelson before David leaves for dental school in Arizona. 11081

11082 USA: UTAH: Salt Lake Co. Draper, Living Planet Aquarium, N 40.532184 W 111.893966 1349 m 20-Jun-2014 C. R. Nelson # 11082 & J. K. Nelson 84 Google Earth with Kaye, Jason, Brandy, and Artemis and Spurlock group. Jackie, Allie, Seth, and Bradleigh. photos: anaconda, electric eel, side necked turtle, arowana, gentoo penguins, *Chrysaora* jellyfish, *Cassiopeia* jellyfish, arctic grayling, otters, moon jellyfish, starfish, reef fish, chambered nautilus, puffer, moorish idol, *Arilus* catfish, "cleaner" shrimp, damsel and anemone, lionfish, slipper lobster, long spined sea urchin, garden eel, crab (blue or dungeness, unicorn fish several species, clown trigger fish, gray? shark, razor fish, flag? fish. 11082

11083 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 20-21 June 2014 C. R. Nelson # 11083 & family 84 Kaye and Riley spent the night of 20 June 2014 at the cabin with Artemis, Brandy, and Jason. We were joined in the morning of 21 June 2014 by Wolfgang, Amy, and Todd Smith then later Andrea and Jordan with Ziggy the dog. I had to rescue Andrea and Jordan when their truck stalled on the Strawberry Divide. 11083

11084 USA: UTAH: Wasatch Co. Strawberry Divide, Indian Creek Road, 14 miles northwest of Hwy 6 at Sheep Creek, N 40.056362 W 218213 2587 m, 21-Jun-2014 C. R. Nelson # 11084 & family 84 Wypt 424strawberrydivide Andrea and Jordan's truck stalled and we rode out to pick them up. Electrical problems, needed to call Geico Insurance to tow the truck. With Jason Nelson and Todd Smith photos, at home: Saturniidae, Hemileuca caterpillars, probably eglanderina; also net of pup with dead caterpillar inside. All on snowberry, Symphorocarpus oreophilus. 11084

11085 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 21-Jun-2014 C. R. Nelson # 11085 & family 84 Photos: Jason Nelson setting up his childhood train set for Artemis and Brandy. 11085

11086 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 22-Jun-2014 C. R. Nelson # 11086 & family 84 Photos: mountains, sun, and Artemis.

Sunrise: sun rose about 8:30 am at 66 degrees, now it heads south (after the summer solstice). 11086

11087 USA: CALIFORNIA: San Mateo Co. San Francisco International Airport N 37.621308 W 122.378940 2 m 24-Jun-2014 C. R. Nelson # 11087 & others, see field notes 84 Photos: scenery and airport.

With Mark Belk, Dennis Shiozawa, Weston Gleave, Alisa Nelson, Tyson Wayment, Makani Fisher, and MaKayla Laughlin. 11087

11088 USA: WASHINGTON: King Co., Seattle International Airport, N 37.621308 W 122.378940 2 m 24-Jun-2014 C. R. Nelson # 11088 & others, see field notes 84 Photos: scenery and airport. flight from San Francisco: Mt. Lassen California, Mt. Shasta California, Mt. Mazama? Oregon, The Sisters Oregon, Mt. Hood Oregon, Mt. St. Helens Washington, Mt. Adams Washington, and Mt. Rainier Washington.

With Mark Belk, Dennis Shiozawa, Weston Gleave, Alisa Nelson, Tyson Wayment, Makani Fisher, and MaKayla Laughlin. With Mark Belk, Weston Gleave, Alisa Nelson, and Mykaela Laughlin 11088

11089 USA: WASHINGTON: King Co., airline flight from Seattle to Juneau, Alaska. N ss W ss ss m 24-Jun-2014 C. R. Nelson # 11089 & others, see field notes 84 Photos: glaciers and snowy mountain halfway in flight, then clouds for the rest of the way. then gps for two minutes or so.

Wypt 428glaciers N 49.747467 W 119.490051 845pm {Odd reading, probably false, too far inland?}; Wypt 429 847pm N 58.355255 W 134.557800 {odd reading, this is Juneau airport}; Wypt 430 8:50pm, N 58.064048 W 135.129198 photo wing and sea {over northeast

Chichagof Island}. Wypt 431 900pm N 58.064198 W 135.128903 elev 2520? m photo wing and fjord. {still over northeast Chichagof Island}.

With Mark Belk, Dennis Shiozawa, Weston Gleave, Alisa Nelson, Tyson Wayment, Makani Fisher, and MaKayla Laughlin. 11089

11090 USA: ALASKA: Juneau Co., Juneau, airport and nearby Best Western Motel N 58.364303 W 134.587858 0 m 24-25 June 2014 C. R. Nelson # 11090 & others, see field notes 84 Wypt 434bestwesternjuneau Arrived 9:15 pm. Sleep around 10:30pm.

With Mark Belk, Dennis Shiozawa, Weston Gleave, Cemal Memet Oguz (separate flight), Camille Hull (separate flight), Alisa Nelson, Tyson Wayment, Makani Fisher, and MaKayla Laughlin.

Wypt 433 juneauairport N 58.358818 W 134.583098, elev. -20m. Wypt 423juneaulanding N 58.352963 W 134.580701, elev. 995m, first arrival 9:04pm (11:04pm Utah time). 11090

11091 USA: ALASKA: Juneau Co., Mendenhall Glacier, 3 miles north of Juneau (walked), N 58.408326 W 134.547398 26 m 25-Jun-2014 C. R. Nelson # 11091 & Tyson Wayment. 84 Wypt 435mendenhallglacier walked from Best Western Motel as fast as we could to reach the first view of the toe of the glacier, took quick pictures over a tarn then turned around and hurried back to catch our bush plane. He was late, not us . . .

Wonderful view of toe of glacier in the rain. Walked 6 miles from 6:39am to 8:41am apex at toe. photos: scenery and plants. Marshall is our bush pilot, called on phone, 801-735-3656 from Admiralty Island at 8:29am, longer flight than expected, see you in more than an hour. Didn't reset Nikon 610 camera time from Seattle to Juneau time until after this walk. 11091

11092 USA: ALASKA: Juneau Co., Admiralty Island, Pybus Bay, Cannery Cove, Pybus Point Lodge, N 57.306495 W 134.134342 9 m 25-Jun-2014 C. R. Nelson # 11092 & Tyson Wayment. 84 Wypt 441 pybuspoint Flight from Juneau to Pybus Point Lodge on Cannery Cove. many scenery photos. After arrival we quickly jumped on a fishing boat and went out to Round Rock and off Kuiu Island.

dock photos after day out.

pink jellyfish, dainty moon jellyfish. fish under dock, dolly varden trout, mid water eel (prickleback), right eyed flounder with crustacean parasites, gray cod. Photo: humpbacked whale, bald eagle, sea otter, fur seal.

watercolor. sunset from Pybus Point Lodge.

With Mark Belk, Dennis Shiozawa, Weston Gleave, Cemal Memet Oguz, Camille Hull, Alisa Nelson, Tyson Wayment, Makani Fisher, and MaKayla Laughlin. Cemal is my roommate.

11092

11093 USA: ALASKA: Juneau Co., Admiralty Island, south into Frederick Sound, N 57.019978 W 134.061539 0 m 25-Jun-2014 C. R. Nelson # 11093 & others, see field notes 84 Wypt 445fredericksound Our boat captain was Tony Abbott from Alpine, Utah. Those on our boat were Dennis Shiozawa, me, Cemal Oguz, Tyson Wayment, and Makani Fisher. The other boat was captained by Alex, with those onboard being Mark Belk, MaKayla Laughlin, Alisa Nelson, Camille Hull, and Weston Gleave. We traded Camille and Cemal for 26-27 June, then back for the rest of the trips. Short day of fishing: Round Rock: halibut and turbot. Also near Kuiu Island: black bass, quillback rockfish, tiger rockfish, gray cod, ling cod, yelloweye rockfish, Irish lord sculpin, Lanternjaw rockfish. Other boats caught chinook salmon. 11093

11094 USA: ALASKA: Juneau Co., Baranof Island, Hidden Falls and Kasnyku Bay, N 57.207627 W 134.844732 0 m 26-Jun-2014 C. R. Nelson # 11094 & others, see field notes 84 Wypt 442kasnykubay Our boat captain was Tony Abbott from Alpine, Utah. Those on our boat were Dennis Shiozawa, Riley Nelson, Camille Hull, Tyson Wayment, and Makani Fisher. Our halibut and rockfish lures consisted of a one pound lead jib with a white soft rubber twister about 8 inches long. I was amazed at how small of fish we took using so large a lure. It was easy to see the 30 inch halibut take it, but odd that the 15 inch rockfish would. But they clearly did . . . Long boat ride around south tip of Admiralty Island and north to Kasnyku Bay and Hidden Falls on east side of Baranof Island. We trolled for chum slamon, no luck but about 20 commercial seiners were also using 300m nets, but seemed to catch little. We fished our way back around Admiralty Island looking for non-pelagic (stay at home) rockfish - only one quillback caught, glassy calm day. 11094

11095 USA: ALASKA: Juneau Co., Admiralty Island southeast, Frederick Sound, near Round Rock, N 57.246584 W 133.920208 0 m 26-Jun-2014 C. R. Nelson # 11095 & others, see field notes 84 Wypt 444roundrock Our boat captain was Tony Abbott from Alpine, Utah. Those on our boat were Dennis Shiozawa, Riley Nelson, Camille Hull, Tyson Wayment, and Makani Fisher. caught halibut at 390 feet. 11095

11096 USA: ALASKA: Juneau Co., Admiralty Island, Pybus Bay, Cannery Cove, Pybus Point Lodge, N 57.306495 W 134.134342 9 m 26-Jun-2014 C. R. Nelson # 11096 & others, see field notes 84 Wypt 441 pybuspoint With Mark Belk, Dennis Shiozawa, Weston Gleave, Cemal Memet Oguz, Camille Hull, Alisa Nelson, Tyson Wayment, Makani Fisher, and MiKayla Laughlin. sweeps of attached seaweed at high tide line, brown algae with many flies. 11096

11097 USA: ALASKA: Juneau Co., Admiralty Island southeast, Frederick Sound, "Carls Hump" fishing spot, N 57.246584 W 133.920208 0 m 27-Jun-2014 C. R. Nelson # 11097 & others, see field notes 84 Wypt 443carlshump Our boat captain was Tony Abbott from

Alpine, Utah. Those on our boat were Dennis Shiozawa, Riley Nelson, Camille Hull, Tyson Wayment, and Makani Fisher. 8:39am. fishing for large halibut. Humpback whales. 11097

11098 USA: ALASKA: Juneau Co., Admiralty Island southeast, Frederick Sound, near Round Rock, N 57.246584 W 133.920208 0 m 27-Jun-2014 C. R. Nelson # 11098 & others, see field notes 84 Wypt 444roundrock Our boat captain was Tony Abbott from Alpine, Utah. Those on our boat were Dennis Shiozawa, Riley Nelson, Camille Hull, Tyson Wayment, and Makani Fisher. caught halibut at 390 feet. saw humpback whales. 11098

11099 USA: ALASKA: Juneau Co., Admiralty Island southeast, Frederick Sound, near small island off spit of Kupreanof Island, 5 miles northwest of Kake village, N 57.019978 W 134.061539 0 m 27-Jun-2014 C. R. Nelson # 11099 & others, see field notes 84 Wypt 445fredericksound Our boat captain was Tony Abbott from Alpine, Utah. Those on our boat were Dennis Shiozawa, Riley Nelson, Camille Hull, Tyson Wayment, and Makani Fisher. Called Kaye on cell phone, all is well. after big halibut. saw humpback whales. 12:04pm 11099

11100 USA: ALASKA: Juneau Co., Admiralty Island southeast, Frederick Sound, near Kake village which is on Kupreanof Island, Keku Straits, N 56.947804 W 134.016403 0 m 27-Jun-2014 C. R. Nelson # 11100 & others, see field notes 84 Wypt 446kake Our boat captain was Tony Abbott from Alpine, Utah. Those on our boat were Dennis Shiozawa, Riley Nelson, Camille Hull, Tyson Wayment, and Makani Fisher. Called Kaye on cell phone, all is well. after big halibut. saw humpback whales. photos: sea otter. Emailed Kaye. 12:18pm 11100

11101 USA: ALASKA: Juneau Co., Admiralty Island southeast, Frederick Sound, near Kuiu Island, black bass rise, N 56.939254 W 134.191072 0 m 27-Jun-2014 C. R. Nelson # 11101 & others, see field notes 84 Wypt 447kuiublackbass Our boat captain was Tony Abbott from Alpine, Utah. Those on our boat were Dennis Shiozawa, Riley Nelson, Camille Hull, Tyson Wayment, and Makani Fisher. black bass, 3:26pm. 11101

11102 USA: ALASKA: Juneau Co., Admiralty Island east, just south of Gambier Bay, Frederick Sound, N xx W xx 0 m 28-Jun-2014 C. R. Nelson # 11102 & others, see field notes 84 Our boat captain was Tony Abbott from Alpine, Utah. Those on our boat were Dennis Shiozawa, Riley Nelson, Cemal Oguz, Tyson Wayment, and Makani Fisher. no gps, approximated from memory using Google Earth. Toothy sole (turbot) and halibut. Photo of Tony Abbott with toothy sole. He does not like this fish. 849am, Nikon photos around dsc_0671 11102

11103 USA: ALASKA: Juneau Co., Admiralty Island east, mouth of Gambier Bay, Frederick Sound, N 57.402638 W 133.858742 0 m 28-Jun-2014 C. R. Nelson # 11103 & others, see field notes 84 Wypt 449gambiermouth Our boat captain was Tony Abbott from Alpine,

Utah. Those on our boat were Dennis Shiozawa, Riley Nelson, Cemal Oguz, Tyson Wayment, and Makani Fisher. photo: halibut, sea lion with halibut. Glee of Cemal Oguz. Start Nikon photos at dsc_0676. End dsc_0708. Dalls Porpoise a bit south, 10:34 to 10:40am, dsc_0709. (in entering this page on 19 July 2014 I don't make total sense of my notes, CRN; check nikon photos). What I remember is that after leaving the sea lion we cruised fast to the south and saw the porpoise, considerably to the south of CRN11102. many humpback whales, then on to Frankenstein Rock. 11103

11104 USA: ALASKA: Juneau Co., Admiralty Island southeast, Frederick Sound, Keku Island area, "Frankenstein Rock", N 56.930634 W 134.152656 0 m 28-Jun-2014 C. R. Nelson # 11104 & others, see field notes 84 Wypt 450frankensteinrock Our boat captain was Tony Abbott from Alpine, Utah. Those on our boat were Dennis Shiozawa, Riley Nelson, Cemal Oguz, Tyson Wayment, and Makani Fisher. 10:52am, start dsc_0759 end 12:45pm dsc_0817. Leeches on halibut caught by Tyson, photos. 11104

11105 USA: ALASKA: Juneau Co., Admiralty Island southeast, Frederick Sound, Keku Straits, N 56.938229 W 134.187095 0 m 28-Jun-2014 C. R. Nelson # 11105 & others, see field notes 84 Wypt 451yelloweye Our boat captain was Tony Abbott from Alpine, Utah. Those on our boat were Dennis Shiozawa, Riley Nelson, Cemal Oguz, Tyson Wayment, and Makani Fisher. 1:50pm start dsc_0818 end dsc_0870. drift for yelloweye. Riley with yelloweye, Dennis Shiozawa with yelloweye. dusky sea bass, ling cod. 11105

11106 USA: ALASKA: Juneau Co., Admiralty Island, Pybus Bay, Cannery Cove, Pybus Point Lodge, N 57.306495 W 134.134342 9 m 28-Jun-2014 C. R. Nelson # 11106 & others, see field notes 84 Wypt 441 pybuspoint With Mark Belk, Dennis Shiozawa, Weston Gleave, Cemal Memet Oguz, Camille Hull, Alisa Nelson, Tyson Wayment, Makani Fisher, and MiKayla Laughlin. Scott & Jody Jorgensen, C. J. Webb, and the Pybus crew. 5:24pm start dsc_0871 end dsc_1072. Photos: eagles, sunset, starfish, shrimp, jellyfish, people, lodge and boats, Scott Jorgensen. 11106

11107 USA: ALASKA: Juneau Co., Admiralty Island, Pybus Bay, Cannery Cove, Pybus Point Lodge, N 57.306495 W 134.134342 9 m 29-Jun-2014 C. R. Nelson # 11107 & others, see field notes 84 Wypt 441 pybuspoint With Mark Belk, Dennis Shiozawa, Weston Gleave, Cemal Memet Oguz, Camille Hull, Alisa Nelson, Tyson Wayment, Makani Fisher, and MiKayla Laughlin. Scott & Jody Jorgensen, C. J. Webb, and the Pybus crew. early, start 6:56am, dsc_1073 to 1098. drawing in notes of bryozoans epiphytic on blades of giant kelp, macrocystis. photos of bryozoans. Midmorning: start 9:58am, dsc_1209 to 12:15pm. High tide line. Evening: dsc_1324-1338. 11107

11108 USA: ALASKA: Juneau Co., Admiralty Island, Pybus Bay, Donkey Bay, Pybus Point, N 57.334783 W 134.149525 0 m 29-Jun-2014 C. R. Nelson # 11108 & others, see field notes 84 Wypt 452pybusbayclams With Mark Belk, Dennis Shiozawa, Weston Gleave, Cemal Memet Oguz, Camille Hull, Alisa Nelson, Tyson Wayment, Makani Fisher, and MiKayla Laughlin. Scott & Jody Jorgensen, C. J. Webb, and the Pybus crew. start 8:20am dsc_1091-1208. afternoon: 1:57pm dsc_1291-1316.

Morning: clamming, photos: clams, sand worms, anemone, mussels, poacher fish.
afternoon: with Dennis Shiozawa and Mark Belk took algae and plankton samples for stable isotope study, dsc_1318-1323. 11108

11109 USA: ALASKA: Juneau Co., Admiralty Island, south arm Pybus Bay, north of Donkey Bay, waterfall on creek, N 57.369618 W 134.184864 0 m 29-Jun-2014 C. R. Nelson # 11109 & others, see field notes 84 Wypt 453waterfalldonkeybay With Weston Gleave and Cody _____ dock hand and guide.

Photos: scenery, waterfall, people. Photos later: Mesocapnia (NO, Capnia excavata det CRN), Sweltsa, Anisopodidae, Heleomyzidae?, Muscidae, Elateridae, Cantharidae, Dolichopodidae, Bibionidae, Tipulidae, Limonia.

first: start 12:02pm dsc_1277-1291.

back in cabin photos: 5:20pm start dsc_1339-1486.

11109

11110 USA: ALASKA: Juneau Co., Admiralty Island, Pybus Bay, Cannery Cove, Pybus Point Lodge, N 57.306495 W 134.134342 9 m 30-Jun-2014 C. R. Nelson # 11110 & others, see field notes 84 Wypt 441 pybuspoint With Mark Belk, Dennis Shiozawa, Weston Gleave, Cemal Memet Oguz, Camille Hull, Alisa Nelson, Tyson Wayment, Makani Fisher, and MaKayla Laughlin. Scott & Jody Jorgensen, C. J. Webb, and the Pybus crew. morning at lodge waiting for planes. photos: humpback whale, bald eagles. 11110

11111 USA: ALASKA: Juneau Co., Admiralty Island, flight to Juneau, N 57.409755 W 133.841717 xx m 30-Jun-2014 C. R. Nelson # 11111 & others, see field notes 84 Wypt 454air With Mark Belk, Dennis Shiozawa, Weston Gleave, Cemal Memet Oguz, Camille Hull, Alisa Nelson, Tyson Wayment, Makani Fisher, and MaKayla Laughlin. Scott & Jody Jorgensen, C. J. Webb, and the Pybus crew.

Other waypoints enroute recorded with photos for photos but I could capture these: Wypt 455island N 57.792153 W 134.070501; Wypt 456juneaufloat N 58.356575 W 134.593213. photos: scenery and people. flew in Super Otter float plane. 11111

11112 USA: ALASKA: Juneau Co., Juneau, airport N 58.364303 W 134.587858 0 m 30-Jun-2014 C. R. Nelson # 11112 & others, see field notes 84 Wypt 436airportout With Mark Belk,

Dennis Shiozawa, Weston Gleave, Cemal Memet Oguz , Camille Hull, Alisa Nelson, Tyson Wayment, Makani Fisher, and MaKayla Laughlin. photos: scenery and people. 11112

11113 USA: ALASKA: Juneau Co., airline flight: Juneau - British Columbia - Seattle; light bad from Seattle to Utah. N xx W xx 0 m 30-Jun-2014 C. R. Nelson # 11113 & others, see field notes 84 With Mark Belk, Dennis Shiozawa, Weston Gleave, Cemal Memet Oguz, Alisa Nelson, Tyson Wayment, Makani Fisher, and MaKayla Laughlin. Left Camille in Juneau for another flight. photos: scenery and glaciers. Mount Rainier, Mount St. Helens. 11113

11114 USA UTAH: Utah Co., Squaw Peak Overlook, Squaw Peak Trail, N 40.301271 W 111.625767 2030 m, 04-Jul-2014 C. R. Nelson # 11114 & J. K. Nelson 84 photos: sunset time lapse, Provo time lapse, stadium fireworks time lapse. With Jera and David Parker. 11114

11115 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 05-Jul-2014 C. R. Nelson # 11115 & J. K. Nelson 84 photos: mule deer fawns from back porch. 11115

11116 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 06-Jul-2014 C. R. Nelson # 11116 84 photos: Tachinidae Trichopoda pennipes adult and Coreidae Anasa tristis adult and eggs. Tachinidae parasite of Coreidae squash bug on zucchini, yellow crookneck, and banana squash.. 11116

11117 USA: IDAHO: Clark Co. Sheridan Creek, free flowing branch East of Sheridan Lake and West of cowboy cabins near dam, N 44.455365 W 111.679786 1954 m 9-10 June 2014 C. R. Nelson # 11117 & others, see field notes 84 Wypt129 Sheridan With D. Mark Hutchings and alumni group from Construction management at BYU. Riley Nelson, Kaye Nelson, Mark Hutchings, Ross Storey, Allen Layton, John Toronto, Casey Cloward, Dustin Olson of WW Clyde, Jake Olson 14 year old son, Kevin Fieber & son Evanston Wyoming now Utah, Rick Later, pediatrician Brazil mission; Bob "Jake" Jacobson archery shop mapleton; Vince; Phil Glenn Sandy city manager, Rick Glenn doctor obstetrician Provo, Scott Thompson Portland Oregon; Ron Dunn and three grown sons; Phil Rowley professional fly fisherman from Edmonton, Alberta. Others.

Photos: Ross with rainbow trout.

MarkHutchings, Ross Storey, and I also fished downstream on the open flats below the cabins. Much algae on slower moving stream.

10 July 2014: fished creek between T in road to monster cabin and main public road with Allen Layton, construction engineer and former New York mission president; and John Toronto, retired from Wells Fargo Bank and Married to a Brigham City Packer. shared flies. later fished with Scott Thompson a young guy from Portland. Caught many fine rainbow

trout on both fast and slow 5 weight fancy fly rods, using san juan worms and a small bead head chironomid tied by Ben Parker. clear, hot weather; sialidae, Buprestidae, fished all day with a flashback pheasant tail on a small, size 20? hook. San Juan worm worked well. fishing not good during the middle of the day. Picked up in afternoon and evening. 10 July 2014: photos: dead beaver with thousands of fly larvae. It was floating in the stream. 11117

11118 USA: IDAHO: Clark Co. Sheridan Lake, 5 miles Northwest of west end Island Park Reservoir, N 44.455365 W 111.679786 1954 m 9-10 June 2014 C. R. Nelson # 11118 & others, see field notes 84 Wypt129 Sheridan With D. Mark Hutchings and alumni group from Construction management at BYU. Riley Nelson, Kaye Nelson, Mark Hutchings, Ross Storey, Allen Layton, John Toronto, Casey Cloward, Dustin Olson of WW Clyde, Jake Olson 14 year old son, Kevin Fieber & son Evanston Wyoming now Utah, Rick Later, pediatrician Brazil mission; Bob "Jake" Jacobson archery shop mapleton; Vince; Phil Glenn Sandy city manager, Rick Glenn doctor obstetrician Provo, Scott Thompson Portland Oregon; Ron Dunn and three grown sons; Phil Rowley professional fly fisherman from Edmonton, Alberta. Others. 9 June 2014: many fish caught on streamers and midge larvae and damselfly imitations. Better fishing on lake than on stream this day. 10 June 2014: fished with Phil Rowley on his boat in the late afternoon. He taught me how to rig a 13 foot leader with two chironomid imitations to dangle for rainbow trout. Callibaetis emergence, Coenagrionidae emergence. 11118

11119 USA: IDAHO: Fremont Co. Island Park, Macks Inn, Huckleberry Lane, Hwy 20 N 44.520733 W 111.329759 1973 m 8-11 July 2014 C. R. Nelson # 11119 & others, see field notes 84 Wypt128? islandparkMax cs Mark Hutchings cabin. Alumni group. Photos: people 11119

11120 USA: IDAHO: Fremont Co. Upper Mesa Falls, Henrys Fork, N 44.187093 W 111.329294 1674 m 11-Jul-2014 C. R. Nelson # 11120 & J. K. Nelson 84 Wypt 458lowermesafalls Overlook. photos: scenery and people. elevation of GPS seems to be off for both falls. 11120

11121 USA: IDAHO: Fremont Co. Lower Mesa Falls, Henrys Fork, N 44.174827 W 111.315061 1810 m 11-Jul-2014 C. R. Nelson # 11121 & J. K. Nelson 84 Wypt 457uppermesafalls photos: scenery and people. Stopped at Big Springs earlier, no photo taken or specimens collected. 11121

11122 USA: IDAHO: Fremont Co. Warm River, Hwy 47, N 44.099423 W 111.340460 1688 m 11-Jul-2014 C. R. Nelson # 11122 & J. K. Nelson 84 Wypt 459warmriver Stopped briefly at

high bridge on Hwy 32 on Bitch Creek, no easy access. Then proceeded to Driggs and up road to Grand Targhee Ski Area. photos: Canola field. Bright yellow. 11122

11123 USA: WYOMING: Teton Co. Teton, switchback, view from near Alta on Grand Targhee Ski Area road, N 43.767741 W 110.999087 2165m 11-Jul-2014 C. R. Nelson # 11123 & J. K. Nelson 84 Wypt 460targhee photos: scenery, Kaye, and blue grouse female with chicks. 11123

11124 USA: WYOMING: Sublette Co. Hoback River, jct Granite Creek, Hwy 189/191, 10 miles northwest of Bondurant, N 43.282849 W 110.533768 1919m 11-Jul-2014 C. R. Nelson # 11124 & J. K. Nelson 84 Wypt 461hoback photos: confluence of two streams. Hoback River running brown and Granite Creek running clear green. 11124

11125 USA: WYOMING: Sublette Co. Fremont Lake view, from near White Pine Ski Area, N 42.985192 W 109.775651 2636m 11-Jul-2014 C. R. Nelson # 11125 & J. K. Nelson 84 Wypt 462fremontlakeup photos: scenery and lake.
again on 12 July 2014: photos scenery, blue sky, Soda Lake, Fremont Lake. Talked with loner from Montpelier, Idaho. 11125

11126 USA: WYOMING: Sublette Co. Fremont Lake, Sylvan Bay, beach N 42.955433 W 109.783536 2270m 11-Jul-2014 C. R. Nelson # 11126 & J. K. Nelson 84 Wypt 463fremontsylvanbeach photos: scenery and Kaye. Again on 12 July 2014: photos: scenery with blue sky, Ichneumonidae. 11126

11127 USA: WYOMING: Sublette Co. Fremont Lake, cabin above Sylvan Bay, N 42.954161 W 109.778026 2381m 11-Jul-2014 C. R. Nelson # 11127 & J. K. Nelson 84 Wypt 464wheelerfremont photos: Kaye and cabin of Wheeler family 1967 - 1983. Also stopped at CCC ponds at outfall of Pine Creek on Fremont Lake, no photos taken, saw many caddisflies. 11127

11128 USA: WYOMING: Sublette Co. Wind River Mountains, Elkhart Park, N xx W xx xx 12-Jul-2014 C. R. Nelson # 11128 & J. K. Nelson 84 none Looked at two trailheads for hiking the Wind River Mountains. 11128

11129 USA: WYOMING: Sublette Co. Wind River Mountains, Wind River Overlook below Elkhart Park, N 43.008891 W 109.757957 2839m 12-Jul-2014 C. R. Nelson # 11129 & J. K. Nelson 84 Wypt 465windriveroverlook photos: panoramas, scenery. 11129

11130 USA: WYOMING: Sublette Co. Wind River Mountains, below White Pine Ski Area, N 42.953764 W 109.760335 2488m 11-12 July 2014 C. R. Nelson # 11130 & J. K. Nelson 84 Wypt 466foxes photos: foxes in evening then spot in daylight next day. blue sky. Photos: scenery and map. 11130

11131 USA: WYOMING: Sublette Co. Fremont Lake, Beaver Bay boat docks, N 42.961225 W 109.781160 2267m 12-Jul-2014 C. R. Nelson # 11131 & J. K. Nelson 84 Wypt 467beaverbayMarina Photos: scenery Photos: Lycaenidae and Nymphalidae sipping sand. 11131

11132 USA: WYOMING: Sublette Co. "Prehistoric Ant Hill" badlands, Hwy 189, 11 miles north of Big Piney, N 42.715510 W 110.081010 2168m 12-Jul-2014 C. R. Nelson # 11132 & J. K. Nelson 84 Wypt 468anthilldaniel Photos: scenery, Kaye and badlands, she calls them "prehistoric ant hills". I photoshopped a harvester ant from home into photos with Kaye on Sunday 13 July 2014. rock wren 11132

11133 USA: WYOMING: Sublette Co. Big Piney N 42.538682 W 110.109917 2080 12-Jul-2014 C. R. Nelson # 11133 & J. K. Nelson 84 Wypt 469bigpiney Photos: scenery in town. Spoke with two ladies who had experiences on bus rides. We talked while we ate burgers. 11133

11134 USA: WYOMING: Lincoln Co. Names Hill, Hwy 189, 7 miles south of La Barge, N 42.176651 W 110.187694 1973m 12-Jul-2014 C. R. Nelson # 11134 & J. K. Nelson 84 Wypt 470nameshill Photos: James Bridger inscription in soft rock from 1844. 11134

11135 USA: UTAH: Summit Co. Uinta Mountains, Bald Mountain Pass, Hwy 150, Mirror Lake Highway, south overlook, N 40.686189 W 110.906578 3240 m 12-Jul-2014 C. R. Nelson # 11135 & J. K. Nelson 84 Wypt 471balddpass Photos: scenery. 11135

11136 USA: UTAH: Wasatch Co. Uinta Mountains, Provo River Falls, Mirror Lake Highway, N 40.657407 W 110.946257 2843 m 12-Jul-2014 C. R. Nelson # 11136 & J. K. Nelson 84 Wypt 472provofalls Photos: Kaye and Riley portraits. scenery. water with long exposure, straight stem in log. Curves, cotton candy, and one straight line. 11136

11137 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 16-Jul-2014 C. R. Nelson # 11137 84 photos: at home with Kori and Mike Pilkington, friends from Logan, Utah during time in graduate school, 1980-1983. They now live in Placerville, California. She has had troubles with brain tumors. 11137

11138 USA: UTAH: Utah Co., Orem, church at 50 South 800 East, N 40.295734 W 111.677934 1469 m 22-Jul-2014 C. R. Nelson # 11138 84 Google Earth photos: Bea, Madge, Vera, Shirley, and J. Walt Wheeler Family Reunion. photos: Kaye Nelson, Sherry Wheeler, Nancy Slater from Sparks, Nevada, Linda, Maren Kurzer from Michigan, Kent Wheeler, Annadale Wheeler, and their daughter Dawn Dunn. 11138

11139 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 23-Jul-2014 C. R. Nelson # 11139 84 photos: Great Basin Rattlesnake on cabin steps. 11139

11140 USA: UTAH: Utah Co., Provo, BYU motorpool, N 40.245961 W 111.644159 1410 m, 25-Jul-2014 C. R. Nelson # 11140 84 photos: Celastraceae, *Euonymus japonicus*. 11140

11141 USA: UTAH: Sanpete Co. Highway 89, 5 miles north of Ephraim, N 39.411219 W 111.560949 1687 m, 25-Jul-2014 C. R. Nelson # 11141 & R. L. Johnson & A. Yankee. 84 Wypt 473nephraim With Robert L. Johnson and Adam Yankee. photos: crested wheatgrass, cheatgrass, juniper. scenery. 11141

11142 USA: UTAH: Sanpete Co. Ephraim Canyon area, top of Willow Canyon, N 39.270590 W 111.518317 2791 m, 25-Jul-2014 C. R. Nelson # 11142 & R. L. Johnson & A. Yankee. 84 Wypt 475ephraimtop With Robert L. Johnson and Adam Yankee, in Robert's Wyethia/Tephritidae plot. photos: Tephritidae, 3-4 species, *Trupanea*, *Tephritis*, *Neotephritis*, and large?; also saw *Paroxyna*. Photos: Chrysomelidae on Wyethia and *Lupinus*, Chalcidoidea or Chrysididae shiny green on Wyethia with aphids; Cicadellidae, Raphidiidae, blue grouse chick (saw mother). 11142

11143 USA: UTAH: Sanpete Co. Ephraim Canyon area, ridge between Willow Canyon and Sanpete Valley, N 39.287186 W 111.546854 2776 m, 25-Jul-2014 C. R. Nelson # 11143 & R. L. Johnson & A. Yankee. 84 Wypt 476ephraimridge With Robert L. Johnson and Adam Yankee, photos: panorama, north Sanpete Valley, fire above Levan, Mount Nebo in smoke. Ate lunch. photos: at home, *Stenopogon inquinatus*, Ichneumonidae large red and black. 11143

11144 USA: UTAH: Sanpete Co. Ephraim Canyon area, ephemeral pool in Willow Canyon, N 39.323486 W 111.512304 2389 m, 25-Jul-2014 C. R. Nelson # 11144 & R. L. Johnson & A. Yankee. 84 Wypt 477pool With Robert L. Johnson and Adam Yankee. saw *Sagittaria* plants and many Lestidae 11144

11145 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 26-27 July 2014 C. R. Nelson # 11145 & family 84 photos: climbing to fossils on hill with Kaye Nelson and Wolfgang Smith, Amy Smith, Andrea Nelson, and Jordan Christopher. photos: hummingbirds, broad tail, black chin, and rufous. 11145

11146 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 31-Jul-2014 C. R. Nelson # 11146 84 photos: Cicadellidae exactly as found on *Forsythia hybrid x intermedia*. 11146

11147 USA: UTAH: airline flight over Great Salt Lake N 40.9489 W 112.1237 xx m 03-Aug-2014 C. R. Nelson # 11147 & J. K. Nelson 84 photos: Great Salt Lake 11147

11148 GERMANY: Bavaria: Dachau Concentration Camp, N 48.270936 E 11.468246 481 m 04-Aug-2014 C. R. Nelson # 11148 & J. K. Nelson 84 Wypt 478dachau photos: camp 11148

11149 GERMANY: Bavaria: Eibsee near Garmisch N 47.455778 E 10.993254 1016 m 04-Aug-2014 C. R. Nelson # 11149 & J. K. Nelson 84 Wypt 479zugspitzebahn photos: Zugspitze Peak.
from tram area. 11149

11150 AUSTRIA: Tyrol: Plansee (lake), near Garmisch N 47.480545 E 20.826773 1001 m 05-Aug-2014 C. R. Nelson # 11150 & J. K. Nelson 84 Wypt 480planseelake photos: lake, scenery, glacial milk lake. 11150

11151 GERMANY: Bavaria: Neuschwanstein Castle, N 47.557513 E 10.750100 985 m 05-Aug-2014 C. R. Nelson # 11151 & J. K. Nelson 84 Wypt 481neuschwanstein photos: castle and scenery, also of Hohenschwangau Castle and views from Mary's Bridge. 11151

11152 GERMANY: Bavaria: Lech River, Nature area south end of Weissshaus; parked in Austria: Tyrol, N 47.559551 E 10.693239 818 m 05-Aug-2014 C. R. Nelson # 11152 & J. K. Nelson 84 Wypt 482weissshaus photos: Kaye, scenery, glacial milk river. took a second gps reading to north Wypt 483lechrivier weissshaus germany N 47.560440 E 10.694497, 802 m. 11152

11153 GERMANY: Bavaria: Schwangau, N 47.576835 E 10.734129 798 m 05-Aug-2014 C. R. Nelson # 11153 & J. K. Nelson 84 Googleearth photos: cows crossing road. Noticed camera not changed on trip to German time, which is 8 hours behind the Utah time for which the camera was set. 11153

11154 GERMANY: Bavaria: Alps Mountains, Eibsee, tram lift for Zugspitze, N 47.456191 E 10.991867 991 m 06-Aug-2014 C. R. Nelson # 11154 & J. K. Nelson 84 Googleearth photos: lift house, gondola, trip to top of Zugspitze Peak, Eibsee (lake) and scenery. later trip down on cogwheel train. 11154

11155 GERMANY: Bavaria: Alps Mountains, Zugspitze Peak, 2962m N 47.421254 E 10.986094 2962 m 06-Aug-2014 C. R. Nelson # 11155 & J. K. Nelson 84 Googleearth photos: scenery, people climb to exact top. photos: yellow billed, alpine chough birds (pronounced chuff) 11155

11156 GERMANY: Bavaria: Alps Mountains, Zugspitzeplatte, glacier area, N 47.413210 E 10.981091 2566 m 06-Aug-2014 C. R. Nelson # 11156 & J. K. Nelson 84 Wypt

485glacierflat photos: scenery, people. painting mountains, sledding, Catholic chapel with crucifix dedicated by Pope Jean Paul II as a younger priest. photos: Syrphidae: Eristalis sp. on watercolor paints. 11156

11157 GERMANY: Bavaria: Alps Mountains, Grainau, Kreuzeck ski lift (Kreuzeckbahn), to base of Alpspitze Peak, N 47.439146 E 11.050901 2022 m 06-Aug-2014 C. R. Nelson # 11157 & J. K. Nelson 84 Wypt 487alpspitze also GPS: Wypt 486kreuzecklunch N 47.451106 E 11.066349 elev. 1628m. photos: scenery, Garmisch valley, mountains, and people. photos: mugo pine trees (*Pinus mugo*) and other trees. 11157

11158 GERMANY: Bavaria: Rothenburg, medieval walled city, N 49.374294 E 10.181216 419 m 07-Aug-2014 C. R. Nelson # 11158 & J. K. Nelson 84 Google Earth photos: people and scenery. Google Earth taken from near Cafe Uhl where we met a nice innkeeper and baker where we stayed the night of 6-7 August. 11158

11159 GERMANY: Hesse: Schlitz, home of Peter and Heide Zwick, N 50.671852 E 9.554778 250 m 7-8 August 2014 C. R. Nelson # 11159 & J. K. Nelson & H. & P. Zwick 84 Wypt 489 zwicks photos: people and scenery. Peter shared with me a joke between Frederick the Great and Voltaire from Sanssouci. The king wrote a riddle with a "p" above "Venez" then " \sqrt{t} " then "sans" below (sous) "ci". Thus "Venez below (sous) "p" " \sqrt{t} " then "sans" below (sous) "ci": a play on words reading: Venez souper \sqrt{t} Sanssouci. " to eat at Sanssouci."Voltaire replied "G a", Big G little a, which reads, G grand a petit thus "J'ai grand appetit", "I am very hungry", an acceptance of the invitation. photos: black bird under yew; in garden: Rudbeckia? sunflowers (painted on 9 August 2014 from memory in Dresden) 11159

11159.5 GERMANY: Hesse: Schlitz, cemetery view of old city, N 50.678356 E 9.556859 266 m 07-Aug-2014 C. R. Nelson # 11159.5 & J. K. Nelson & H. & P. Zwick 84 Wypt 488schlitzcemetery photos: view to old part of town, with Heide and Peter Zwick. 11159.5

11160 GERMANY: Hesse: Breitenbach (stream), 2.85 air miles southeast of Schlitz, N 50.661904 E 9.624068 280 m 07-Aug-2014 C. R. Nelson # 11160 & J. K. Nelson & H. & P. Zwick 84 Google Earth photos: view to old part of town, with Heide and Peter Zwick. Later we ate dinner in the nearby village of Pfordt: Google Earth: N 50.657578 E 9.599099 elev. 227 m. Photos: scenery of this famous scientific location, scenery and people. Canola, Pieridae *Gonopteryx rhamni*, Chrysomelidae *Diochrysa fastuosa* (Scopoli); snail *Succinea putris*; Tachinidae; Scarabaeidae *Geotrupes silvaticus* Panzer and mites (could be *stercorosus*); fungi; oats; Asilidae near *Machimus* with prey Miridae; moth, Tortricidae on rayless aster; jewel weeds, *Impatiens parviflora* is smaller one with explosively dehiscent fruit, *Impatiens glandulifera* is the large one. 11160

11161 GERMANY: Saxony: Freiberg, LDS temple, N 50.922636 E 13.323285 432 m 08-Aug-2014 C. R. Nelson # 11161 & J. K. Nelson 84 Wypt 492freibergtemplegood photos: temple, Kaye, and Riley 11161

11162 CZECH REPUBLIC: Usti Nad Labem: Petrovice N 50.772050 E 13.972103 578 m 08-Aug-2014 C. R. Nelson # 11162 & J. K. Nelson 84 Wypt 493petrovice photos: pond with floating film, scenery. 11162

11163 GERMANY: Saxony: Dresden, Old and New market area, downtown, N 51.051829 E 13.7412432 116 m 08-Aug-2014 C. R. Nelson # 11163 & J. K. Nelson 84 Google Earth photos: Kaye with frikadeller from food truckm Frauenkirche (church), Kreuzekirche, Semperoper the architect, all in moonlight, ruins below Frauenkirche, sunset, repaired balustrade in different colors. Also our hotel, Hotel Burgk: Wypt 494dresdenhotelburgk N 51.046005 E 13.697859 elev. 141m. Here I finally reset clock to German time AFTER these evening photos. All previous on Nikon during this trip record Utah times, 8 hours ahead, so: if noon Germany then 4:00am Utah. 11163

11164 GERMANY: Saxony: Koenigstein fortress (Festung) on Elbe River, N 50.918686 E 14.061812 392 m 09-Aug-2014 C. R. Nelson # 11164 & J. K. Nelson 84 Wypt 496konigpaint photos: fortress, Elbe River, surrounding countryside including part of Czech Republic, the Sudetenland, Wypt 495konigczech N 50.918402 E 14.056634 elev. 327m. GPS of main site refers to the place where I painted a view of Lilienstein "mesa" and Elbe River. 11164

11164.5 GERMANY: Brandenburg: rest stop on autobahn 13, south of Berlin N 51.458234 E 13.853403 99 m 09-Aug-2014 C. R. Nelson # 11164.5 & J. K. Nelson 84 Wypt 497reststopon13 photos: rest stop, slept briefly. 11164.5

11165 GERMANY: Berlin: Berlin, city scenes and Berlin Wall Memorial, N 52.535320 E 13.390205 10 m 09-Aug-2014 C. R. Nelson # 11165 & J. K. Nelson 84 Wypt 498berlinwall photos: street scenes and Berlin Wall. 11165

11166 GERMANY: Brandenburg: Potsdam, Kongresshotel area south of city, N 52.375644 E 13.014138 21 m 10-15 August 2014 C. R. Nelson # 11166 & J. K. Nelson 84 Wypt 499potsdamkongresshotel photos: people and scenery during Eighth International Congress of Dipterology. With a group picture taken on 15 August 2014, 373 delegates. 11166

11166.5 GERMANY: Brandenburg: Potsdam, Sanssouci palace and park, N 52.405232 E 13.029581 33 m 13-Aug-2014 C. R. Nelson # 11166.5 & J. K. Nelson 84 Wypt 500orangerie photos: grounds, palaces, Frederick the Great's dying chair, green. Sculpture boy with an insect net. More 11166.5

11167 GERMANY: Brandenburg: Potsdam, Kongresshotel area south of city, N 52.375644 E 13.014138 21 m 12-Aug-2014 C. R. Nelson # 11167 & J. K. Nelson 84 Wypt 499potsdamkongresshotel photos: people, Art Borkent, Chris Borkent, Fritz Geller-Grimm, Martin Hauser, Marc Pollet, Brian Wiegmann, Sigita Podenas, Andrius Petrasius (Trichocera student), Fenja Brodo, Virginija Podeniene, Jeff Skevington, Christophe Dufour, Herman de Jong, Wieslaw Krzeminski, Bjorn Rulik, Perfilippe Cerretti, James O'hara, Peter Tschorsnig, Franz'Rudolf Schnitzler, John Stireman, Shaun Winterton, David Yeates, David Grimaldi, Lucas Cazar, Li Shi, Christ Thompson, Monty Wood, Eric and Jan Fisher, Neal Evenhuis, Pyotr Oosterbrook, Marion Kotraba, more. 11167

11168 GERMANY: Berlin: Berlin, Natural History Museum, (Berlin museum fur naturkunde), of Humboldt University, N 52.53002 E 13.379514 40 m 14-Aug-2014 C. R. Nelson # 11168 & J. K. Nelson 84 Google Earth photos: people and specimens; Amnon Freidberg, Christophe Dufour, Joachim Ziegler, exhibits person, Virginija and Sigita Podenas, Li Shi, Zhao Dang?, and young chinese woman, Peter Havelka. Photos: Berlin specimen of Archaeopteryx lithographica, Ammonites, wall of diversity, A 11168

11169 GERMANY: Bavaria: Munich Airport, N 48.354228 E 11.783401 446 m 16-Aug-2014 C. R. Nelson # 11169 & J. K. Nelson 84 Wypt 502munichairport photos: gate area, then on 15 August "clouds" streaming over wing during takeoff. 11169

11170 GERMANY: Bavaria: Munich Airport area, Schwaig village, NH Munich Airport Hotel, N 48.351551 E 11.828659 461 m 16-Aug-2014 C. R. Nelson # 11170 & J. K. Nelson 84 Wypt 501munichairport photos: picture out our hotel room. We walked rainy streets on evening of 15 August 2014 and ate at the "Il Casale" Restaurant. It was very nice. 11170

11171 USA: COLORADO and UTAH: Delta Airline flight, Atlanta to Salt Lake City, N xx W xx xx m 16-Aug-2014 C. R. Nelson # 11171 & J. K. Nelson 84 see many below photos: scenery from the air. I didn't reset my Nikon camera clock until AFTER these photos, so right time starts again at CRN11172 in a new book, number 85.

GPS readings from plane's screen, nice method. Views out right side, to north. Converted from dms to dd.dd using on line application.

COLORADO: Summit Co, jagged mountains north of Aspen, range including Mt. Powell: 39.52 -106.27

COLORADO: Eagle Co, Colorado River "headwaters" east of Glenwood Springs: 39.76 - 106.99

COLORADO: Rio Blanco Co, "anticlines" and ribs and White River: 40.098 -108.58

COLORADO: Rio Blanco Co, rocks, valleys, streams, Utah borer, Green River near Split Mountain: 40.11 -108.95

UTAH: Uintah, then on Utah Side, view of Dinosaur National Monument and Vernal: 40.12 -

109.21

UTAH: Uintah Co., oxbow of Green River, east of Randlett: 40.14 -109.73

UTAH: Duchesne Co., view to Uinta Mountains: 40.15 -110.62

UTAH: Wasatch Co, Strawberry Reservoir: 40.14 -111.11

UTAH: Utah Co., Hobble Creek, Springville, Utah Lake, Y Mountain, Cascade Mountain and Mount Timpanogos, northern Utah County: 40.12 -109.21

UTAH: Salt Lake Co., Lone Peak, Salt Lake Valley, and landing, no GPS, screen blanked. End of CRN book 84. Start 85 as soon as I get to my office.

Views to shortgrass prairie, Denver, jet over ski areas, mountains, and Colorado Plateau deserts and streams. Utah County, etc. 11171

11172 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.5 miles South of Vivian Park and Hwy 189, N 40.347824 W 111.548038 1581 m 21-Aug-2014 C. R. Nelson # 11172 & G. W. Courtney 85 Wypt 348southfork photos: Muscomorpha larva is it Sciomyzidae? Anthomyiidae?. Greg collected Dixidae from springs of beaver ponds. 11172

11172.5 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 22-Aug-2014 C. R. Nelson # 11172.5 & G. W. Courtney 85 photos of Greg at breakfast 11172.5

11173 USA: UTAH: Utah Co., Big Springs Creek, lower meadows, 3 air miles south of Vivian Park N 40.328071 W 111.529482 1787 m 21-Aug-2014 C. R. Nelson # 11173 & G. W. Courtney 85 wypt 505bigspringsmeadow guessed in notes at being 5 miles south of Vivian Park photos: malenka adult and nymphs, Ephydriidae: Ochthera mantis, Corimelaenidae, Rhycophilidae, Braconidae? 11173

11174 USA: UTAH: Utah Co., Hobble Creek, just upstream from Cherry Campground, N 40.170424 W 111.473810 1588 m 21-Aug-2014 C. R. Nelson # 11174 & G. W. Courtney 85 See wypt 520cherry photos: Haliplidae: Peltodytes; Asilidae: Lasiopogon; Hydrophilidae larva; Dryopidae.

Polycentropodidae: Tinodes?

saw Pteronarcella badia young nymphs, Hesperoperla pacifica nymphs.

thought saw: Dysticidae: Oreodytes, NO! 11174

11175 USA: UTAH: Utah Co., Sixth Water, Sheep Creek Road crossing, 17 road miles north of Hwy 6, (12 air miles N) N 40.151188 W 111.301048 2029 m 21-Aug-2014 C. R. Nelson # 11175 & G. W. Courtney 85 wypt 506sixthwater looked at stains on underside of bridge from Athericidae: Atherix pachypus fly aggregations. 11175

11176 USA: UTAH: Utah Co., Sheep Creek Road, hairpin overlook 4 miles north of Hwy 6 at Cedar Haven, N 40.008611 W 111.308496 2211 m 21-Aug-2014 C. R. Nelson # 11176 & G. W. Courtney 85 wypt 507sheepcreekridge photos: views of juniper chaining patchwork south of Hwy 6 11176

11177 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.956203 W 111.268019 1839 m, 21-Aug-2014 C. R. Nelson # 11177 & G. W. Courtney 85 Looked around cabin and spring trail found scaled fish fossil at Wypt 508fish N 39.958644 W 111.267419 elev. 1858 m. In solid shale layer, on top of exposure. Cut from rock on 30 August 2014. 11177

11178 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 24-Aug-2014 C. R. Nelson # 11178 85 photos: Calliphoridae, 2 genera, metallic green and dull blue hairy 11178

11179 USA: UTAH: Salt Lake Co. Salt Lake City, Christopher/Nelson home, 973 East 800 South, N 40.752163 W 111.862984 1324 m 25-Aug-2014 C. R. Nelson # 11179 85 Google Earth photos: early morning first look at Andrea and Jordan's house. Too early to stop. After taking Kaye to the airport. 11179

11180 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Aug-2014 C. R. Nelson # 11180 85 photos: big dead rat in the yard, Rattus rattus. Given to Duke Rogers at BYU 11180

11181 USA: UTAH: Utah Co., Provo, BYU, Life Science Building, N 40.245374 W 111.649216 1403 m 25-Aug-2014 C. R. Nelson # 11181 85 Google Earth photos: Deans, Rod Brown and Kent Crookston on second floor steps. The new building, they planned it. photos: deer in planted gardens 11181

11182 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.263988 W 111.663804 1436 m 06-Sep-2014 C. R. Nelson # 11182 & classes 85 Wypt 509provobridge photos: people by Tyler xxx up until I photographed Tyler. First 25 samples for Biology 100 class; also Aquatic Entomology class.

TA's: Bryan Masterson, Todd Workman, Sam Smith, Sarahbeth Brown, Elisabeth Loveland. Students: Travis Swindall, Lauren Handy, Toria Baker, Nathan Frame, Paige Brock Margaret Peterson, John Niedfeldt, Brandon Richmond, Tristan Lubina, Amber Call, Caitie Marble, Kristin Jorgensen, Taylor Zundel, Kate Menlove, Madison Richards, Amelia Oross, Amanda Toomey, Haley Peterson, Sydnee Higginson, madeline Williamson, Jessica Tolman, Kayla Szendre, matthew Young, Mike Payne, Jessica Amos, Julia Amos, Ashley Armknecht, Melissa Low, Sara Jane Bennion, Mckayla Cook, Trey Farnsworth, Leonard Davis, Savannah Slater, Hayley Hobbes, Makani Fisher (Aq Ent), Morgan Vonasek (Aq Ent), Tanner Jorgensen,

Benj Jensen, Jared Bushman, Zach Harris, Stephen Headrick, Andrew Rich, Philip Atoigue, Jessica Alsop, Erin Kelly, India Sherman, Austen Walker, Miriam Cannon, Krysta Taylor, Cassidy Young, Emily Duncan, Rachel Draper, Jessica Eliason, Kalen Potter, Kip Hacking, Hannah Maines, Allison Johnson, Max dyson Stokes, Matt Breneman, Rachel Butterfield, Mary Rose McQueen, Madeline Andrew, Mary Reynolds. counted 65 signers. isopoda, sculpin, leeches, others. 11182

11183 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 06-Sep-2014 C. R. Nelson # 11183 85 photos: Chloropidae, from screen door, photos at home on squash skin and pear. Excellent photos 11183

11184 USA: UTAH: Utah Co., Mount Timpanogos, spring of South Fork American Fork River, near Timpooneke Trailhead, N 40.430571 W 111.638369 2243 m 11-Sep-2014 C. R. Nelson # 11184 & class 85 Google Earth with Aquatic Entomology class. photos: Allomyia, Trichoptera adult, Sweltsa borealis female. flatworms 11184

11185 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River, site 4, Timpooneke Campground, N 40.43226 W 111.63741 2213 m 11-Sep-2014 C. R. Nelson # 11185 & class 85 with Aquatic Entomology class. saw: Megarcys, Drunella grandis, Empididae. 11185

11186 USA: UTAH: Box Elder Co. Willard Peak Road, Perry Reservoir, 6 miles south of mantua, N 41.428871 W 111.965542 2316 m 12-Sep-2014 C. R. Nelson # 11186 & class 85 with Aquatic Entomology class. C. Riley Nelson, Jessica C. Buss, Matthew T. Dungan, Morgan Tyler Vonasek, Elias A. Combs, Sarah E. (Sarahbeth) Brown. photos at 11187: Chaoboridae Chaoborus det CRN. Belostomatidae Lethocerus det CRN, Coenagrionidae, Libellulidae, Aeshnidae, tiger salamanders, Notonectidae, Corixidae, Tubifex worms, Dytiscidae, Haliplidae, flickers, Stellers jay, red breasted nuthatch, mountain chickadee 11186

11186.3 USA: UTAH: Box Elder Co. last ridge on road to Inspiration Peak, Willard Peak Road, N 41.401474 W 111.983317 2696 m 12-Sep-2014 C. R. Nelson # 11186.3 & class 85 wypt 513abovewillardbasin slate rock. photos: group and scenery. Blue grouse, Clarks nutcracker.

with Aquatic Entomology class. C. Riley Nelson, Jessica C. Buss, matthew T. Dungan, Morgan Tyler Vonasek, Elias A. Combs, Sarah E. (Sarahbeth) Brown. 11186.3

11186.6 USA: UTAH: Box Elder Co. Willard Peak Road, CCC (Civilian Conservation Corps) gate (rock formation) N 41.438733 W 111.945493 2133 m 12-Sep-2014 C. R. Nelson # 11186.6 & class 85 wypt 514ccc photos: rock formation.

with Aquatic Entomology class. C. Riley Nelson, Jessica C. Buss, matthew T. Dungan, Morgan Tyler Vonasek, Elias A. Combs, Sarah E. (Sarahbeth) Brown. 11186.6

11187 USA: UTAH: Box Elder Co. Woods Creek, duck club, 2 miles south of Corinne, N 41.517208 W 112.139878 1288 m 13-Sep-2014 C. R. Nelson # 11187 & class 85 wypt 515farmhouse slept night of 12-13 September 2014, ate taco dinner with cousin Tod Young. joined by two more aq ent: Lance Harris and Makani Fisher.

with Aquatic Entomology class. C. Riley Nelson, Jessica C. Buss, matthew T. Dungan, Morgan Tyler Vonasek, Elias A. Combs, Sarah E. (Sarahbeth) Brown. photos: Dytiscidae, Baetidae Callibaetis, Syrphidae? larva, Aeshnidae Anax junius, Libellulidae, leopard frog Rana pipiens. Nepidae, Hydrophilidae, Coenagrionidae, Mesoveliidae, Chaoboridae. Also took Chaoboridae photos out of order from 11186. Birds: white faced ibis, Bonapartes gull, avocet, mallard, sandhill crane, canada goose, white pelican, cinammon teal, great blue heron, yellow headed blackbird, brewers blackbird, Marsh wren, sparrow, magpie, california gull, coot, great horned owl, kestrel, Marsh hawk, snowy egret, eared grebe, barn swallow, cliff swallow, turkey vulture. elsewhere on trip 8 species, farm: 26 species. meadow lark, collared dove at Singh's. 11187

11188 USA: UTAH: Box Elder Co. Malad River, Hwy 13, south end of Bear River City, N 41.593578 W 112.128825 1287 m 13-Sep-2014 C. R. Nelson # 11188 & class 85 wypt 516Maladratbearrivercity

with Aquatic Entomology class. C. Riley Nelson, Jessica C. Buss, matthew T. Dungan, Morgan Tyler Vonasek, Elias A. Combs, Sarah E. (Sarahbeth) Brown, Lance Harris, and Makani Fisher. dead male, Polymitarcyidae, Ephoron album; redtailed hawk, double crested cormorant. 11188

11189 USA: UTAH: Box Elder Co. Bear River, Hampton Ford, Fielding, N 41.786817 W 112.106147 1293 m 13-Sep-2014 C. R. Nelson # 11189 & class 85 wypt 517bearriverhamptonford

with Aquatic Entomology class. C. Riley Nelson, Jessica C. Buss, matthew T. Dungan, Morgan Tyler Vonasek, Elias A. Combs, Sarah E. (Sarahbeth) Brown, Lance Harris, and Makani Fisher. Veliidae, Rhagovelia; Gyrinidae, Gyrinus; Sialidae, Sialis; Hydropsychidae; Baetidae; crayfish; green sunfish; leopard frog. 11189

11190 USA: UTAH: Box Elder Co. east side canal of Bear River, near Hwy 30, N 41.785339 W 112.102581 1339 m 13-Sep-2014 C. R. Nelson # 11190 & class 85 Google Earth with Aquatic Entomology class. C. Riley Nelson, Jessica C. Buss, matthew T. Dungan, Morgan Tyler Vonasek, Elias A. Combs, Sarah E. (Sarahbeth) Brown, Lance Harris, and Makani Fisher. female Polymitarcyidae, Ephoron album; canal near "Aggie" man house after climbing east on road out of Hampton Ford. 11190

11191 USA: UTAH: Box Elder Co. Malad River in south Garland, 0.4 miles west of Hwy 13, N 41.726597 W 112.150871 1299 m 13-Sep-2014 C. R. Nelson # 11191 & class 85 Google Earth

with Aquatic Entomology class. C. Riley Nelson, Jessica C. Buss, matthew T. Dungan, Morgan Tyler Vonasek, Elias A. Combs, Sarah E. (Sarahbeth) Brown, Lance Harris, and Makani Fisher. Nepidae, Ranatra; Sialidae, Sialis; Gerridae; Corixidae 11191

11192 USA: UTAH: Utah Co., Provo, Edgemont, Schumann home near Nelson home, N 40.29343 W 111.64922, elev. 1495 m, N 41.726597 W 112.150871 1299 m 04-Sep-2014 C. R. Nelson # 11192 85 Lycosidae wolf spider, Hogna carolinensis; caught for Jake and Garn Schumann in the window well of their house. Given to TA Camilla Stark, as a gift. 11192

11193 USA: UTAH: Utah Co., Spring Creek, Springville, Hwy 89, main Street, near Division of Wildlife Resources office, N 40.182421 W 111.612428 1370 m 18-Sep-2014 C. R. Nelson # 11193 & class 85 Wypt 519springcreek

with Aquatic Entomology class. C. Riley Nelson, Jessica C. Buss, matthew T. Dungan, Morgan Tyler Vonasek, Elias A. Combs, Sarah E. (Sarahbeth) Brown, Lance Harris, Kevin Mitchell, Hailea Planesi, Douglas Fairbanks, Sam Smith, and Makani Fisher. photos: Sisyridae, Climacia, adults and larvae. This is the first place where these spongillaflyies have been caught in good numbers in Utah. Robert Mower, of mosquito abatement found them. Asellidae, saw many Odonata 11193

11194 USA: UTAH: Utah Co., Right Fork Hobbie Creek, just upstream from Cherry Campground, N 40.170424 W 111.473810 1588 m 18-Sep-2014 C. R. Nelson # 11194 & class 85 Wypt 520cherry

with Aquatic Entomology class. C. Riley Nelson, Jessica C. Buss, matthew T. Dungan, Morgan Tyler Vonasek, Elias A. Combs, Sarah E. (Sarahbeth) Brown, Lance Harris, Kevin Mitchell, Hailea Planesi, Douglas Fairbanks, Sam Smith, and Makani Fisher. photos: people and scenery; each student took one First 100 sample. Paraleptophlebia, malenka, Ptychopteridae, Siricidae (to Makani Fisher). Same spot as CRN 11174. 11194

11195 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle N 39.95623 W 111.26763 1829 m 20-Sep-2014 C. R. Nelson # 11195 85 photo: Chrysomelidae: Galeruca? collected on stem of crested wheatgrass, photographed at home on Ericameria nauseosus. 11195

11196 USA: UTAH: Utah Co., Spring Creek, Springville, Hwy 89, main Street, near Division of Wildlife Resources office, N 40.182421 W 111.612428 1370 m 20-Sep-2014 C. R. Nelson # 11196 85 Wypt 519springcreek same spot as CRN 11193 photos: Sisyridae, Climacia,

adults and larvae. Some collected in 100% ethanol. photos: Tipulidae: Geranomyia, posed at home on *Ericameria nauseosus*. 11196

11197 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 21-Sep-2014 C. R. Nelson # 11197 85 photo: Syrphidae feeding on pollen of *Datura wrightii*. 11197

11198 USA: UTAH: Utah Co., Diamond Fork River, 0.5 miles north of Hwy 6, river and ponds, N 40.033605 W 111.496664 1512 m 25-Sep-2014 C. R. Nelson # 11198 & class 85 Wypt 520cherry

with Aquatic Entomology class. C. Riley Nelson, Jessica C. Buss, matthew T. Dungan, Morgan Tyler Vonasek, Elias A. Combs, Sarah E. (Sarahbeth) Brown, Lance Harris, Kevin Mitchell, Hailea Planesi, Douglas Fairbanks, Sam Smith, and Makani Fisher. River: Pteronarcyidae, Perlodidae, Elmidae, Hydropsychidae, Helicopsychidae, flatworms, Baetidae, Brachycentridae, Simuliidae, Chironomidae, Acari, Chloroperlidae?, Ephemerellidae. Pond: Aeshnidae, Coenagrionidae, Dytiscidae, Hydrophilidae, Haliplidae, Notonectidae, Corixidae, Physidae, Gerridae, Cottidae, Cyprinidae.

photos: Perlidae: *Claassenia* nymph; 11198

11199 USA: UTAH: Salt Lake Co. Draper, Living Planet Aquarium, N 40.532184 W 111.893966 1349 m 27-Sep-2014 C. R. Nelson # 11199 & J. K. Nelson 85 Google Earth photos: sturgeon, largemouth bass, bluegill sunfish, razorback sucker, bonytail? chub, brown trout, lake trout, tiger trout?, arctic grayling, mountain whitefish, bonnevill whitefish, tiger salamander, *Chrysaora* jellyfish, electric eel, angelfish, tambaqui *Colossoma macropomum*, red tailed catfish, peacock bass *tucunare Cichla ocellaris* or *monoculus*, *Arapaima gigas*, aruana, frog gray, *Dendrobates leucomelas*, *Phyllobates terribilis*, gentoo penguin, butterfly fish, picasso triggerfish, "Maene", yellow tang, copperband butterflyfish, long clawed crab, lionfish (*Pterois volitans*), puffer, clown anemonefish, "long finned grunt", red lionfish, blue spiny lobster, coral, vana, garden eel, blue crab, zebra mantis shrimp, social featherduster worm, thick spined sea urchin, dead commercial squid (food), blue chromis?, blue? big nose unicornfish, loggerhead sea turtle, nurse shark, sandbar shark, green sea turtle, pacific spadefish, stingray, elegant unicornfish, humpnose unicornfish, bluespine unicornfish, *Monodactylus sebae*?, guitarfish, wrasse, black tipped reef shark. 11199

11200 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 28-Sep-2014 C. R. Nelson # 11200 85 photos: Curculionidae, strawberry root weevil?, *Otiorhynchus ovatus*. 11200

11201 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.5 miles south of Vivian Park, N 40.347784 W 111.547758 1658 m 02-Oct-2014 C. R. Nelson # 11201 & class 85 Wypt 003southfork I think the whole class was there.

with Aquatic Entomology class. C. Riley Nelson, Jessica C. Buss, matthew T. Dungan, Morgan Tyler Vonasek, Elias A. Combs, Sarah E. (Sarahbeth) Brown, Lance Harris, Kevin Mitchell, Hailea Planesi, Douglas Fairbanks, Sam Smith, and Makani Fisher. Tipulidae, Elmidae, Heptageniidae, Chloroperlidae, Ephemerellidae *Drunella grandis* and *Drunella doddsi*, Simuliidae, Rhyacophilidae, photos: *Hesperoperla pacifica* nymph, Chironomidae, Dixidae, Nemouridae malenka, Uenoidae *Neothremma*, Hydropsychidae *Arctopsyche*, Perlodidae *Skwala*, Baetidae. 11201

11202 USA: UTAH: Utah Co., Little North Fork Creek, Hwy 92, Sundance Road, 0.7 miles north of Hwy 189, Provo Canyon, N 40.372321 W 111.568980 1676 m 02-Oct-2014 C. R. Nelson # 11202 & class 85 Google Earth I think the whole class was there.

with Aquatic Entomology class. C. Riley Nelson, Jessica C. Buss, matthew T. Dungan, Morgan Tyler Vonasek, Elias A. Combs, Sarah E. (Sarahbeth) Brown, Lance Harris, Kevin Mitchell, Hailea Planesi, Douglas Fairbanks, Sam Smith, and Makani Fisher. Blephariceridae, Chironomidae, Hydropsychidae *Parapsyche*?, Heptageniidae, Baetidae, Perlodidae *Megarcys*. 11202

11203 USA: UTAH: Emery Co. San Rafael Swell, Muddy Creek, Hidden Splendor Mine area, N 38.568236 W 110.955899 1460 m 3-4 October 2014 C. R. Nelson # 11203 & others, see field notes 85 wypt 005hiddensplendor camp; photos scenery between here and CRN 11204. Hiked with Steven Clark and Jared Farmer. Start downstream hike at 1:20pm. End Wypt 007trailheadend N 38.565812 W 110.959390 elev. 1428m. 7:10pm.

4 October 2014: Photos: early morning Big Dipper time lapse also early morning sunrise on the reef also panoramas. Lestidae: *Archilestes grandis* 11203

11204 USA: UTAH: Emery Co. San Rafael Swell, Muddy Creek, downstream from Hidden Splendor Mine area, N 38.537801 W 110.934635 1399 m 03-Oct-2014 C. R. Nelson # 11204 & others, see field notes 85 wypt 006muddyrivertail 5:07 pm. photos and watercolors, scenery. Hiked with Steven Clark and Jared Farmer. 11204

11205 USA: UTAH: Emery Co. San Rafael Swell, Muddy Creek, trailhead up from Hidden Splendor Mine area, N 38.565764 W 110.961136 1555 m 04-Oct-2014 C. R. Nelson # 11205 & others, see field notes 85 wypt 008hiddenup trail 9:08 am. photos of scenery. Hiked with Steven Clark and Jared Farmer. 11205

11206 USA: UTAH: Emery Co. San Rafael Swell, Muddy Creek, quicksand upstream from Hidden Splendor Mine area, N 38.577870 W 110.965435 1456 m 04-Oct-2014 C. R.

Nelson # 11206 & others, see field notes 85 wypt 009quicksand Danger! Stuck in thigh deep quicksand, front of my camera got wet, water entered 28-300mm lens (sent to Nikon, rejected repair; took to Kew's in Provo, they'll see what they can do). No more good photos. One photo on iPhone. photo, time, and coordinates on iPhone. Hiked with Steven Clark and Jared Farmer. 11206

11207 USA: UTAH: Emery Co. San Rafael Swell, Muddy Creek, junction Chimney Canyon, upstream from Hidden Splendor Mine area, N 38.596719 W 110.970735 1440 m 04-Oct-2014 C. R. Nelson # 11207 & others, see field notes 85 wypt 010muddychimney photo: cottonwood tree at junction with wet camera body of Nikon D610, erratic behavior, but good photos. 200m up Chimney Canyon I was unable to pass a flowing water pour off so turned around. Steve and Jared could get around the obstacle, but we went back. Hiked with Steven Clark and Jared Farmer. 11207

11208 USA: UTAH: Emery Co. San Rafael Swell, Muddy Creek, first left hand (facing up) deep canyon, downstream from Chimney Canyon, upstream from Hidden Splendor Mine area, N 38.568976 W 110.973248 1479 m 04-Oct-2014 C. R. Nelson # 11208 & others, see field notes 85 Google Earth photo: scenery, poor quality from erratic D610. Watercolor painting of Chimneys and walls above Moenkopi Cliffs and slopes. Climbed to old uranium mine track midway up Moenkopi, this track winds to Susie's Mine at a head of Chimney Canyon. Hiked with Steven Clark and Jared Farmer. 11208

11209 USA: ARIZONA: Graham Co. 1.7 miles north of Safford, N 32.859306 W 109.716028 902 m 04-Oct-2014 C. R. Nelson # 11209 & others, see field notes 85 Google Earth photos: Taeniopoda eques, western lubber grasshopper. Photos taken at Nelson home in Provo, Utah on 6 October 2014 by C. R. Nelson. Nelson not present when collected by Allison and Jacob Parker family 11209

11210 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6, 12 mi east of Thistle N 39.95324 W 111.26463 1801 m 09-Oct-2014 C. R. Nelson # 11210 85 Aquatic Entomology Class and others: Kevin Mitchell, Sarahbeth Brown, Sam Smith, Douglas Fairbanks, Elias Combs, Morgan Vonasek, Hailea Planesi, matthew Dungan, Makani Fisher, Jessica Buss, Lance Harris. Also met Dipterist friends Wayne Mathis and Bill Murphy. Perlodidae Isogenoides zionensis; Pteronarcyidae Pteronarcella badia; Baetidae; Ephemerellidae Drunella grandis; Leptophlebiidae Paraleptophlebia; Heptageniidae Heptagenia elegantula; Limnephilidae; Brachycentridae Brachycentrus americanus; Hydropsychidae Hydropsyche; Gomphidae; Coenagrionidae Argia; Dryopidae; Elmidae; Hydrophilidae; Tipulidae; Dixidae; Athericidae; Chironomidae; Corixidae; Gerridae. Makani Fisher caught some Polyxenidae millipedes, which I identified as Polyxenus and added to the MLBM collection. 11210

11211 USA: UTAH: Box Elder Co. Brigham City, Myers Mortuary, N 41.505722 W
112.013800 1365 m 10-Oct-2014 C. R. Nelson # 11211 85 Richard Leon Hansen, 21 May
1934 - 8 October 2014. Funeral services for Richard Hansen, son of my great aunt Amy
Hansen (sister of my grandfather Einar Larsen). So Dick is my first cousin one removed.
photos: Lynda (Hansen) Hamke Married to Jeremy. Scott Hansen Married to Debbie. Denise
(Hansen) Parkinson Married to Rich. Their mother, Sheryl. Rick Nelson, Melanie, Tod, and
Ned Young. 11211

11212 USA: UTAH: Box Elder Co. Willard Mountain, Inspiration Point, N 41.390796 W
111.985941 2869 m 10-Oct-2014 C. R. Nelson # 11212 85 Wypt 013inspirationp photos:
panoramas, self-portrait, watercolor. 9412ft elev. looking toward Baldy, also named Willard
Peak. 11212

11213 USA: UTAH: Box Elder Co. Willard Peak Road, 6 air miles south of mantua, N
41.419074 W 111.968536 2532 m 10-Oct-2014 C. R. Nelson # 11213 85 Wypt
014blackmountaintomantua photos: panorama of Mantua and The Sinks. Mantua behind
Black Mountain 11213

11214 USA: UTAH: Box Elder Co. Perry Reservoir, Willard Peak Road, 6 miles south of
mantua, N 41.428871 W 111.965542 2316 m 10-Oct-2014 C. R. Nelson # 11214 85 Wypt
512perryreservoir tiger salamander, Dytiscidae, Belostomatidae. 11214

11215 USA: UTAH: Weber Co. 0.5 miles SE of Perry Reservoir, Willard Peak Road, N
41.426633 W 111.960759 2361 m 10-Oct-2014 C. R. Nelson # 11215 85 Google Earth
photos: view to Pine View Reservoir. 11215

11216 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle N 39.95623 W
111.26763 1829 m 11-Oct-2014 C. R. Nelson # 11216 & J. K. Nelson 85 photos: hawk on
sawmill shed. 11216

11217 USA: UTAH: Utah Co., Pleasant Grove, Jenkins home, 3511 North 1590 West, N
40.401281 W 111.764131 1465 m 11-Oct-2014 C. R. Nelson # 11217 & J. K. Nelson 85
Google Earth photos of wedding: Rachel Marie Alger and Ammonia Taylor Jenkins. 11217

11218 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 14-Oct-2014 C. R. Nelson # 11218 85 maple seeds, samara, Norway
maple, for drop & disperse experiment in Biology 100. Black widow spider on front porch,
given to Sarahbeth Brown. 11218

11219 USA: UTAH: Millard Co. Meadow Hot Springs, 5 miles west of Meadow, N 38.864407
W 112.503342 1456 m 16-Oct-2014 C. R. Nelson # 11219 85 Wypt 016meadowhotpot1
With part of Aquatic Entomology class: Shawn Clark, Sarahbeth Brown, Sam Smith, Elias

Combs, and Alice Waldron. Parking area: 35.3, highway 40.2.

Wypt 015meadowhotpot2, N 38.862104 W 112.505174 elev. 1454m, photos scenery, no collection. A third pot exists on Google Earth, it seems to be the best of the collecting spots as judged from the aerial photo. photos: scenery and people; Dolichopodidae on surface, Coenagrionidae, Aeshnidae, Libellulidae, Baetidae Callibaetis, Ephrydridae larvae pupae, Hydraenidae, Cicindelidae Cicindela tranquebarica, Lycosidae, Pisauridae, Ceratopogonidae, Chironomidae, Corixidae, Notonectidae, Hydrophilidae, Chrysomelidae, Salticidae orange. 11219

11220 USA: UTAH: Washington Co. Leeds Creek, 3 miles west of Leeds, N 37.273222 W 113.388453 1299 m 16-Oct-2014 C. R. Nelson # 11220 & class 85 Wypt 017leeds3mile With part of Aquatic Entomology class: Shawn Clark, Sarahbeth Brown, Sam Smith, Elias Combs, and Alice Waldron. photos: water turned to cotton (blurred). Sergene Bennion died today in Provo. I will be a better person so I can see her again. Psychodidae Maruina; Trichoptera Hydropsychidae, Hydroptilidae, Polycentropodidae, Limnephilidae, Philopotamidae; Cordulegastridae; Calopterygidae Hetaerina; Perlidae Hesperoperla; Baetidae Camelobaetidius, Fallceon or Baetis?; Aeshnidae; Coenagrionidae; Lestidae, Tipulidae, Elmidae, Naucoridae, Dryopidae. 11220

11221 USA: UTAH: Washington Co. Leeds Creek, 2 miles west of Leeds, N 37.265939 W 113.368348 1188 m 16-17 October 2014 C. R. Nelson # 11221 & class 85 Wypt 018leeds2mile With part of Aquatic Entomology class: Shawn Clark, Sarahbeth Brown, Sam Smith, Elias Combs, and Alice Waldron. Photos: people with Corydalidae Corydalus texanus, Riley with same, scenery at sunset: West Temple.

Morning: Photos: Shawn Clark's bot fly scar, crayfish with people, Hydropsychidae Hydropsyche det CRN, Helicopsychidae, Calopterygidae Hetaerina americana v lip det CRN, Baetidae Fallceon quilleri det CRN, Coenagrionidae Argia nymph colorful det CRN, Trichoptera family? small head, Psychomyiidae Tinodes sp. det CRN; Megaloptera Corydalus texanus det CRN, tarantula. Riley with tarantula, people with tarantula, scenery, Sphingidae caterpillar manduca on Datura wrightii, Naucoridae nymph, Ephemerellidae Drunella with regenerating leg det CRN, Tenebrionidae Eleodes. 11221

11222 USA: UTAH: Washington Co. south hillside above Leeds Creek, 3 miles west of Leeds, N 37.271710 W 113.388594 1366 m 17-Oct-2014 C. R. Nelson # 11222 & class 85 Wypt 019leeds3upsunrise With part of Aquatic Entomology class: Shawn Clark, Sarahbeth Brown, Sam Smith, Elias Combs, and Alice Waldron. star spin photos at 2:45am; sunrise at 7:45am. watercolor, time lapse clouds passing West Temple. good, better, best talk with Sam Smith. 11222

11223 USA: UTAH: Washington Co. Santa Clara River, jct Virgin River, St. George, N 37.073874 W 113.582917 759 m 17-Oct-2014 C. R. Nelson # 11223 & class 85 Wypt 020sclararivstgeorge With part of Aquatic Entomology class: Shawn Clark, Sarahbeth Brown, Sam Smith, Elias Combs, and Alice Waldron. photos: scenery, recent flood 2-3 weeks ago, devastating. Gomphidae, Calopterygidae, Baetidae, Chironomidae bloodworm, queen butterfly, Brephidium exilis on Rhus aromatica. 11223

11224 USA: UTAH: Washington Co. Beaver Dam Wash, creek, Lytle Ranch Preserve, N 37.144416 W 114.024168 859 m 17-18 October 2014 C. R. Nelson # 11224 & class 85 Wypt 021beaverdamwash With part of Aquatic Entomology class: Shawn Clark, Sarahbeth Brown, Sam Smith, Elias Combs, and Alice Waldron. 18 October 2014. 3:20am, early morning time lapse from fountain area and North Star and sunrise. Sarahbeth Brown eating a persimmon, Sam Smith back from run, Heriberto's House: Heriberto Madrigal, Luis Gordillo (now a professor at Snow College), Shawn Clark, Alice Waldron with Chocolate the dog. photos: scenery near Cottonwood Classroom, recent flood 2-3 weeks ago, devastating. The creek was "ravaged" by a rainstorm that dropped 3.25 inches in one night. Finding aquatic insects is difficult but we gathered 3 First 100s. Mostly Simuliidae, with occasional Hydropsychidae, Dryopidae, Elmidae. photos: Solpugida from near "The Pit" bunkhouse. Photos: scenery, flood "damage", Bens Bluff, Snow Farm, magic School Bus, people. 11224

11225 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, Joshua Tree forest, ridge east of bunkhouse, N 37.143373 W 114.018418 870 m 17-18 October 2014 C. R. Nelson # 11225 & class 85 Wypt 022joshuatreeeastridge With part of Aquatic Entomology class: Shawn Clark, Sarahbeth Brown, Sam Smith, Elias Combs, and Alice Waldron. photos: scenery sunset. Morning 18 October 2014, watercolor of bluffs, photos: scenery and people, desert tortoise at Tortoise Point, same male as last spring in the same burrow, mushroom on the desert, termite covered wood and sticks, Asilidae Promachus, rather small, albifacies? escaped, Papilio polyxenes caterpillars with osmeteria out on Thamnosma montana blooming, Pentatomidae on Larrea tridentata. 11225

11226 USA: UTAH: Washington Co. Beaver Dam Slope, Bitter Spring, N 37.086297 W 113.928707 1182 m 18-Oct-2014 C. R. Nelson # 11226 & class 85 Wypt 024bittersprings With part of Aquatic Entomology class: Shawn Clark, Sarahbeth Brown, Sam Smith, Elias Combs, and Alice Waldron. Culicidae, Hydrophilidae 3 genera, Stratiomyidae, photos: termites on Yucca brevifolia log, Joshua tree. Scenery 11226

11227 USA: UTAH: Washington Co. Beaver Dam Slope, lower Welcome Spring trough, 1 mile south of Lytle Ranch Road, N 37.059766 W 113.920247 1049 m 18-Oct-2014 C. R. Nelson # 11227 & class 85 Wypt 025welcomespringtroughlow With part of Aquatic Entomology class: Shawn Clark, Sarahbeth Brown, Sam Smith, Elias Combs, and Alice Waldron. photos: Libellulidae nymphs, still alive 5 November 2014 in lab. photos and video in lab, CRN 11272 identified by Makani Fisher as *Libellula* (I guessed they were *Libellula saturata*); Baetidae *Callibaetis*. Ostracoda. 11227

11228 USA: UTAH: Washington Co. Beaver Dam Slope, Hwy 91, 1 mile north of Arizona border N 37.005413 W 113.913798 817 m 18-Oct-2014 C. R. Nelson # 11228 & class 85 Wypt 026tortoiseslope With part of Aquatic Entomology class: Shawn Clark, Sarahbeth Brown, Sam Smith, Elias Combs, and Alice Waldron. photos: desert tortoise crossing highway. We moved it to where it was headed on the north side. 11228

11229 USA: ARIZONA: Mohave Co. Virgin River, Cedar Pocket Recreation Area, I-15, N 36.949723 W 113.797271 650 m 18-Oct-2014 C. R. Nelson # 11229 & class 85 Wypt 027cedarpocket With part of Aquatic Entomology class: Shawn Clark, Sarahbeth Brown, Sam Smith, Elias Combs, and Alice Waldron. photos: antelope ground squirrel, yellow composite carpeting the desert. Baetidae. Photos: Meloidae and spittlebug on rabbitbrush. Gomphidae, Leptohyphidae *Tricorythodes*, Dryopidae, Elmidae, Veliidae. Photos: scenery, Alice Waldron at water's edge, sutured rock, tamarisk beetle Curculionidae. 11229

11230 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle N 39.95623 W 111.26763 1829 m 25-Oct-2014 C. R. Nelson # 11230 & others, see field notes 85 drained all hoses and tanks, put antifreeze in sinks and toilets. With Paul, Alan, and Davis Ashton. Took a photo of the group, and of Paul Ashton alone. 11230

11231 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Oct-2014 C. R. Nelson # 11231 85 watercolor paintings of sumac in fall colors. *Rhus typhina* *Rhus typhina*. 11231

11232 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 26-Oct-2014 C. R. Nelson # 11232 85 photos: insect pancakes. photos: sumacs, *Rhus typhina* in fall colors, aspen, snowball, bartlett pear, English walnut, English oak *Quercus robur*?, Norway maple, *Datura wrightii*. 11232

11233 USA: UTAH: Utah Co., Little North Fork Creek, Hwy 92, Sundance Road, 0.7 miles north of Hwy 189, Provo Canyon, N 40.372321 W 111.568980 1676 m 06-Nov-2014 C. R. Nelson # 11233 85 Google Earth Specimens to take to Aquatic Entomology class. Perlodidae *Megarcys*; Blephariceridae; Nemouridae *Zapada*; Hydropsychidae; Elmidae stocky; Rhyacophilidae; Acari; Brachycentridae; Uenoidae; Baetidae. 11233

11234 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.5 miles south of Vivian Park, N 40.347784 W 111.547758 1658 m 06-Nov-2014 C. R. Nelson # 11234 85 Wypt 003southfork Specimens to take to Aquatic Entomology class. Perlodidae; Tipulidae; Ephemerellidae Drunella doddsi; Hydropsychidae; Chloroperlidae; Nemouridae; Culicidae 11234

11235 USA: UTAH: Utah Co., Provo, BYU, Joseph Smith Building, N 40.245777 W 111.6511403 m 13-Nov-2014 C. R. Nelson # 11235 85 Wypt 028nalini Tanner lecture: Nalini Nadkarni, know your parents, combining cultures, payback the trees. Canopy. roles high above the floor. Tapestry: nutrient cycling. nitrogen sponges, 65% in canopy. when it is gone it is gone. Now move to urban then suburban/rural: need for connections. Share with those who don't understand. Linking: Ecological values to aesthetic, spiritual, and social justice. Canopy confluences a week in the forest. Platforms. Bruce Chao: art, a ball in the tree. CapacitorInc. dance "Biome". Caution the rapper took home a CD they made. Fashion link: importance. Botanically correct camo, Piper jackets. Vehicles into the world. Tree of life. Hindu sacred groves. Trees and spirituality: religious references. Stewards of the sacredness. Field guide for the missionaries. Mosses not a sustainable harvest. perhaps farm them. Prisoners. Denied access to nature. doing something helpful. "Green" prison. raising endangered species. "Throw aways" can enhance. Inuit: treat your trees as we preserve our elders. Conservative statement: Aesthetic. Superincarcerated, violent and isolated. Nature deprivation. Nature imagery-simulation and nature intervention. interactions and interweaving. Actions: Health; Recreational; Culinary; Ethical; Historical; Economic; Cultural. Connections: What can we do? Janus, god of doorways, complexity, balance hope and despair. not up to science alone, interaction. Spirituality BYU Stewardshi[1 Nephi 8. Social Justice: dendritic structure. Rivers, breathe in breathe out. human heart: trees in our hearts. Show picture. Linking. End 11:50 am. Sam St. Clair: Q: Diversity in canopy? Jerry Johnson: biophilia- scene below. Social. 11235

11235.5 USA: UTAH: Utah Co., Provo, BYU, Life Sciences Building office, N 40.245119 W 111.648394 1397 m 24-Nov-2014 C. R. Nelson # 11235.5 85 photos: office window 11235.5

11236 USA: UTAH: Kane Co., Mount Carmel Junction, East Fork of the Virgin River, N 37.224805 W 112.681490 1576 m 26-Nov-2014 C. R. Nelson # 11236 85 Wypt 030mountcarmel photos: scenery, river near sunrise. at crinoid site. photos: scenery, river near sunrise. Crinoid fossils from Carmel Formation, across the highway at base of loose, prominent cliff barely up from oil facility. With Riley, Kaye, Andrea Nelson, and Jordan Christopher. 11236

11237 USA: ARIZONA: Coconino Co. view to Grand Staircase, Hwy 89A, 8 miles southeast of Fredonia, N 36.906648 W 112.393673 1557 m 26-Nov-2014 C. R. Nelson # 11237 85 Wypt 031grandstaircasefromfredoniapast photos: scenery, panorama. Grand Staircase, Zion, Mollies Nipple. With Riley, Kaye, Andrea Nelson, and Jordan Christopher. 11237

11238 USA: ARIZONA: Coconino Co. view to Grand Staircase, Hwy 89A, 12.5 miles southeast of Fredonia, N 36.868479 W 112.321524 1736 m 26-Nov-2014 C. R. Nelson # 11238 85 Wypt 032staircase2 photos: scenery, panorama. With Riley, Kaye, Andrea Nelson, and Jordan Christopher. 11238

11239 USA: ARIZONA: Coconino Co. view to Grand Staircase, Hwy 89A, 17 miles southeast of Fredonia, Scenic View Area, N 36.830541 W 112.254589 2086 m 26-Nov-2014 C. R. Nelson # 11239 85 Wypt 033scenicview photos: scenery, view to Grand Staircase. panorama. With Riley, Kaye, Andrea Nelson, and Jordan Christopher. 11239

11240 USA: ARIZONA: Coconino Co. Vermilion Cliffs, Hwy 89A, base of climb to Jacob Lake, 27 road miles southwest of Marble Canyon, N 36.732368 W 112.051196 1674 m 26-Nov-2014 C. R. Nelson # 11240 85 Wypt 034coyote With Riley, Kaye, Andrea Nelson, and Jordan Christopher. photos: coyote running to cliffs. 11240

11241 USA: ARIZONA: Coconino Co. Marble Canyon, Navajo Bridge, Hwy 89A, Colorado River, N 36.818109 W 111.632157 1088 m 26-Nov-2014 C. R. Nelson # 11241 85 Wypt 035condor With Riley, Kaye, Andrea Nelson, and Jordan Christopher. photos: California condors, *Gymnogyps californicus*. 11241

11242 USA: ARIZONA: Maricopa Co. Phoenix, Nelson home, 2520 West Columbine Drive, N 33.599103 W 112.113782 385 m 26-30 November 2014 C. R. Nelson # 11242 85 Wypt 036nelson2520columbine With Riley, Kaye, Andrea Nelson, and Jordan Christopher. Lindsay Begay and Vivian; Jason, Brandy, Artemis, and Astrid Nelson. Later: Amy, Todd, and Wolf Smith. 26 Nov 2014: three dove species, starlings, verdin, pigeon, grackles, canada goose, house finch. Thanksgiving Day, 28 Nov 2014: morning, pigeons, inca doves, collared doves, mockingbird, starlings, lovebirds, gila woodpecker, house sparrows, grackles, mourning dove. Painting palm and big sun. 29 Nov 2014: Astrid Josephine Nelson named and blessed by her father Jason. 24 inches long, 14.4 lbs. Wolfgang Winston Nelson, 28 inches, 30 lbs. Artemis Valborg Nelson, 36 inches, 27.1 lbs. Brandy Dawn Nelson 67 inches. Kaye Nelson and Andrea Nelson and Jordan Christopher 69.5 inches, Amy Leah Nelson Smith 70.5 inches, Todd Smith 71.5 inches, Riley Nelson 75.5 inches, Jason Nelson 78 inches.

11242

11243 USA: ARIZONA: Maricopa Co. Cave Creek, Spur Cross Ranch Conservation Area, Spur Cross Trail, N 33.894270 W 111.960346 728 m 28-Nov-2014 C. R. Nelson # 11243 85 Wypt 037spurcross With Riley, Kaye, Andrea Nelson, and Jordan Christopher. Jason, Brandy, Artemis, and Astrid Nelson. Later: Amy, Todd, and Wolf Smith (pushed in big wheeled stroller.

photos: scenery and people. \$3.00 per adult entrance fee. Area also included a preserve called: Jewel of the Creek. 11243

11244 USA: ARIZONA: Maricopa Co. Cave Creek, Jewel of the Creek, Spur Cross Ranch Conservation Area, N 33.881234 W 111.963390 669 m 28-Nov-2014 C. R. Nelson # 11244 85 Wypt 038cavecreek With Riley, Kaye, Andrea Nelson, and Jordan Christopher. Jason, Brandy, Artemis, and Astrid Nelson. Later: Amy, Todd, and Wolf Smith (pushed in big wheeled stroller.

photos: scenery, creek, and people. Trip log: left 2520 Columbine Drive, Phoenix, Arizona at 6:40 am. End of trip 10.5 hours en route. One hour stop for dinner in Beaver. Arrived in Provo, Utah 5:00 pm.

Total gas for trip: 2100 miles, 57.9 gallons, \$164.74.

11244

11245 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 04-Dec-2014 C. R. Nelson # 11245 85 Weighed myself on bathroom scales. Naked: 200 lbs. regular clothes 203 lbs. with regular clothes, shoes, glasses, knife, wallet, keys 207 lbs. 11245

11246 USA: UTAH: Utah Co., Provo, Utah Lake, Utah Lake State Park, south jetty, N 40.240771 W 111.746395 1368 m 06-Dec-2014 C. R. Nelson # 11246 85 photos: time lapse of Mount Timpanogos and Utah Lake. Time lapse Utah Lake view to Oquirrh Mountains. 11246

11247 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 07-Dec-2014 C. R. Nelson # 11247 85 photos: remembering Pearl Harbor, Mount Timpanogos, American flag, full moon over Utah Valley. Time lapse, close up of Timp from roof. Time lapse aspen trees (dud, not good) 11247

11248 USA: UTAH: Utah Co., Provo, East Lawn Cemetery, N 40.298213 W 111.649280 1552 m, 07-Dec-2014 C. R. Nelson # 11248 85 Wypt 199cemetery Photos: remembering Pearl Harbor, American flag, Alex, Annie, and Henry Grow. Hiatt headstone, Mount Timpanogos, Utah Valley. photos: scrub jay 11248

11249 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.263988 W 111.663804 1436 m 07-Dec-2014 C. R. Nelson # 11249 & classes 85 Wypt

509provobridge photos: Provo River, Cottonwood tree, waterfall. photos: American dipper
11249

11250 USA: UTAH: Utah Co., Provo, BYU, Life Sciences Building office, N 40.245119 W
111.648394 1397 m 10-Dec-2014 C. R. Nelson # 11250 85 photos: selfies of people in
Biology 100 class. 11250

11251 USA: UTAH: Utah Co., N 40.252972 W 111.649144 1434 m 11-Dec-2014 C. R.
Nelson # 11251 86 Google Earth photos: sunset at the Hinckley Center; photos of students
in Bean Museum classroom. 11251

11252 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 12-Dec-2014 C. R. Nelson # 11252 86 dead gray bird, Townsends
solitaire below sunroom, photos with iphone. 11252

11253 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 13-Dec-2014 C. R. Nelson # 11253 86 photos: birds, Steller's jay,
scrub jay, some together on feeder. 11253

11254 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 14-Dec-2014 C. R. Nelson # 11254 86 photos: birds, Steller's jay,
scrub jay, downy woodpecker, collared dove, pine siskin, house finch, black capped
chickadee. 20 Dec 2015: photos, people and pepperntus, Baird family carolers. 11254

11255 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 23-Dec-2014 C. R. Nelson # 11255 86 First visible sunrise after
solstice, yesterday was cloudy. 9:05 am, 120 degrees. 11255

11256 USA: UTAH: Utah Co., Provo, BYU, Bean Museum, Nelson lab, N 40.253563 W
111.647252 1438 m 24-Dec-2014 C. R. Nelson # 11256 86 photos: Lance Harris aquatic
insect collection. 11256

11257 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 25-Dec-2014 C. R. Nelson # 11257 & family 86 Christmas. Photos:
people and ebleskivers. 11257

11258 USA: UTAH: Utah Co., Provo, "Our House Care Center", Sherry Wheeler's place, N
40.227215 W 111.643299 1389 m 25-Dec-2014 C. R. Nelson # 11258 & family 86 Google
Earth photos: Sherry Wheeler and family. 11258

11259 USA: UTAH: Utah Co., Orem, Verizon Wireless Telephone store, N 40.273149 W
111.688879 1446 m 26-Dec-2014 C. R. Nelson # 11259 & J. K. Nelson 86 Google Earth
photos: Riley, Kaye, and Scott Ashton. New phone for Kaye. 11259

11260 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 29-Dec-2014 C. R. Nelson # 11260 & family 86 video: falling snow. 1 January 2015: photo, Muchas gracias box of Mexican food. 11260

11261 USA: UTAH: Utah Co., Provo, Utah Lake, Utah Lake State Park, south jetty, N 40.240771 W 111.746395 1368 m 01-Jan-2015 C. R. Nelson # 11261 & family 86 photos: people and scenery; sunset; four cameras: 3 DSLRs time lapse. D300 ultra wide Timpanogos, D600 Timpanogos, D610 Sunset, forgot to set to manual so many of the same exposure but different quality of color of light; iPhone: people and ice. Riley and Kaye Nelson; McKall Morris; Amy, Todd, and Wolf Smith; Gordon Oborn. 11261

11262 USA: UTAH: Davis Co. Antelope Island North Causeway, west circulation culvert, N 41.066953 W 112.229946 1283 m 02-Jan-2015 C. R. Nelson # 11262 & family 86 Google Earth with John Bennion, Andrea J. Nelson, Jordan D. Christopher, and Ziggy the black dog. photos: rafts of ducks, Common goldeneye, Northern Shoveler, Bufflehead, Long tailed duck (Oldsquaw) a first for me!, ruddy duck, American coot, California gull, Harrier, Gadwall? 11262

11263 USA: UTAH: Davis Co. Antelope Island State Park, Ladyfinger Point, N 41.058269 W 112.250838 1288 m 02-Jan-2015 C. R. Nelson # 11263 & family 86 Wypt 043ladyfinger with John Bennion, Andrea J. Nelson, Jordan D. Christopher, and Ziggy the black dog. Photos: Time lapse at sunset: D610 sunset Bridger Bay; D600 Willard Peak and Ben Lomond; D300 sunset Bridger Bay. scenery, panoramas with iPhone. Jordan and Andrea and Ziggy on the beach at sunset. John Bennion portrait. white crowned sparrows, raven, magpie, wren, cotton tail rabbit, harrier, American kestrel, western meadowlark. 11263

11264 USA: UTAH: Davis Co. Antelope Island State Park, Visitors Center, N 41.056594 W 112.241463 1329 m 02-Jan-2015 C. R. Nelson # 11264 & family 86 Wypt 040antelopevc with John Bennion, Andrea J. Nelson, Jordan D. Christopher, and Ziggy the black dog. Roads to Buffalo Point and White Rock Bay closed. Disappointed! I wanted sunset there. photos: scenery, panorama; chukars, white crowned sparrows, red winged blackbird, house sparrow. 11264

11265 USA: UTAH: Davis Co. Antelope Island State Park, Camera Flats on eastern shore, N 41.010222 W 112.195373 1283 m 02-Jan-2015 C. R. Nelson # 11265 & family 86 Wypt 041cameraflats with John Bennion, Andrea J. Nelson, Jordan D. Christopher, and Ziggy the black dog. photos: coyote, lake russian olive tree, and moon. 11265

11266 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.263988 W 111.663804 1436 m 10-Jan-2015 C. R. Nelson # 11266 & classes 85 Wypt 509provobridge

First 25 samples with classes. Air temp 12dC, water temp 4dC. Water speed, 5 runs of 5 meters: 17.4 sec, 13.7 sec, 12.2 sec, 11.9 sec, 13.0 sec; average 13.6 sec. So average of 0.37 m/sec. some photos by guest of Sterling Adams: Hillary Tait. and also guest Ashley. Attendants: Corey Ballard Bio 100, matt Anderson 100, Sarah Smart 100, Hailey Price 100, Katie Wade 100, Katy Prisbyl 100, Austin Hill 100, Camille Gunnell 100, Gregory Smyre 100, Hannah Livengood Bio 220, Devin Shirley 220, Joe Huston 220, Garrett Neilson 220, Colton Jensen 220, Carlos Heredia 100, Jennifer Miranda 100, Stephanie Porter 100, Brittany Seymour 100, Taylor Christensen 100, Hillary Tait guest, Ashley guest, Riley Nelson teacher, Brett Barker 220, Calvin Belknap 100, Boston Handley 100, Ruth Talbot 100, Meghan Zimmerman 100, Alec Withes 100, Samuel Valdez 100, Sarah Blake 100, Shanna Rupp 100, Katelyn Jackson 100, Jane Fitzpatrick 100, Garrett Burgon 220, Braxton Wardle 100, Haley Christensen 100, Ryan Mowell 220, Dustin Guthrie 100, Tyson Terry 220, Sam Morell 100, Isaac Dayley 100, Taylor Farnsworth 100, Sarah Pexton 100, Andy Taggart 100, Amanda Dingess 100, Hillary Wadsworth 100, Abby Wadsworth 100, Alexis Oldham 100, Cisalee Oldham 100, Raleigh Preston 100, Ellissa Clark 100, Johnathan Castro 100, Katie Benson 100, Sophie Christensen 100. TAs: Sam Smith 220, Tanner Combs 100, Shun Sambongi 100, Cassidy Young 100, Sarah Leber 100, Lexie Prier 100, Todd Workman 100, Sterling Adams 220. Chip Oscarson professor UNIV 291. Students: 220 9; 100 42; TAs 8; Guests 2; professors 2. Total 63. Baetis, leeches, sculpin, snails, Leptoceridae, Limnephilidae, Brachycentridae, aquatic isopods Asellus. 11266

11267 USA: UTAH: Utah Co., Provo, LDS Church, 940 West 100 North, N 40.235584 W 111.675976 1386 m 10-Jan-2015 C. R. Nelson # 11267 & classes 85 Google Earth photos: Wedding Reception for Jessica (Powers) and Brandon Harris. Met with many IWA Lytle Preserve Class friends. Riley Nelson, Kaye Nelson, Jessica Harris, Brandon Harris, Hadley Griggs, Ellie Gillett, Ismaiel Szink, Heather Perazzo, Andrew Perazzo, Kheng Saik Lim, maillet Aguirre, and John Bennion. 11267

11268 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 11-Jan-2015 C. R. Nelson # 11268 & family 86 photos: map turtle and Plecostomus movies. 11268

11269 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.263988 W 111.663804 1436 m 13-Jan-2015 C. R. Nelson # 11269 & class 85 Wypt 509provobridge First 100 samples. Air temp 10dC, Water temp 4dC. Photographed the black leech collected by Jared Meek back in the lab on 17 Jan 2015 CRN 11272. Riley Nelson, Chip Oscarson, Sam Smith, Camilla Stark. Jared Meek, Katelynne Dangl, Molly Mackenzie, McKenzie Doyle, Mitch Hussey, Joseph Heath, Jared Monteil, Aaron Anthony, Jordann

Parks, Christie Lyons, madeline Brian, Samantha Adair, Jacob Tehrani, Tessa Barlow, Melanie Cox, Zachary Larkin, Chizm Payne, Erin Meeks, and Lauren Johnson. Baetis, leeches two kinds round light black long, sculpin, snails, Leptoceridae, Limnephilidae, gammarus, Brachycentridae, aquatic isopods Asellus. mallard ducks, dippers, 11269

11270 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 17-Jan-2015 C. R. Nelson # 11270 86 Photos: Sunrise, seasons point on Squaw Peak where sun appears first. Appeared: 9:15 am, 120degrees. Rose later than on 23 Dec 2014 because of higher mountain spot, also, perhaps explains why same bearing (both compared to 23 Dec 2014, CRN 11255. 11270

11271 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.263988 W 111.663804 1436 m 17-Jan-2015 C. R. Nelson # 11271 85 Wypt 509provobridge quick samples for photographs in lab. Photos: Hirudinea big yellow with six eyes, three pairs. Baetidae Baetis bicaudatus?, Leptoceridae, large snail Lymnaea?, small snail New Zealand mudsnail, Coenagrionidae Argia with regenerating tails, Isopoda Asellus, including mating pair. Photos in lab 11272. Also saw Elmidae. 11271

11272 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB, N 40.245293 W 111.649165 1407 m 17-Jan-2015 C. R. Nelson # 11272 & A. Todd Smith. 85 Google Earth Photo session in lab. Visited by Sarahbeth Brown; then Wayne Sandholdtz and Clark Barnett. Viewed Todd's video work on 18 January 2015. photos of stuff from CRN 11271. photos of dark leech from CRN 11269

photos and video of Belostomatidae Lethocerus americanus from CRN 11214, including those of striking and catching a mosquitofish (see Makani Fisher for field notes). Photos and video: Coenagrionidae Argia, (see Makani Fisher for field notes).

Mosquito Fish

USA: UTAH: Utah Co. Spring Creek,
Springville DNR, off Hwy 89, main St.
N40.182421 W111.612428, elev : 1395m
10 January 2015, M.L. Fisher

Argia

USA: UTAH: Utah Co. Provo River,
2230N Bridge Near LDS Studios,
N40.263988 W111.663804, elev: 1436
12 January 2015, M.L. Fisher

Photos Libellulidae Libellula (det Makani Fisher 2015) from Welcome Spring trough CRN 11227. 11272

11273 USA: UTAH: Utah Co., Utah Lake, Lincoln Beach, warm springs near north point, N 40.136446 W 111.806540 1378 m 24-Jan-2015 C. R. Nelson # 11273 & students 86 wypt 044lincolnpoint with Makani Fisher and Morgan Vonasek. Photos: Hydroptilidae larvae pupae adults, Oxyethira sp.; Hirudinea red leeches and another; Hyaella azteca, Libellulidae 2 spp.; Coenagrionidae 2 spp.; Belostomatidae Belostoma fluminea. Gambusia affinis 11273

11273.5 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 01-Feb-2015 C. R. Nelson # 11273.5 86 photos: brown creepers, birds. in Pinus nigra and Pinus sylvestris around the power station. 11273.5

11274 USA: UTAH: Utah Co., Provo, BYU, grounds between Maeser Building and Clark Building, start at Maeser. N 40.245497 W 111.653263 1418 m 03-Feb-2015 C. R. Nelson # 11274 & students 86 Google Earth BYU Tree Tour: treetours.byu.edu/map.aspx. With Chip Oscarson and Nature & Culture class.

End at Clark Building: N 40.247530 W 111.648970, elev. 1420m. walk to make phylogenetic tree of trees. Juniperus chinensis at Grant Building, Ginkgo biloba at Maeser, Cedrus deodara at Grant, Taxus baccata? many, Picea pungens many, Cedrus atlantica "glauca" at McKay Building, Metasequoia glyptostrobiloides dawn redwood at Grant, Cedrus atlantica at Clark, Pinus aristata at Clark, Pinus nigra at Brimhall, Pinus sylvestris at McKay, Pinus sp. five needles in a fascicle by JSB. 11274

11275 USA: UTAH: Salt Lake Co. Salt Lake City, University of Utah, Museum of Natural History of Utah. N 40.764180 W 111.823198 1538 m 05-Feb-2015 C. R. Nelson # 11275 & J. K. Nelson & A. J. Nelson 86 Google Earth photos: Indricotherium, aardvark skeleton, bat fossil Onychonycteris finneyi, Minke whale skull, Andrewsarchus mongolensis fossil skull whale relative, Chinese water deer (with tusks), model Amulocetus natans whale relative, Green River long tailed creodont, Glyptodont from South Dakota, Platypus pictures, Glossotherium chapadmalense, short beaked echidna stuffed, shovel tusker Platybelodon grangeri, Arsinoitherium zitteli large horns on face. 11275

11276 USA: UTAH: Utah Co., Provo, Kneaders Cafe, N 40.7250263 W 111.663725 1399 m 07-Feb-2015 C. R. Nelson # 11276 & class 86 Google Earth INHUT 2012 Breakfast reunion. Riley Nelson, John Bennion, Olivia Haworth, Sam Smith, Becca Clement, Lauren Nuckols, Stacie Faulk, Ashley Brooke "Summerhays" and husband, Kyla "MacDonald" and husband, Hannah Bonner, Seth Cannon, and McKall Morris. 11276

11277 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 08-Feb-2015 C. R. Nelson # 11277 86 photos sunrise above the mountains. 8:57 am, 110 degrees.

Legal sunrise in Provo: 7:28 am at 109 degrees. 11277

11278 USA: UTAH: Utah Co., Provo, BYU, south side Benson Building, N 40.245560 W 111.650824 1417 m 10-Feb-2015 C. R. Nelson # 11278 86 photos: self-portrait. also Composite flowering on 3 Feb 2015 *Senecio vulgaris* det C. R. Nelson 2015 11278

11279 USA: UTAH: Utah Co., Provo, BYU, room 206 (former 456) Martin Building, N 40.246928 W 111.6491070 1421 m 11-Feb-2015 C. R. Nelson # 11279 86 photos: cartoon of C. R. Nelson in Biology 100 class by Natalie Petrucka. 11279

11280 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 12-Feb-2015 C. R. Nelson # 11280 86 photos lemon from Brandy and Jason's house in Arizona, orange with citrus scale from store, Heiva the cat, dandelion *Taraxacum officinale*, primrose ornamental in yard, Mahonia holly grape, *Veronica persica*, *Senecio vulgaris*, storksbill *Erodium cicutarium* (thought black mustard at first), quaking aspen pussy willows, weeping willow hybrid cultivar pussy willows. 11280

11281 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 14-Feb-2015 C. R. Nelson # 11281 86 *Veronica persica* in bloom. 11281

11282 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 15-Feb-2015 C. R. Nelson # 11282 86 Our spring is too early. We need snow. But I'll like the flowers and warmth. photos: *Veronica persica* in bloom, composite *Senecio vulgaris*, *Erodium cicutarium*. 11282

11283 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 16-Feb-2015 C. R. Nelson # 11283 86 videos and photos: earthworms: *Lumbricus terrestris* and another species, perhaps. 11283

11284 USA: UTAH: Utah Co., Provo, BYU, 2119 Life Science Building, Nelson office N 40.245254 W 111.648837 1404 m 19-Feb-2015 C. R. Nelson # 11284 86 Google Earth Photos: Alix and Limb Hapairai 11284

11285 USA: UTAH: Utah Co., Provo, BYU, south hill gardens, N 40.245180 W 111.651138 1411 m 19-Feb-2015 C. R. Nelson # 11285 86 Google Earth Photos and video: cottonwood leaf with blue spruce needles. The art of materials. Mimicking Andy Goldsworthy style for Nature and Culture class. 11285

11286 USA: UTAH: Utah Co., Provo, BYU, 2119 Life Science Building, Nelson office, N 40.245125 W 111.648518 1401 m 20-Feb-2015 C. R. Nelson # 11286 86 Wypt 047nelsonoffice Photos: self-portrait with triton seashell to show Mary Lee. Henry Lee is back from his mission to Tahiti. 11286

11287 USA: UTAH: Utah Co., Sixth Water Creek at Three Forks Trailhead, Diamond Fork Canyon, N 40.084994 W 111.354674 elev. 1688 m, 21-Feb-2015 C. R. Nelson # 11287 & students 86 Wypt 045threeforks with Samantha G. Smith and Jackson Birrell. photos: parking lot. Kick sample up the trail a bit: Pteronarcys, Pteronarcella, Isogenoides, Isoperla, Hydropsychidae, Baetidae, Athericidae Atherix larvae, also old adult Mass under bridge on downstream side of Diamond Fork River, on snow Boreidae Boreus coloradensis winter scorpionflies, Diamesinae midges, Brachycentridae Brachycentrus. 11287

11288 USA: UTAH: Utah Co., Fifth Water Creek at hot springs, above Three Forks in Diamond Fork Canyon area, N 40.082798 W 111.317822 elev. 1896 m, 21-Feb-2015 C. R. Nelson # 11288 & students 86 Wypt 0465thhot with Samantha G. Smith and Jackson Birrell. photos and video creek, springs, and people. Capniidae Capnia, Pteronarcella, Heptageniidae, Leptophlebiidae, Hydroptilidae adults. photos of flies and wasp, from galls of Ericameria nauseosus, emerged 18 March 2015, photographed 20 March 2015, Tephritidae Aciurina bigeloviae male and female, also wasp, Chalcidoidea. 11288

11289 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 22-Feb-2015 C. R. Nelson # 11289 86 photos: sunrise over mountain, 8:39 am at 108 degrees. 11289

11290 USA: UTAH: Utah Co., Provo, BYU, 2019 Life Science Building, lab, N 40.245125 W 111.648518 1401 m 24-Feb-2015 C. R. Nelson # 11290 & class 86 Wypt 047nelsonoffice Set up Drosophila population experiment with Nature and Culture class, on Ward's blue potato mix:

A, mixed, wild and vestigial start 2m 3f of each

B, mixed, wild and vestigial start 2m 2f of each

1, vestigial, 3 m 2f, adjusted to 2m 2f next morning

2, vestigial, 2m 3f, adjusted to 2m 2f next morning

3, vestigial, 2m 2f, all good in morning

4, vestigial, 2m 2f, all good in morning

0, wild, 2m 3f, adjusted to 2m 2f next morning

00, wild, 2m 2f, all good in morning. 11290

11291 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.433186 W 111.738600 1602 m 28-Feb-2015 C. R. Nelson # 11291 & students 86 Wypt afsite1 with S. G. Smith, M. Fisher, R. Clement. New GPs reading. *Capnia gracilaria* adults, *Zapada cinctipes* adults, *Skwala americana* nymphs, *Dixidae* larvae and adults, *Isoperla fulva* half grown nymphs, *Capnia* nymphs. 11291

11292 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, footbridge, N 40.447349 W 111.683197 1742 m 28-Feb-2015 C. R. Nelson # 11292 & students 86 Wypt 050afsite1 with S. G. Smith, M. Fisher, R. Clement. New GPs reading. *Hesperoperla pacifica* skins and nymphs, *Zapada cinctipes* adults, *Dixidae* larva, *Tipulidae* *Tipula* semaquatic in leaf packs out of water at water's edge, *Agyrtidae* snow crawling beetle larva. 11292

11293 USA: UTAH: Utah Co., Mount Timpanogos, North Fork American Fork River, Hwy 92 bridge, jct South Fork American Fork River, N 40.453699 W 111.662025 1855 m 28-Feb-2015 C. R. Nelson # 11293 & students 86 Google Earth with S. G. Smith, M. Fisher, R. Clement. No water in South Fork here, no water at site 3 upstream either. Water in narrows below Mutual Dell, and at bridge above Mutual Dell. Very spotty old snow at Pine Hollow. Snowing while we looked. under bridge: *Capnia gracilaria*? and *Zapada cinctipes*. many skins of stoneflies from last year. *Chironomidae*. 11293

11294 USA: UTAH: Utah Co., North Fork American Fork River, Mile Rock Picnic Area, N 40.470868 W 111.652968 1904 m 28-Feb-2015 C. R. Nelson # 11294 & students 86 Google Earth with S. G. Smith, M. Fisher, R. Clement. *Megarcys* numphs, much algae and silt. 11294

11295 USA: UTAH: Utah Co., American Fork Canyon, Deer Creek at Tibble Fork Reservoir, N 40.482513 W 111.647215 1954 m 28-Feb-2015 C. R. Nelson # 11295 & students 86 Wypt 051tibble with S. G. Smith, M. Fisher, R. Clement. some white granite cobble. Began snowing heavily, left 3:15pm. *Megarcys* nymphs, *Capnia nana* adult, *Capnia gracilaria*? adults, *Zapada cinctipes*, *Heptageniidae*, *Chloroperlidae*. 11295

11296 USA: UTAH: Utah Co., Provo River, Hwy 189, Canyon View Park, N 40.323859 W 111.645165 1488 m 03-Mar-2015 C. R. Nelson # 11296 & students 86 Google Earth Benthic sample for Megan Westbrook's Science Club at Canyon Crest Elementary School, about 20 kids picked about 100 insects. Count as a First 100:
Hesperoperla 2
Isoperla 11
Paraleptophlebia 1

Baetis 26
Arctopsyche 1
Hydropsyche 21
Rhyacophila 1
Brachycentridae 1
Hesperophylax 1
Simuliidae 23
Elmidae Optioservus 1
Oligochaeta 1
other 11
11296

11297 USA: UTAH: Utah Co., Provo, Canyon Crest Elementary School, N 40.29535 W
111.651619 1452 m 03-Mar-2015 C. R. Nelson # 11297 & students 86 iphone photo gps
help from Sydnee Taylor from Bio 220A. photos: science club with teacher Megan
Westbrook 11297

11298 USA: UTAH: Utah Co., Provo River, Hwy 189, Canyon View Park, N 40.323859 W
111.645165 1488 m 05-Mar-2015 C. R. Nelson # 11298 86 Wypt 052canyonview same site
as 11296. photos and video: Provo River and dipper. temp about 20degreeF, water
temperature, of course, 4degC. some ice. video: dipper 11298

11298.5 USA: UTAH: Utah Co., Provo, BYU, 321 Maeser Building, N 40.245388 W
111.653465 1419 m 05-Mar-2015 C. R. Nelson # 11298.5 86 Google Earth photos: Chip
Oscarson with Nature and Culture class. 11298.5

11299 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 07-Mar-2015 C. R. Nelson # 11299 86 photos: sunrise over mountain,
8:19 am at 98 degrees. Temp. 27degF
legal sunrise 6:51am. from timeanddate.com/astronomy/usa/provo.
11299

11299.5 USA: UTAH: Utah Co., Provo, Our House Care Center, 462 South 900 East, N
40.227171 W 111.643142 1389 m 07-Mar-2015 C. R. Nelson # 11299.5 86 Google Earth
photos: Sherry Wheeler and Kaye Nelson. 11299.5

11300 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle N 39.95623 W
111.26763 1829 m 07-Mar-2015 C. R. Nelson # 11300 & J. K. Nelson 86 Walked to Glass
Cliffs, little snow, only from last week. photos: Kaye as snow angel, box elder bugs
Rhopalidae, Calliphoridae, Muscidae white breasted nuthatch at spring. butterflies:

Milbert's tortoiseshell and pine whites flying at Mill Shed and house. Nymphalidae and Pieridae. 11300

11301 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 08-Mar-2015 C. R. Nelson # 11301 & J. K. Nelson 86 photos: C. R. Nelson on 59th birthday. J. K. Nelson too. 11301

11301.5 USA: UTAH: Utah Co., Provo, Nelson home, hillside off 650 East, N 40.29206 W 111.64796 1495 m 11-Mar-2015 C. R. Nelson # 11301.5 86 photos: mule deer at night 11301.5

11302 USA: UTAH: Utah Co., Provo, LDS Temple, N 40.263413 W 111.641245 1483 m 12-Mar-2015 C. R. Nelson # 11302 & J. K. Nelson 86 Google Earth photos: temple at sunset. Photos earlier in day at 200 N 500 W, Riley with new glasses fitted today. 11302

11303 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle N 39.95623 W 111.26763 1829 m 14-Mar-2015 C. R. Nelson # 11303 & J. K. Nelson & student friends 86 photos stars at 5:00am. Pi Day. group shot: Makani Fisher, Ismaiel Szink, Sarahbeth Brown, Kaye Nelson, Samantha Smith, Riley Nelson (new glasses), and Rebecca Clement. Camilla Stark and McKall Morris left before the group photo. 11303

11304 USA: UTAH: Utah Co., small peak, "Missionary Ridge" north of Wheeler Sawmill, Hwy 6, 12 miles east of Thistle, N 39.963566 W 111.268010 2059 m 14-Mar-2015 C. R. Nelson # 11304 & J. K. Nelson & student friends 86 Wypt 053missionaryridge photos: people, meat on a stick cooking, weathered wood, missionary flags, Becca took hers home. Makani Fisher, Ismaiel Szink, Sarahbeth Brown, Kaye Nelson, Samantha Smith, Riley Nelson (new glasses), and Rebecca Clement. photos: Ishmaiel Szink holding plant Ericaceae Arctostaphylos patula, manzanita, in bloom! Photos: Cicadellidae - gray with red costal area, common, many sitting on Purshia tridentata, antelope bitterbrush. 11304

11305 USA: UTAH: Utah Co., Provo, BYU, bridge to Marriott Center, N 40.25275 W 111.64931 1429 m 17-Mar-2015 C. R. Nelson # 11305 86 Google Earth photos: Tipulidae: Tipula oleracea, photos at home, then it flew away! Photo ID by Jon Gelhaus. 11305

11306 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 21-Mar-2015 C. R. Nelson # 11306 86 photos: magpie at feeder 11306

11307 USA: UTAH: Salt Lake Co. Draper, Living Planet Aquarium, N 40.532184 W 111.893966 1349 m 21-Mar-2015 C. R. Nelson # 11307 & J. K. Nelson & family 86 Google Earth 11307

11308 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 23-Mar-2015 C. R. Nelson # 11308 86 photos: magpie 11308

11309 USA: UTAH: Wasatch Co. Jordanelle Dam Overlook, Hwy 32, N 40.59420 W 111.41534 1964 m 24-Mar-2015 C. R. Nelson # 11309 & C. Oscarson & 291 class, Nature and Culture 86 160jordov view of reservoir 11309

11310 USA: UTAH: Wasatch Co. Provo River, Heber Valley, River Drive near Hwy 32, mitigation reach 7, N 40.560011 W 111.433738 1731 m 24-Mar-2015 C. R. Nelson # 11310 & C. Oscarson & 291 class, Nature and Culture 86 wypt 054provomitig 18 students, first 100s. photos: people, scenery, Canada geese, sandhill cranes, sculpin. Brachycentridae, Chironomidae 11310

11311 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Mar-2015 C. R. Nelson # 11311 86 sun rising in crease of mountains, 8:44am at 90 degrees. Legal at time and date: 7:22am and 87 degrees photos: ruby crowned kinglet female? 11311

11312 USA: UTAH: Utah Co., Provo, Indian Road trail near mouth of Provo Canyon, knob, N 40.312900 W 111.644050 1733 m 28-Mar-2015 C. R. Nelson # 11312 & J. K. Nelson 86 wypt 056highpoint Wypt 055 Marker, USGS property line: N 40.312123 W 111.646753 elevation 1683 m. photos: scenery, people, and insects. Saw Papilio zelicaon. Photos at home 30 March 2015: Paracotalpa grancollis and another Rutelinae scarab species, many of mottled Euphoria inda. 11312

11313 USA: UTAH: Utah Co., Provo, Edgemont 10th Ward LDS Church, 345 East Foothill Drive, N 40.29410 W 111.65240 1482 m 29-Mar-2015 C. R. Nelson # 11313 & J. K. Nelson 86 Google Earth photos: people in Family History Meeting during church. 11313

11314 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 29-Mar-2015 C. R. Nelson # 11314 & J. K. Nelson 86 photos: Nelsons; Parkers: Alison, Tate, Lucy, Miles, Calvin, and Penny; Lukes: Damon, Summer, Lincoln, Hudson, and Savannah. Sunday walk visit. 11314

11315 USA: UTAH: Utah Co., Utah Lake, Provo Airport loop road, N 40.2067 W 111.7259 1370 m 05-Apr-2015 C. R. Nelson # 11315 & J. K. Nelson 86 photos: White pelicans, great blue heron, coots. 11315

11316 USA: UTAH: Utah Co., Provo, BYU, Nelson office, 2119 LSB, N 40.245293 W 111.649165 1407 m 06-Apr-2015 C. R. Nelson # 11316 & A. Todd Smith. 86 Google Earth Thorny devil: Agamidae: Moloch horridus 43302: AUSTRALIA: Western Australia, Kalgoorlie,

Dec. 1968 (Steven Anderson from USU). Texas horned lizard, Phrynosomatidae:
Phrynosoma cornutum, TEXAS: Hudspeth Co., i-10, about 180 km SE of El Paso, 17 May
2001, (A. S. Whiting) 47072 and 47073. ASW 1036 and 1037 photos of dead lizards from M.
L. Bean Museum. *Moloch horridus* and *Phrynosoma cornutum* 11316

11317 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, tanks and
waterfall, N 39.95962 W 111.26776 1895 m 08-Apr-2015 C. R. Nelson # 11317 & student
friends 86 wypt 057 waterfall with Tyson Terry and Sterling Adams. Set up two malaise traps,
one near tanks and one at waterfall. photos: rabbit. Saw spotted towhee, dark eyed junco,
ruby crowned kinglet, scrub jay, magpie, raven, kestrel, white breasted nuthatch, red tail
hawk. 11317

11318 USA: UTAH: Utah Co., Squaw Peak summit, hike from Rock Canyon, through First
Left Fork of Rock Canyon, N 40.27112 W 111.61694 2383 m 11-Apr-2015 C. R. Nelson #
11318 & students 86 161squaw photos: people and panoramas. Sam G. Smith, McKall
Morris, Kyla McDonald xxx, Seth Cannon. INHUT 2012 reunion hike. plant specimens in
notebook, spring beauty *Claytonia lanceolata* and bluebells *Mertensia* sp. small. Plants
GPS from Google Earth: N 30.2784 W 111.6131. elev. 2180 m. 11318

11319 USA: UTAH: Utah Co., Provo, BYU, room 206 (former 456) Martin Building, N
40.246928 W 111.6491070 1421 m 13-Mar-2015 C. R. Nelson # 11319 & class 86 photos:
Biology 100 class selfies with Nikon. Last Lecture. Near the end of the lecture my phone
was buzzing in my chest pocket. I felt sad. After class I checked the messages. Sarah
Walker Judson's dad, John Walker was calling to tell me Sarah is dead. She was my prize
student. Depression got the best of her. I miss her. 11319

11320 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 12-Apr-2015 C. R. Nelson # 11320 86 pet Texas map turtle died.
given to C. R. Nelson by student in about Winter 2000 from: USA: TEXAS: Williamson Co.,
South Fork San Gabriel River, near I-35 in Georgetown, N 30.6451 W 97.6825, elev. 206 m.
collected full sized about 1999, unknown student at BYU. Given to Jack Sites, 14 April 2015
for deposit in M. L. Bean Museum. small pet of same species still lives.
Also, 16 April 2015: photos: house sparrow, collared dove, scrub jay, and house finch.
11320

11321 USA: UTAH: Utah Co., Provo, BYU, 321 Maeser Building, N 40.245388 W 111.653465
1419 m 05-Mar-2015 C. R. Nelson # 11321 86 Google Earth photos: Nature and Culture
class. Painting memory: Water above, Water below. Goodbye Sarah. 14 April 2015. C. R.
Nelson. died beneath the Golden Gate Bridge, depression. 11321

11322 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB, N 40.245293 W 111.649165 1407 m 18-Apr-2015 C. R. Nelson # 11322 & A. L. N. Smith and A. Todd Smith. And Wolfgang. 86 Google Earth Video session in lab: Libellulidae: Libellula sp nymph from Lincoln Beach CRN 11273, determination as Libellula by Makani Fisher. Video of preying on mosquitofish, Gambusia affinis from CRN 11273 as well.

photos, also Arctiid caterpillars from near Mesquite on dandelion. (photographed earlier in week too). NEVADA: Clark Co., I-15, 10 miles West of Mesquite, exit 112, N 36.77167 W 114.23434 elev. 557 m (Google Earth estimate by CR Nelson), 1 April 2015, Bob Mower. larval food plant: Stephanomeria pauciflora, caterpillars: Arctiidae: Kodiosoma fulvum, Given to Makani Fisher to rear. 11322

11323 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, tanks and waterfall, N 39.95962 W 111.26776 1895 m 18-Apr-2015 C. R. Nelson # 11323 & Tyson Terry & Maya Rupard. 86 wypt 057waterfall changed bottles on malaise traps, last done 8 April 2015. Also, set up malaise trap starting CRN 11324. 11323

11324 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, creek, N 39.95367 W 111.26656 1816 m 18-Apr-2015 C. R. Nelson # 11324 & Tyson Terry and Maya Rupard. 86 wypt 468soldier Set up malaise trap starting CRN 11324. Bad set, moved downstream 50 m later (CRN 11335) 11324

11325 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 18-Apr-2015 C. R. Nelson # 11325 86 photos: Plant Crassulaceae flowers, Sedum relative at Cook's house closer to church. 11325

11326 USA: UTAH: Utah Co., Provo, Edgemont 10th Ward LDS Church, 345 East Foothill Drive, N 40.29410 W 111.65240 1482 m 18-Apr-2015 C. R. Nelson # 11326 & J. K. Nelson 86 Google Earth photos: people in ward at ward dinner and dessert auction. photos: Wid Tolman, Kaye Nelson, Rebecca Cannon, Grace Berrett, Sue Morgan, Matt & Kathleen Russo, April and Samantha Baird, Gena Roe, Summer Luke, Roger Wilson, Tamela Blake, Boyd Blake, Jan Billings, Kathy Nelson, Sharon Hudgens, Skeet Hudgens, Justine Dorton, Wilford Baird, Bruce Money, Tyler Blake, Dorothy Miner, Kim Money, Doug Cannon, Cooper Wadsworth, Mark Wadsworth, Bruce McKay, Michael and Virginia Hunter, Larry Ashby, Sondra Hudgens, Kenzi and Wayne Hamilton, Ryan Schmidt, Brian & Dawn Schmidt, Aubrey Baird, Amy (Shakespeare) White, Wendell and Judy Fletcher, Rich Hooper, Bev & Kathi Koller, Paisley Hunter, Julia Blake, Deena and Bill Shakespeare with Zina White grand daughter, Alison Hollingworth, Isabelle Dorton, Maddie Money, Liz and Liam Donaldson, Roland and Pamela Henrie, Taylor Rae Wadsworth and Maeve Clark. 11326

11327 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 21-Apr-2015 C. R. Nelson # 11327 86 photos: lazuli bunting, eurasian collared dove, magpie, lesser goldfinch. 11327

11328 USA: UTAH: Utah Co., Provo, Edgemont 10th Ward LDS Church, 345 East Foothill Drive, N 40.29410 W 111.65240 1482 m 23-Apr-2015 C. R. Nelson # 11328 & J. K. Nelson 86 Google Earth photos: Daniel Clark receiving Arrow of Light at Pack Meeting with father Steve Clark and CubMaster Jake Parker. 11328

11329 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 24-Apr-2015 C. R. Nelson # 11329 86 photos: sunrise over Wasatch. 8:12am at 74 degrees bearing. legally listed as 6:36 am and 72 degrees. 11329

11330 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River, site 4, Timpooneke Campground and Guard Station, N 40.43226 W 111.63741 2213 m 24-Apr-2015 C. R. Nelson # 11330 & M. I. Judson 86 Hiked with husband Michael Ivan Judson to talk about passing of Sarah Walker Judson. Hiked from Pine Hollow Trailhead. saw Prostoia besametsa adults, Zapada adult, Dixidae adult, Empididae adult. Also visited headwater spring, drier with no snowpack so spring head is 100 feet downstream from usual spot where Sarah and I collected Alloperla and Allomyia. Usual spot dry! 11330

11331 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, American Fork River bridge at canyon mouth N 40.43297 W 111.74779 1545 m, 24-Apr-2015 C. R. Nelson # 11331 86 Last collected here CRN 8865 on 29 March 2008 with Sarah Walker. . . goodbye my friend. Prostoia besametsa, collected Empididae live. Very little under the bridge. Started to rain. 11331

11332 USA: UTAH: Salt Lake Co. Salt Lake City, University of Utah, Museum of Natural History of Utah. and lower trails, N 40.76227 W 111.82377 1507 m 25-Apr-2015 C. R. Nelson # 11332 & family 87 Wypt 467museum with J. Kaye, Brandy, Jason, Artemis, and Astrid Nelson. Andrea Nelson and Jordan Christopher. Michelle and Taylor Christopher. Parked below the museum and walked paths up to the building. Collected below. Photos exhibits at museum, family too. Collected and photos: Chrysomelidae, Gastrophysa cyanea det S. M. Clark 2015 on Rumex crispus (photographed at home on 27 April 2015 on Rumex from my yard, same species?; also photos on 4 May 2015 CRN 11338). photos Balsamorhiza sagittata, Rumex crispus, and people. 11332

11333 USA: UTAH: Utah Co., Provo, BYU, Botany Pond, south campus, N 40.24453 W 111.65118 1394 m 27-Apr-2015 C. R. Nelson # 11333 & family 87 Riley, Kaye, Jason, Brandy, Artemis, Astrid Nelson; Amy & Wolfgang Smith. picnic and people mallard ducks, wood duck, red eared slider turtles, red breasted nuthatch, lesser goldfinch 11333

11334 USA: UTAH: Utah Co., Payson LDS temple N 40.01947 W 111.74945 1429 m 28-Apr-2015 C. R. Nelson # 11334 & family 87 Riley, Kaye, Jason, Brandy, Artemis, Astrid Nelson; Amy & Wolfgang Smith; Jera, Daniel, Tamara, Jane, Millie, and Brett Parker. Jessica ? Parker friend. photos: open house of temple, pressed a tulip given to Artemis by temple worker. 11334

11335 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, tanks and waterfall, N 39.95962 W 111.26776 1895 m 28-Apr-2015 C. R. Nelson # 11335 & family 87 wypt 057waterfall changed bottles on malaise traps, last done 18 April 2015. Also, moved Soldier Creek malaise trap below snowmobile bridge, near lower beaver dam, sparse catch. Wypt 468 soldier N 39.95367 W 222.26656 elev. 1816 m. Riley, Kaye, Jason, Brandy, Artemis, and Astrid Nelson. 11335

11336 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 28-Apr-2015 02-May-2015 C. R. Nelson # 11336 87 photos: family 11336

11337 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 03-May-2015 C. R. Nelson # 11337 & J. K. Nelson 87 Sunday afternoon visit from Jake and Alison Parker family photos: wasp in firewood. 11337

11338 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 04-May-2015 C. R. Nelson # 11338 87 early morning: photos & video: Coniopterygidae on blue spruce, *Picea pungens*. photos from elsewhere (CRN 11332) Chrysomelidae *Gastrophysa cyanea* pupae and eggs. 11338

11339 USA: UTAH: Utah Co., Utah Lake, Provo airport loop, N 40.2067 W 111.7259 1370 m 05-May-2015 C. R. Nelson # 11339 87 Google Earth Kaye, Riley, Amy Wolf, Andrea. saw birds near sunset. pelicans, bullocks oriole, mallards, cinnamon teal, red winged blackbird, yellow headed blackbird, killdeer, black necked stilt, Marsh wren, coot, mourning dove, sparrow, canada geese, barn swallows, forsters tern. dead gopher snake on road, Amy wanted it. 11339

11340 USA: UTAH: Utah Co., Provo, University and Center Street, N 40.23399 W 111.65914 1388 m 05-May-2015 C. R. Nelson # 11340 87 Google Earth Scolytidae? or Scarabaeidae? small cylindrical beetle, photographed then lost in carpet. 11340

11341 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 09-May-2015 C. R. Nelson # 11341 87 photos: black headed grosbeak male and female, house finch male and female, black capped chickadee. 11341

11342 USA: UTAH: Utah Co., Provo, Our House Care Center, 462 South 900 East, N 40.22718 W 111.64343 1389 m 10-May-2015 C. R. Nelson # 11342 & J. K. Nelson 87 Google Earth photos: family on Mother's Day. With Sherry Wheeler and Brett Wheeler 11342

11343 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 11-May-2015 C. R. Nelson # 11343 87 photos: Vespidae, *Vespula pensylvanica* det C. R. Nelson 2015, (using key online, BugGuide). paper wasp on new nest. Killed as photo voucher. It hurt my heart to do it. Photos: black headed grosbeak. 11343

11344 USA: UTAH: Utah Co., Provo, BYU, South Campus hillside, N 40.24517 W 111.65118 1411 m 11-May-2015 C. R. Nelson # 11344 87 Google Earth photos: Syrphidae, mating pair of fuzzy orange. (Not mating when photographed.) 11344

11345 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.43313 W 111.73850 1567 m 12-May-2015 C. R. Nelson # 11345 & students 86 Wypt 469siteone with S. G. Smith, M. Fisher. Set up malaise trap. Photos: site, scenery, photos: Syrphidae (at home) 11345

11346 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, footbridge, N 40.44749 W 111.68326 1850 m 12-May-2015 C. R. Nelson # 11346 & students 86 Wypt 471sitetwo with S. G. Smith, M. Fisher. photos: people and scenery. Syrphidae larvae, with aphids, on solomon seal, lily of the valley, *Smilacina stellata*, kept by Makani Fisher. 11346

11347 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River, near Guard Station, site 3, N 40.45143 W 111.65697 1851 m 12-May-2015 C. R. Nelson # 11347 & students 86 Wypt 472sitethree with S. G. Smith, M. Fisher. photos: people and scenery. Set up malaise trap. photos at home: *Isocapnia grandis*?, *Eucapnopsis brevicauda*, (Syrphidae out of sequence from 11345), *Paraleuctra occidentalis*, *Capnia* female curved abdomen with eggs, *Capnia* female large straight, 1 *Zapada cinctipes* female, 2 *Zapada cinctipes* bad wing, 3 *Zapada cinctipes*. 11347

11348 USA: UTAH: Utah Co., gravel alluvium, Hwy 146, mouth American Fork Canyon, N 40.43012 W 111.75249 1556 m 12-May-2015 C. R. Nelson # 11348 & students 86 Google Earth with S. G. Smith, M. Fisher. saw: *Astragalus utahensis*. Makani took Tephritidae galls to rear, on *Ericameria nauseosus*. 11348

11348.5 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, tanks and waterfall, N 39.95962 W 111.26776 1895 m 13-May-2015 C. R. Nelson # 11348.5 & P. F. Ashton. 87 wypt 057waterfall photos (20 May 2015): Lepidoptera, bagworm spiral larvae or pupae. 11348.5

11349 USA: UTAH: Millard Co. uplands, north end of Sevier Lake, side road south of Hwy 6, milemarker 48.5, N 39.07184 W 113.20855 1393 m 14-May-2015 C. R. Nelson # 11349 & students 87 Wypt 474sevierlake lunch. photos: scenery and Alice Waldron. with Riley Nelson, Rebecca Ann Clement, Samantha Gysler Smith, Tyson Jeffrey Terry, Mary Alice Waldron. photos: horned lizard, *Phrynosoma*. *Cerambycidae* (thought *Meloidae* at first). Saw *Acrididae* *Oedipodinae*, *Lygaeidae* *Nyssus*-like. 11349

11350 USA: UTAH: Millard Co. Sevier Lake, at north end, side road south of Hwy 6, milemarker 48.5, N 39.06544 W 113.20137 1369 m 14-May-2015 C. R. Nelson # 11350 & students 87 Wypt 475sevierlakebed photos: scenery, panoramas and people. Walked on wet salt flats. with Riley Nelson, Rebecca Ann Clement, Samantha Gysler Smith, Tyson Jeffrey Terry, Mary Alice Waldron. 11350

11351 USA: NEVADA: White Pine Co. Great Basin National Park, Baker Creek, Grey Cliffs Campground, Loop B, N 38.99163 W 114.22520 2185 m 14-May-2015 17-May-2015 C. R. Nelson # 11351 & students 87 Wypt 482greycamp with Riley Nelson, Rebecca Ann Clement, Samantha Gysler Smith, Tyson Jeffrey Terry, Mary Alice Waldron. 14 May: set up camp, some rain, painted tree and abstraction. 15 May no photos, rushed morning (too bad), wet. 16 May: photos: morning scenery, snowy, *Castilleja* paintbrush, *Senecio*. 17 May: morning scenery, blue sky. drawing. pine cones. photos of specimens later in morning. 17 May: *Philopotamidae*: *Dolophilodes aequalis* 1 general, 2 males photos. *Taeniopterygidae*: *Taenionema pallidum* 3m 1f general, 1m photos. *Tenthredinidae*, 3 general and 1 photo. *Leuctridae*: *Paraleuctra occidentalis* 2f general and 1f photos. *Bibionidae*: *Bibio xanthopus*? photos 3m and 1 f. 11351

11352 USA: NEVADA: White Pine Co. Great Basin National Park, Lehman Creek, Upper Lehman Creek Campground, N 39.01250 W 114.24834 2305 m 15-May-2015 C. R. Nelson # 11352 & others, see field notes 87 Wypt 476 upperlehman with Riley Nelson, Rebecca Ann Clement, Samantha Gysler Smith, Tyson Jeffrey Terry, Mary Alice Waldron. teaching First 100 session with Stream Insect Bioblitz crowd. big group training session. 11352

11353 USA: NEVADA: White Pine Co. Great Basin National Park, Strawberry Creek at north park boundary, N 39.06440 W 114.25879 2100 m 15-May-2015 C. R. Nelson # 11353 & B. C. Kondratieff. 87 Wypt 478strawberryboundary Stream Insect Bioblitz. Boris C. Kondratieff. Part of group sampled higher on the creek. *Pteronarcys princeps* nymphs abundant det C. R. Nelson 2015, 5 nymphs in 100% ethanol. *Sweltsa*? none in my samples. *Cordulegaster* (given to others of Bioblitz group. My sample: *Lepidostoma* sp., *Drunella grandis*, *Drunella doddsi*, *Hyaella azteca* det C. R. Nelson using Smith's Pennak book.

Others: Elmidae larva det CRN, Tipulidae adult, Tipulidae Dicranota? larva, Tipula, Hesperoperla pacifica nymphs det CRN, Chrysomelidae Alticinae on river birch Betula occidentalis. Hydropsychidae. 11353

11354 USA: NEVADA: White Pine Co. Great Basin National Park, Baker Creek, Baker Creek Campground, campsite 21, N 38.986654 W 114.239368 2314 m 15-May-2015 C. R. Nelson # 11354 & others, see field notes 87 RAC004 Stream Insect Bioblitz. C. R. Nelson did not sample with this group, but BYU students did: Sam Smith, Becca Clement, Tyson Terry, and Alice Waldron.

First 100s. Later got the Gps from Becca, RAC004. Becca also sent me RAC005 N 38.975645 W 114.248479 elev. 2470 m, about 265 m SW from the parking lot of the Baker Lake Trailhead. Did they take First 100s here too? 11354

11355 USA: NEVADA: White Pine Co. Great Basin National Park, Baker Creek between Grey Cliffs and Baker Creek Campground N 38.99163 W 114.22520 2185 m 16-May-2015 C. R. Nelson # 11355 87 use wypt 482greycamp photos: scenery in snow. morning walk: flowers and snow. Rufous sided towhee, robin, sparrow, wren, black headed grosbeak. 11355

11356 USA: NEVADA: White Pine Co. Great Basin National Park, South Fork Big Wash Creek, lower spring, N 38.83173 W 114.19631 2106 m 16-May-2015 C. R. Nelson # 11356 87 Wypt 479sfkbigwashspring with Mark J. Pepper, fisheries biologist for the park from New York. Field label says 11354, correct to 11356. photos: Amphizoa, Ameletus. First 100s: Baetidae, Elmidae, Heptageniidae, Tipulidae, Philopotamidae, Limnephilidae Hesperophylax, Uenoidae Neothremma (or Brachycentridae Micrasema), Empididae Clinocerinae. 11356

11357 USA: NEVADA: White Pine Co. Great Basin National Park, culinary spring of Lehman Creek just above Upper Lehman Creek Campground, N 39.011191 W 114.25813 2418 m 16-May-2015 C. R. Nelson # 11357 87 Wypt 480upperlehmanwaterspring with David E. Ruitter, formerly of EPA Denver, now retired to Grants Pass, Oregon. Pteronarcella nymphs abundant, 1 male; Hesperoperla pacifica nymphs, malenka nymphs, Paraleuctra occidentalis 2m 5f det C. R. Nelson 21 May 2015. 11357

11358 USA: NEVADA: White Pine Co. Great Basin National Park, Lehman Creek just above Upper Lehman Creek Campground, near culinary spring, N 39.011191 W 114.25813 2418 m 16-May-2015 C. R. Nelson # 11358 87 Wypt 480upperlehmanwaterspring with David E. Ruitter, formerly of EPA Denver, now retired to Grants Pass, Oregon. Capnia gracilaria 2f, Paraleuctra (thought 2 spp.) but only occidentalis 16m 10 f all dets C. R. Nelson 21 May 2015, Taenionema pallidum 4m 4f, Zapada cinctipes 2m 6 f, Zapada haysi (BCK thought was Z. oregonensis NOT) 2m, Trichoptera adult mottled, Trichoptera Philopotamidae

Dolophilodes aequalis adults (all dark in alcohol), Syrphidae Didea and Spilomyia, Hemerobiidae, Xyelidae, Tipulidae, Bibionidae Bibio. 11358

11359 USA: NEVADA: White Pine Co. Great Basin National Park, Baker Creek, Baker Lake Trailhead, N 38.97634 W 114.24558 2434 m 17-May-2015 C. R. Nelson # 11359 87 Wypt 481 bakerlaketrailhead alone. photos: scenery and water. photos: yellow bellied Marmots rock chucks on road stretch just down from trailhead. Searched for Blephariceridae, found none. Need to look harder. 11359

11359.5 USA: NEVADA: White Pine Co. Baker, Baker Hall, N 39.01122 W 114.12436 1627 m 17-May-2015 C. R. Nelson # 11359.5 87 Google Earth took home to lab and put it in a cage with apple. It loves to burrow in the wet red sand from southern Utah. Stenopelmatidae, young Stenopelmatus nymph, jerusalem cricket, collected by B. C. Kondratieff, not C. R. Nelson 11359.5

11360 USA: UTAH: Juab Co. Indian Farms Creek, Callao CCC Camp, N 39.85355 W 113.77388 1465 m 17-May-2015 C. R. Nelson # 11360 & students 87 Wypt 483callao First 100s: four, CRN 1 and 3 more samples. Sam Smith, Becca Clement, Tyson Terry, and Alice Waldron. Pteronarcys princeps det, First 100s: four, one each. No adults from beating birches and willows, one skin and two coppery Dicerca Buprestidae. Ameletus, Limnephilidae, Baetidae, Tenebrioniae Eleodes for pets. Much more in First 100s: CRN sample: many Paraleptophlebia 26, Hesperoperla pacifica 24, Ephemerella 4, Drunella grandis 4, Pteronarcys princeps 1, Rhithrogena 4, Brachycentrus 1, Baetis? 3, Ameletus 2, Chironomidae two kinds one in tubes 7, Elmidae larva ` , Tipulidae Dicranota 2, Hydropsyche 9, Amphicosmoecus 2, Isoperla 9, Cinygmula 6, Lepidostoma 9. In other First 100s: Drunella coloradensis 1, Tipulidae Genus 2, Tabanidae Haematopota, Odonata Cordulegastridae Cordulegaster, Dytiscidae Hydatiscus larva, Nemouridae malenka, Tipulidae Antocha, Chloroperlidae Sweltsa, Brachycentridae Micrasema, Annelida Lumbricus, Simuliidae Simulium, Dytiscidae Agabus. 11360

11361 USA: UTAH: Tooele Co. Simpson Springs, N 40.04042 W 112.78621 1507 m 17-May-2015 C. R. Nelson # 11361 & students 87 Wypt 484simpson Brief stop in evening, pond downslope (not sampled for time's sake) on flats, green trees hinting open water upslope. New freeze drop faucet had no water to come out. Sam Smith, Becca Clement, Tyson Terry, and Alice Waldron. 11361

11362 USA: UTAH: Utah Co., Provo, Nichols home, 338 East 4450 North, N 40.29225 W 111.65243 1472 m 17-May-2015 C. R. Nelson # 11362 & others, see field notes 87 Google Earth NO C.R. Nelson at collection, Ichneumonidae: Megarhyssa Macrurus, collected by

Jeff and Julie Nichols in their television room. Photographed 20 May 2015 by C. R. Nelsn.
11362

11363 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River, site 4, Timpooneke Campground and Guard Station, N 40.43226 W 111.63741 2213 m 19-May-2015 C. R. Nelson # 11363 & others, see field notes 87 Wypt 485site4trap Set up malaise trap. Walked from Pine Hollow Trailhead. Riley Nelson, Sam Smith, Clint Whipple, and Wade Jacoby. Discussed meaning of biodiversity in academic talk. called in a red breasted nuthatch during walk in firs. 11363

11364 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River, near Guard Station, site 3, N 40.45143 W 111.65697 1851 m 19-May-2015 C. R. Nelson # 11364 & others, see field notes 87 Wypt 472sitethree Emptied malaise trap. sparse due to rainy weather. Riley Nelson, Sam Smith, Clint Whipple, and Wade Jacoby. Discussed meaning of biodiversity in academic talk. 11364

11365 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, Hanging Rock, American Fork River, site 2, N 40.44749 W 111.68326 1850 m 19-May-2015 C. R. Nelson # 11365 & others, see field notes 86 Wypt 471sitetwo Emptied malaise trap. sparse due to rainy weather. Riley Nelson, Sam Smith, Clint Whipple, and Wade Jacoby. Discussed meaning of biodiversity in academic talk. 11365

11366 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, 0.5 mi East of canyon mouth, American Fork River, site 1, N 40.43313 W 111.73850 1567 m 19-May-2015 C. R. Nelson # 11366 & others, see field notes 87 Wypt 469siteone Emptied malaise trap. sparse due to rainy weather. Riley Nelson, Sam Smith, Clint Whipple, and Wade Jacoby. Discussed meaning of biodiversity in academic talk. Runoff high, nearly went over top of my hip boots in crossing. 11366

11367 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 22-May-2015 C. R. Nelson # 11367 87 photos:Syrphidae, small dark.
11367

11368 USA: UTAH: Utah Co., Provo River, Provo, Airport road crossing, Lakeshore Drive, N 40.23961 W 111.71196 1375 m 25-May-2015 C. R. Nelson # 11368 & J. K. Nelson 87 Google EArth viewed spawning june suckers, Maybe 200, under bridge. Each about 18 inches long. no fish photos. 11368

11369 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 27-May-2015 C. R. Nelson # 11369 87 photos: sunrise. 7:58 am MDT, 64degrees. photos at 8:00 am. official from timeanddate.com, 6:02am 61degrees 11369

11370 USA: UTAH: Utah Co., Provo River, Provo, Airport road crossing, Lakeshore Drive, N 40.23961 W 111.71196 1375 m 28-May-2015 C. R. Nelson # 11370 & J. K. Nelson 87 Google Earth Visited spot again at 8:00pm with Kaye, Andrea, Jordan, Amy, Todd, and Wolf. photos & video: june suckers spawning (might be Utah suckers), also some rainbow trout. walked about 300 m upstream from bridge seeing suckers on riffles and resting in backwater eddies all along the way. Suckers were immediately (10m) downstream from the bridge, but I saw none further downstream than that. 11:00am to 12:30pm. 11370

11371 SOUTH AFRICA: Gauteng and Mpumalanga Provinces: Johannesburg to Kruger National Park through Schoemanskloof and Hazyview 03-Jun-2015 C. R. Nelson # 11371 & J. K. Nelson 87 Google Earth and points below from Johannesburg airport (starting 2 June 2015 to hotel, Wypt 003airport S 26.129359 E elev. 1747m and airport bus station wypt 004jnbairportbus S 26.133254 E 28.229777 elev. 1735 m, then to Holiday Inn Hotel, I used Google Earth for the airport at: S 26.105081 E 28.192178 elev. 1670m) the Outlook Safari van picked us up early and we headed east. We took pictures while rolling of the coal fired power plants (Wypt 005powerplanteastjoburg S 26.018656 E 28.900335 elev. 1508) then brush country near Middelburg (Wypt 005middelburg S 25.853366 E 29.384867 elev. 1486 m) then the tollgate at wypt 006tollgate2schoemanskloof? S 25.627639 E 30.258106 elev. 1641 m. I saw curve horned antelope (roan?) in a pasture near wypt 007passafterantelopemooiplaats S 25.467481 E 30.404316 elev. 1307m, see also two points Photo 001 near pass S 25.436215 E 30.472222 elev. 1268m and Wypt 009sterkloops pass(spelling?) S 25.433876 E 30.475762 elev. 1283m.

We stopped longer at a rest stop and gas station complex 4 km east of Schoemanskloof on R539 at Wypt010stpaulsnaturepreserve S 25.394368 E 30.571088 elev. 930m on 3 June 2015. (Stopped same place on return trip on 7 June: S 25.394409 E 30.571079 elev. 934m, wypt 038reststopyesterday, lost the site photo for second stop).

Then Hazyview S 25.035438 E 31.151072 elev. 482m (from Google Earth), and on to Kruger Gate of Kruger National Park S 24.980990 E 31.484689 elev. 303 m (Google Earth first then Wypt 011krugergate S 24.979617 E 31.482827 elev. 292m, fee station), and stopped at Skukuza Camp to stay. Traveling with Willy the driver and guests: Michelle Singleton (Australia, Singapore), Deag (Washington D. C.), and Alexander Teixeira (Brazil). power plants, brush county. gas station: pied wagtail, cliffs; Hazyview: town and bananas; 11371

11372 SOUTH AFRICA: Mpumalanga Province: Kruger National Park between Kruger Gate and Skukuza Camp, S 24.993897 E 31.593088 273 m, 03-Jun-2015 C. R. Nelson # 11372 & J. K. Nelson 87 wypt 015skukuza154 Used our chalet, number 154 as the gps site. Wypt 011krugergate S 24.979617 E 31.482827 elev. 292 m

Early afternoon Kruger Gate and then entrance to Skukuza Camp. Late lunch at cafe of Skukuza camp on Sabie River kind of near chalet 154. Walked near cafe for photos. Everything is new! Gate: photos: cape buffalo, red hornbills (No, determined crowned hornbills 20210214 CRN), Euphorbia tall, African elephants, weaverbird nests, impala.

Skukuza camp (use 154): vervet monkeys, skink lizards, cape glossy starlings, blue eared glossy starlings, hadeda ibis on Sabie River, tree with trunk fruit, warthogs.

Evening loop and spotlighting, elsewhere near Skukuza: photos: vervet monkey, warthog, nyala, elephants, sunset, eagle, impala, white rhino tail, one horned impala, white tailed mongoose, after dark rhino. 11372

11373 SOUTH AFRICA: Mpumalanga Province: Kruger National Park, morning loop to Lower Sabie River, Sand River, and Jone's Dam, S 24.856741 E 31.752939 278 m, 04-Jun-2015 C. R. Nelson # 11373 & J. K. Nelson 87 Google Earth, Jones Dam Dickson as guide. Used large 400mm lens with 1.4 converter, up to 550mm. photos: sunrise. Wypt 012 9:10am: S 24.897546 E 31.737546 elev. 282 m. Wypt 013sandriver (impala herd) S 24.966989 E 31.625483 elev. 254m. Wypt 014sabie (bridge): 9:57am: S 24.990904 E 31.601724 elev. 252 m. Wypt015skukuza154 1:54pm: S 24.993897 E 31.593088 elev. 273m (our chalet!) Morning: photos: nyala in bush, gray heron, bushbuck?, vervets, impala, Cape turtle doves, Burchell's starling, helmeted guinea fowl. speckled mousebird. Sabie crossing: hippos, impala, egrets, pied wagtail, wattled lapwing, hamerkop flying. Further: southern yellow billed hornbill, duiker, nyala, warthog, dwarf mongoose. Jone's Dam was full of (photos): Cape buffalo hen Burchell's zebra, blue wildebeest, and impala. waterbuck, brownhooded kingfisher, Egyptian goose, red billed oxpecker, blacksmith lapwing, river monitor. Down river: Martial eagle juvenile, giraffe, elephant with diving pied kingfisher, white backed vulture, kudu up close, brown snake eagle. Sand river crossing: impala drinking herd, hamerkop, hippo, weaverbird nests over water, scenery. Sabie River crossing: crocodile chasing reed cormorant, Egytian goose, fuzzy green flying bird, end with crocodile. 11373

11374 SOUTH AFRICA: Mpumalanga Province: Kruger National Park, Skukuza Camp, Sabie River, S 24.993897 E 31.593088 273 m, 04-Jun-2015 C. R. Nelson # 11374 & J. K. Nelson 87 Wypt 015skukuza154 photos 4 June 2015: 1:15pm: our chalet, hadeda ibis, Cape glossy starling, Blue eared glossy starling, speckled mousebird, elephants in reeds, bridge. Outlook Camp: blackeyed bulbul, sunbird (yellow with green), hadeda ibis, Cape white eye, purple crested turaco. photos 5 June 2015: warthogs photos and video, agamid lizard on brick, Cape buffalo skull, hadeda ibis, black eyed bulbul on fence, squirrel, lilac breasted

roller, canaries. 6 June 2015 900am after ride: photos: Cape glossy starling, laughing dove, purple crested turaco, blacked eyed bulbul, goldentailed woodpecker, back at chalet: blue gray flycatcher also called ashy flycatcher. 7 June 2015, Outlook camp, morning: bushbaby and croissants then later a ball of bushbaby sleeping. Euphorbia near store with Calliphoridae, purple crested turaco. Outlook Camp continued: bird with white rimmed eye but not a white eye, house sparrows, black collared barbets, black eyed bulbul, Cape glossy starlings, laughing doves sunning wings, LBJ (little brown job) with erect tail?. End of roll two and Kruger. 11374

11375 SOUTH AFRICA: Mpumalanga Province: Kruger National Park, afternoon loop through koppies SW of Skukuza Camp, S 25.04622 E 31.50936 353 m, 04-Jun-2015 C. R. Nelson # 11375 & J. K. Nelson 87 Wypt 021cheetah photos: Wypt 016 S 25.105791 E 31.602005 elev. 358 m. Wypt 017giraffecam: S 25.11174 E 31.60376 elev. 358 m: giraffe, yellowstone german shirt, yellow billed hornbill, giraffe with ticks, red billed oxpecker. Wypt018impala S 25.11954 E 31.56980 elev. 362m: impala. Wypt 019warthog S 25.10423 E 31.54467 elev. 374m: warthogs, Euphorbia, road. Wypt 020giraffe S 25.10460 E 31.51608 elev. 381m: giraffe tongue, Burchell's zebra, koppie plants. Wypt 021 cheetah: cheetah. Two more cheetah points 022 and 023. Wypt 024lions S 25.03612 E 31.51228 elev. 330 m: lion pride females with cubs, sleeping male, Alexander Teixeira with long lens. Wypt 025 hyenasatjctnearby S 24.99448 E 31.52507 elev. 311 m: spotted hyaenas, west to jc where viewed hyaenas. Sunset, Kaye, hyaenas, end shopping cart in camp. Use 012 cheetah as central. 11375

11376 SOUTH AFRICA: Mpumalanga Province: Kruger National Park, bushwalk near Transport (Vervoer) Dam Viewpoint, S 24.11333 E 31.51469 372 m, 05-Jun-2015 C. R. Nelson # 11376 & J. K. Nelson 87 Wypt 026bushwalk (jeep start) top of granite koppie, fine wide view. Walked with park rangers Elliot and xx and four men from Perth, Australia and one African woman. Wypt 027kopjewalk (top of koppie) S 25.12829 E 31.50752 elev. 407m. photos: baboon spider hole, rhino tracks, tree on termite mound. End photos. Giraffes, white rhinoceros, kudu, and impala. 11376

11377 SOUTH AFRICA: Mpumalanga Province: Kruger National Park, Sabie River and Sand River loop to Jone's Dam, S 24.856741 E 31.752939 278 m, 05-Jun-2015 C. R. Nelson # 11377 & J. K. Nelson 87 Google Earth my list above for morning?, May have simply been the informal list in my notes for the afternoon written before I consulted my photographs. morning?: impala, giraffe, waterbuck, kudu, zebra, Cape buffalo, hippopotamus, pied babbler, goliath heron, red hornbill, lion, dwarf mongoose, chacma baboons, vervet monkeys, and warthog. Afternoon loops: photos: red termite mound, bushbuck, vervet monkeys on road, giraffe feet, hippo chase, goliath heron, hadeda ibis, Egyptian goose,

black storks, kudu females, green bus, dwarf mongoose on mound, gnarled tree, lion female in grass, hippo, lioness lying down, pointy termite mound with log, giraffe, waterbuck backlit, Burchell's zebra, Burchell's glossy starling, elephant asymmetrical tusks, hooded vulture, lioness lying and stretched, No pictures of. white backed vultures must have been the hooded vulture in the tree, warthogs, single lit tree, river crossing, sunset, zebras and jeep, chacma baboons, hippos on land. 11377

11378 SOUTH AFRICA: Mpumalanga Province: Kruger National Park, loop near Mathekenyane Granite Koppie Outlook, S 25.067338 E 31.551538 374 m, 06-Jun-2015 C. R. Nelson # 11378 & J. K. Nelson 87 Google Earth Guide for the morning was matt Roach. Guide to gate, on way to panorama was Shadrach. photos: Michelle Singleton from Singapore and Australia. Hanneke and Jodi from the Netherlands working as tour bookers in Cape Town. Tawny eagle,

photos: sunrise top of koppie views (we could get out of the truck here), red and white euphorbia flowers NO! Apocynaceae: Ademium multiflorum Impala lily, koppie rocks, acacia spines, towers of termites, impala herd, whitebacked vulture, lion tracks, kudu females, close up of chacma baboons, go away bird, dwarf mongoose, impala. photos: batteleur eagle, saw European roller, wild dogs!, elephants, magpie shrike, fork tailed drongo, little brown bird, white rhinoceros, with oxpecker and drongo, brown hooded kingfisher, steenbuck, crested francolin, lilac breasted roller, batteleur, kudu, impala, african green pigeon, dwarf mongoose, brown bird?. End morning drive. then drive to Kruger gate, photos: tawny eagle, white rhinoceros lying down, Kruger statue 11378

11379 SOUTH AFRICA: Mpumalanga Province: Drakensberg Mountains, Lisbon Falls, S 24.861548 E 30.835378 1351 m, 06-Jun-2015 C. R. Nelson # 11379 & J. K. Nelson 87 Wypt 029lisbonfalls with Shadrach the guide and Hanneke and Jodi from the Netherlands working as tour bookers in Cape Town. photos: scenery, falls, Kaye at falls, stream above falls, isolated tree fern, isolated tree (blurry). Tree fern.

Wypt 031nearleroro S 24.620187 E 30.816632 elev. 1344m. then after 11380 Wypt 031 closeups of Protea, termite mounds, tree, and canyon. 11379

11380 SOUTH AFRICA: Mpumalanga Province: Drakensberg Mountains, Blyde River Canyon, view to Three Rondavels, S 24.573693 E 30.798044 1339 m, 06-Jun-2015 C. R. Nelson # 11380 & J. K. Nelson 87 Wypt 030threeroundriver with Shadrach the guide and Hanneke and Jodi from the Netherlands working as tour bookers in Cape Town. photos: scenery, plants, bush aloes, people, names on rock, white necked raven, three rondavels (rocks look like thatched houses), river, reservoir, Kaye, valley, sidewalk, Aloes, school kids, yellow composite, orange "Lotus like" bean family, orange mint, souvenir shop Prime carved our mask., Hanneke and Jodi selfie, burned forest, Kaye and Shadrach. 11380

11381 SOUTH AFRICA: Mpumalanga Province: Drakensberg Mountains, Wonderview and God's Window, near Graskop, S 24.868399 E 30.896903 1720 m, 06-Jun-2015 C. R. Nelson # 11381 & J. K. Nelson 87 Wypt 032wonderview Photos: wide valley views. God's Window. Kaye on boardwalk. Kaye, Hanneke and Jodi walking, school kid's, "Keep God's Window clean, down the road photos of bluff 2 km from Graskop. With Shadrach the guide and Hanneke and Jodi from the Netherlands working as tour bookers in Cape Town. also gps: Wypt 033godswindow N 24.876475 E 30.889026 elev. 1653 m. Top of trail: Wypt 034top S 24.874634 E 30.891611 elev. 1691 m. photos: wide valley views, tree aloes, ferns, red winged starlings, LBJ yellow "cisticola" bird, various plants and flowers, ball composite?, Erica, St. John's wort flowers, white composite "pearly everlasting", AMaryllis or near straps of leaves, more aloes, more long views, cloud forest. 11381

11382 SOUTH AFRICA: Mpumalanga Province: Drakensberg Mountains, Leroro town area, S 24.620187 E 30.816632 1344 m, 06-Jun-2015 C. R. Nelson # 11382 & J. K. Nelson 87 Wypt 031nearleroro See also gps for 11379 and 11380. With people of 11379 saw many more Protea 11382

11383 SOUTH AFRICA: Mpumalanga Province: Drakensberg Mountains, Graskop town, S 24.931712 E 30.841661 1443 m, 06-Jun-2015 C. R. Nelson # 11383 & J. K. Nelson 87 Google Earth Silver Spoon Pancake House. With people of 11379. Also forest and logs 27 km from Hazyview on highway R535. photos: jade plant flowers. 11383

11384 SOUTH AFRICA: Mpumalanga Province: Kruger National Park, between Kruger Gate and Skukuza Camp turnoff, S 24.994481 E 31.525073 311 m, 06-Jun-2015 C. R. Nelson # 11384 & J. K. Nelson 87 Wypt 025hyenasatjctnearby With people of 11379. photos: spotted hyenas 11384

11385 SOUTH AFRICA: Mpumalanga Province: Kruger National Park, morning loop south to Transport (Vervoer) Dam, S 25.118760 E 31.491308 371 m, 07-Jun-2015 C. R. Nelson # 11385 & J. K. Nelson 87 Google Earth Guided by matt Roach with Hanneke and Jodi from the Netherlands. many giraffes today, kudu, impala, zebra, duiker, warthog, baboons, hyena. photos: rhinos and oxpeckers, sunrise, koppies, kudu, zebra, brush, giraffes. Transport Dam: hippos, Egyptian goose, misty morning. Later: Elephant or rock?, giraffes close, tears; truck with guests, Kaye in poncho, koppie, impala, crowned lapwing, buff crested korhaan, kudu male. 11385

11386 SOUTH AFRICA: Mpumalanga Province: Kruger National Park, Skukuza Camp at Outlook Safaris, S 24.993897 E 31.593088 273 m, 07-Jun-2015 C. R. Nelson # 11386 & J.

K. Nelson 87 Wypt 015skukuza154 photos: bushbaby in camp, white fronted beeeater.
11386

11387 SOUTH AFRICA: Mpumalanga Province: drive from Kruger National Park to Boksburg in Johannesburg, S 25.394409 E 30.571079 934 m, 07-Jun-2015 C. R. Nelson # 11387 & J. K. Nelson 87 Wypt 038reststopyesterday Stop at Viva gas station and St. Paul's Nature Preserve area. Se gps for minor notes. swallow, pied wagtail, house sparrow, weaverbird.
11387

11388 SOUTH AFRICA: Mpumalanga Province: Boksburg Airport Holiday Inn, in Johannesburg, S 26.177583 E 28.244138 1688 m, 07-Jun-2015 08-Jun-2015 C. R. Nelson # 11388 & J. K. Nelson 87 Wypt 036johannesburg hadeda ibis and gray bland thrush. 11388

11389 SOUTH AFRICA: Eastern Cape Province: Uitenhage, Volkswagen factory S 33.785049 E 25.420293 37 m, 08-Jun-2015 C. R. Nelson # 11389 & J. K. Nelson 87 Google Earth photos: volkswagen factory with Kathy and Paul Wheeler. 11389

11390 SOUTH AFRICA: Eastern Cape Province: Indian Ocean, Port Elizabeth, boardwalk beach, S 33.981738 E 25.662723 0 m, 08-Jun-2015 C. R. Nelson # 11390 & J. K. Nelson 87 Wypt 039portelizbeach only photo is on gps, one of people: Kaye Nelson, Kathy and Paul Wheeler. brought home sponges and sea fans, gorgonians and shell. 11390

11391 SOUTH AFRICA: Eastern Cape Province: Port Elizabeth, Millbury Guest House, 27 Millbury S 33.961492 E 25.590041 90 m, 08-Jun-2015 09-Jun-2015 C. R. Nelson # 11391 & J. K. Nelson 87 Wypt 040millburyguesthouse Riley & Kaye Nelson, Kathy and Paul Wheeler. Photos: Birds: cape weaver, cape turtle dove. 11391

11392 SOUTH AFRICA: Eastern Cape Province: Kwantu Elephant Sanctuary, S 33.493028 E 26.175997 315 m, 09-Jun-2015 C. R. Nelson # 11392 & J. K. Nelson 87 Wypt 041kwantuelephant My elephant's name Marula, driver Pere. Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: riding african elephants, fiscal shrike, springbok, elephants close up, house sparrows, blue flower bush, people with elephants. 11392

11393 SOUTH AFRICA: Eastern Cape Province: high plain near Paterson, S 33.421029 E 25.920442 233 m, 09-Jun-2015 C. R. Nelson # 11393 & J. K. Nelson 87 Wypt 042nearpaterson Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: ostriches. Saw giraffes further south on game reserve. 11393

11394 SOUTH AFRICA: Eastern Cape Province: plains near Woodlands, S 33.433147 E 25.775485 124 m, 09-Jun-2015 C. R. Nelson # 11394 & J. K. Nelson 87 Wypt 043 north paterson eland Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: eland 11394

11395 SOUTH AFRICA: Eastern Cape Province: Addo Elephant National Park, main gate reception area south to south gate at Matyholweni, S 33.444255 E 25.745869 129 m, 09-Jun-2015 C. R. Nelson # 11395 & J. K. Nelson 87 Wypt 044addoreception Riley & Kaye Nelson, Kathy and Paul Wheeler. blue duiker, black backed jackal. photos: kudu, warthog, fiscal shrike (butcher bird), speckled mousebird & baby, south african shellduck, egyptian goose, black winged duck, "river" turtles at Ghwarrie Pan, warthog, cattle egret, blackheaded heron, fliscal flycatcher, kudu, cape buffalo, red flowers on brush, Burchell's zebra, elephant skull, large grey mongoose, blacksmith lapwing, odd south african shellduck, crowned lapwing, fiscal shrike, cape crows,

warthog, bokmakierie, ostrich, red termite mounds, blackheaded heron, elephant and baby, wounded cape buffalo, spotted dikkop, red hartebeests, zebra, elephant, isolated tree, view to ocean, sunset, Aloe ferox, end Addo. 11395

11396 SOUTH AFRICA: Eastern Cape Province: Addo Elephant National Park, Jack's Picnic Area, S 33.516521 E 25.761558 196 m, 09-Jun-2015 C. R. Nelson # 11396 & J. K. Nelson 87 Google Earth Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: plants cape wagtail, orange flower shrub, odd succulent vine, elephant bush (*Portulacaria afra*) 11396

11397 SOUTH AFRICA: Eastern Cape Province: Port Alfred, Flame Lily Road, Wheeler Apartment S 33.615810 E 26.880102 0 m, 09-Jun-2015 10-Jun-2015 C. R. Nelson # 11397 & J. K. Nelson 87 Wypt 065portalfred photos: scenery, time lapse, southern stars and waves on beach, Two movies, morning 10 June 2015 Indian Ocean. Riley & Kaye Nelson, Kathy and Paul Wheeler. 11397

11398 SOUTH AFRICA: Eastern Cape Province: Fish River Sun Resort, 25 km northeast of Port Alfred, S 33.484625 E 27.132935 49 m, 10-Jun-2015 C. R. Nelson # 11398 & J. K. Nelson 87 Wypt 045fishriverheight breakfast buffet Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: vervet monkeys, village, cape weaver birds, red winged starling, European starling, gecko, Dorylinae ant (out of order, after Leptophlebiidae, in with two Mayflies from 11402) 11398

11399 SOUTH AFRICA: Eastern Cape Province: Peddie area, S 33.323387 E 27.093156 258 m, 10-Jun-2015 C. R. Nelson # 11399 & J. K. Nelson 87 Wypt 046peddiearea Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: termite mounds, villages, sacred ibis, man walking on road, people waiting. Specimen of acacia with long thorns. 11399

11400 SOUTH AFRICA: Eastern Cape Province: King William's Town S 32.880025 E 27.380064 359 m, 10-Jun-2015 C. R. Nelson # 11400 & J. K. Nelson 87 Wypt

047kingwilliamstown Riley & Kaye Nelson, Kathy and Paul Wheeler. gas station. photos: sacred ibis, brown hooded kingfisher, more village houses on way to Hogsback turnoff (R63 to R345). 11400

11401 SOUTH AFRICA: Eastern Cape Province: Hogsback, Arboretum, off R345 S 32.590176 E 26.934417 1226 m, 10-Jun-2015 C. R. Nelson # 11401 & J. K. Nelson 87 Wypt 048hogsbackarboretum Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: samango monkeys, temperature European forest and specimen trees. California redwoods. Bird: Hamerkop. 11401

11402 SOUTH AFRICA: Eastern Cape Province: Hogsback, Arboretum, 39 Steps Waterfall Creek, off R345 S 32.589800 E 26.932395 1200 m, 10-Jun-2015 C. R. Nelson # 11402 & J. K. Nelson 87 Wypt 049.39stepsfalls Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: scenery, waterfall, photos: evening, after hawk at Labyrinth: Trichoptera family?, Ephemeroptera family? Leptophlebiidae?. In with ant from 11398. photos: haverkop bird, samango monkeys, Coleoptera small. 11402

11403 SOUTH AFRICA: Eastern Cape Province: Hogsback, The Edge and Labyrinth, off R345 S 32.604433 E 26.916417 1251 m, 10-Jun-2015 C. R. Nelson # 11403 & J. K. Nelson 87 Wypt 050theedgehogsback Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: scenery with views to southwest, fire, Protea plant, yellow composites, samango monkeys on big rock face. Walked on labyrinth, fuzzy spiny fruit on Labyrinth, green backed purple under dark sunbird (like Merico sunbird but out of range in book), red winged starlings, grayish swallows with short tails, ?hawk (= jackal buzzard determined from photos). 11403

11404 SOUTH AFRICA: Eastern Cape Province: Hogsback, Arminel Resort, off R345 S 32.592730 E 26.933695 1262 m, 10-Jun-2015 11-Jun-2015 C. R. Nelson # 11404 & J. K. Nelson 87 Wypt 051arminelhogsback Spent night, big dinner buffet and breakfast. Riley & Kaye Nelson, Kathy and Paul Wheeler. very large pillbug millipede, Sphaerotheriidae. Photos: Proteas arranged flowers in reception area Protea and Leucodendron? first, then again near end at night, tree knothole with lichen, pine forest. cows in the parking lot. 11404

11405 SOUTH AFRICA: Eastern Cape Province: Hogsback, walk to Madonna and Child Falls, off R345, rim near A way with the fairies trail head down to first stream, S 32.602206 E 26.944245 1036 m, 11-Jun-2015 C. R. Nelson # 11405 & J. K. Nelson 87 Wypt 053fairiesbathtop Sawpits Wypt 054sawpitshogback S 32.603780 E 26.942162 elev. 1127 m. Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: scenery, wide views, bathtub, rainforest & trees. Photos: Yellow wood "Big Tree" Podocarpus falcatus, 800 years old, see next page. photo: knobwood, ironwood (photo blurry). 11405

11405.5 SOUTH AFRICA: Eastern Cape Province: Hogsback, trail to Madonna and Child Falls, Big Tree, off R345 S 32.602206 E 26.944245 1036 m, 11-Jun-2015 C. R. Nelson # 11405.5 & J. K. Nelson 87 Wypt 055bigtree Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: Yellow wood "Big Tree" *Podocarpus falcatus*, 800 years old, see previous page. photo: Paul with lichen "toupee". 11405.5

11405.5 SOUTH AFRICA: Eastern Cape Province: Hogsback, trail to Madonna and Child Falls, Big Tree, off R345 S 32.602206 E 26.944245 1036 m, 11-Jun-2015 C. R. Nelson # 11405.5 & J. K. Nelson 87 Wypt 055bigtree Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: Yellow wood "Big Tree" *Podocarpus falcatus*, 800 years old, see previous page. photo: Paul with lichen "toupee". 11405.5

11406 SOUTH AFRICA: Eastern Cape Province: Hogsback off R345, trail to Madonna and Child Falls, stream crossing of "Swallowtail Falls Creek" S 32.601633 E 26.947678 987 m, 11-Jun-2015 C. R. Nelson # 11406 & J. K. Nelson 87 Wypt 056notonem Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: mystery Mayfly nymphs like Heptageniidae, Notonemouridae nymph FIRST TIME COLLECTED FAMILY. southern hemisphere stoneflies Plecoptera. 11406

11407 SOUTH AFRICA: Eastern Cape Province: Hogsback off R345, Bridal Veil Falls Creek, Gill's Bridge, crossing of trail to Madonna and Child Falls, S 32.605130 E 26.958366 994 m, 11-Jun-2015 C. R. Nelson # 11407 & J. K. Nelson 87 Wypt 057adultsnotonembridal Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: Notonemouridae adults on leaves (helped by Paul), Mayflies and stonefly nymphs including small Perlidae? (yes, *Neoperla*). Microcoryphia, Baetidae, Heptageniidae, Leptophlebiidae, ?Mayfly like Heptageniidae but inflated head and long hairs. Hydropsychidae. Kept broken legs in a separate vial, most are Leptophlebiidae. 11407

11407.5 SOUTH AFRICA: Eastern Cape Province: Hogsback off R345, top of Bridal Veil Falls Creek, on rim road above trail to Madonna and Child Falls, gps approximate, S 32.604050 E 26.961660 1133 m, 11-Jun-2015 C. R. Nelson # 11407.5 & J. K. Nelson 87 ? Riley & Kaye Nelson, Kathy and Paul Wheeler. on top: Blephariceridae? (yes, adult) 11407.5

11408 SOUTH AFRICA: Eastern Cape Province: Hogsback off R345, Madonna and Child Falls, S 32.606978 E 26.963136 1033 m, 11-Jun-2015 C. R. Nelson # 11408 & J. K. Nelson 87 Wypt 058Madonnaandchildfalls Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: scenery, Notonemouridae adults on rocks, Coccinellidae two colors *Harmonia axyridis*!. photos: cliffs on trail up. Samango monkeys? where from? 11408

11409 SOUTH AFRICA: Eastern Cape Province: Southeast of Grahamstown, S 33.332792 E 26.561905 629 m, 11-Jun-2015 C. R. Nelson # 11409 & J. K. Nelson 87 Wypt

059sunsetrest Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: scenery, sunset, tree silhouette looking east, tree framing sun, 11409

11409.5 SOUTH AFRICA: Eastern Cape Province: Port Alfred, Flame Lily Road, Wheeler Apartment S 33.615810 E 26.880102 0 m, 11-Jun-2015 12-Jun-2015 C. R. Nelson # 11409.5 & J. K. Nelson 87 Wypt 065portalfred photos: scenery, time lapse, stars, clouds quickly obscured the view.

Riley & Kaye Nelson, Kathy and Paul Wheeler. 11409.5

11410 SOUTH AFRICA: Eastern Cape Province: Kariega River, up river from Kenton On Sea, S 33.677941 E 26.677401 11 m, 12-Jun-2015 C. R. Nelson # 11410 & J. K. Nelson 87 Wypt 060sibuya.hq In town headquarters and deck of Sibuya Game Reserve. Pre-notes: Sibuya Game Reserve Kariega River and Bushmans River.

Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: African hoopoe.

count river cruise here: photos: reed cormorant, fish eagle juvenile, blacksmith lapwing, no photo: goliath heron, jackal buzzard, yellow billed ducks, grey heron, black winged stilt, photos: common sandpiper, cape glossy starling, spotted thickknee (dikkop) and water thickknee (dikkoop) photos of both, southern masked weaver, cape weaver, burchells coucal (sound), speckled mousebird, fiscal shrike, southern boubou, photos: wide scenery, tree aloes, pied kingfisher, Euphorbia trees, kelp gull, white breasted cormorant, African black oystercatcher, Euphorbia forest riverine, prawn hunters (people), cape wagtail, African pied wagtail, African spoonbill, great egret, little egret, sacred ibis, saw African darter (no photos), three banded plover. 11410

11411 SOUTH AFRICA: Eastern Cape Province: Kariega River, Sibuya Game Reserve, 9 km north up river from Kenton On Sea, S 33.630136 E 26.643347 12 m, 12-Jun-2015 C. R. Nelson # 11411 & J. K. Nelson 87 Wypt 064sibuyarivercamp Wypt 061sibuyagamedrive, driving east of river camp S 33.628852 E 26.650343 elev. 77 m. Wypt 062lions, lion enclosure, S 33.625130 E 26.677851 elev. 86 m. Wypt 063oliveviewingdeck, high overlook on game drive S 33.620687 E 26.665475 elev. 156 m. Wypt 064sibuyarivercamp listed above, main camp for lunch.

Riley & Kaye Nelson, Kathy and Paul Wheeler. "Photo: Cape weaver, photo: cape turtledove.

southern boubou, crowned cormorant, african dusky flycatcher? Knysna turaco, fairy flycatcher, photo giant kingfisher, photo greater double collared sunbird, red billed spurfowl, photos: black headed heron, white rhino, bontebok, eland, kudu, Burchells zebra, impala, Cape buffalo, waterbuck, giraffe, blue wildebeest, Cape mountain zebra, bushbuck, vervet monkey, nyala, lion, spotted flycatcher, crowned hornbill, little grebe (dabduck), African hoopoe. " 11411

11412 SOUTH AFRICA: Eastern Cape Province: Port Alfred, Flame Lily Road, Wheeler Apartment S 33.615810 E 26.880102 0 m, 12-Jun-2015 14-Jun-2015 C. R. Nelson # 11412 & J. K. Nelson 87 Wypt 065portalfred

Time lapse series of sunset horizon with stars, a vertical spin of stars around the Southern Cross, and a sunrise (13 June 2015) horizon. They all worked well. Photos: night 12-13 June 2015, three time lapses of sky.

Riley & Kaye Nelson, Kathy and Paul Wheeler. many sponges, Porifera, cast up on beach, also mermaids purse (skate egg case).

12 June 2015, photos: walk on beach, evening scenery, waves, mermaids purse, sponge wrack, Kaye with sponge, dead sponge underwater.

13 June 2015: evening sunset on beach. Photos: speckled mousebird, common starling, coast scrub, kelp gull, video of waves. Lampyridae larva.

14 June 2015: photos: CRN watercolor of waves, given to Kathy Wheeler.

11412

11413 SOUTH AFRICA: Eastern Cape Province: Bathurst S 33.503845 E 26.824027 222 m, 13-Jun-2015 C. R. Nelson # 11413 & J. K. Nelson 87 Wypt 066bathhurst Photos: Pig and Whistle Restaurant. St. John's Anglican Church

Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: Nymphalidae butterfly at St. John's Church. 11413

11414 SOUTH AFRICA: Eastern Cape Province: Port Alfred, upper Location (township), S 33.570503 E 26.890332 69 m, 13-Jun-2015 C. R. Nelson # 11414 & J. K. Nelson 87 Google Earth Photos: LDS church members at their home they are rebuilding after a rain.

Riley & Kaye Nelson, Kathy and Paul Wheeler. I think the Google Earth coordinates are xx's home. 11414

11415 SOUTH AFRICA: Eastern Cape Province: Port Alfred, LDS Church building, S 33.591496 E 26.882591 0 m, (reading, higher) 13-Jun-2015 14-Jun-2015 C. R. Nelson # 11415 & J. K. Nelson 87 Wypt 067 ldschurch port alfred

Riley & Kaye Nelson, Kathy and Paul Wheeler. Photos: church, milkweeds, people all with iPhone camera. 11415

11416 SOUTH AFRICA: Eastern Cape Province: Riet River, Three Sisters Beach, Indian Ocean, 10 km east of Port Alfred, S 33.558888 E 27.026294 0 m, 14-Jun-2015 C. R. Nelson # 11416 & J. K. Nelson 87 Wypt 068threesisters

Riley & Kaye Nelson, Kathy and Paul Wheeler. Photos: people & beach, video sand snail with broad foot, African oystercatchers, bivalve shell Mass, fishermen, beach vines, ringed plover, odd mammal tracks, pastel sunset.

shore birds, shells, small paper nautilus (NO! but a cephalopod spiral internal shell called Spirula spirula or ramshorn shell. 11416

11417 SOUTH AFRICA: Eastern Cape Province: Port Alfred, LDS Church building, S 33.591473 E 26.882547 0 m, (reading, higher) 15-Jun-2015 C. R. Nelson # 11417 & J. K. Nelson 87 Wypt 069 ldschurch Riley & Kaye Nelson, Kathy and Paul Wheeler. Quick stop for paperwork. 11417

11418 SOUTH AFRICA: Eastern Cape Province: 9.6 km west of Port Alfred, Hwy R72, S 33.619385 E 26.780800 110 m, 15-Jun-2015 C. R. Nelson # 11418 & J. K. Nelson 87 Wypt 070 egrets Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: yellow billed egrets. 11418

11419 SOUTH AFRICA: Eastern Cape Province: ponds of Algoa Bay, Port Elizabeth, near Coega, S 33.777662 E 25.667237 4 m, (but higher) 15-Jun-2015 C. R. Nelson # 11419 & J. K. Nelson 87 Wypt 071 flamingoes Riley & Kaye Nelson, Kathy and Paul Wheeler. photos: flamingoes feeding, dark headed shorebirds, black winged stilt. 11419

11420 SOUTH AFRICA: Eastern Cape Province: Storms River Gorge, Hwy N2, Tsitsikamma area, S 33.968600 E 23.931540 255 m, 15-Jun-2015 C. R. Nelson # 11420 & J. K. Nelson 87 Wypt 072 stormsrivergorge photos: narrow river gorge from bridge near shopping area, vervet monkeys, Protea bouquets in market, yellow wood slice: Podocarpus falcatus. 11420

11421 SOUTH AFRICA: Eastern Cape Province: Tsitsikamma Big Tree, between Storms River and Thornham, , S 33.964895 E 23.899437 232 m, 15-Jun-2015 C. R. Nelson # 11421 & J. K. Nelson 87 Wypt 073 tsitsikamMax bigtree photos: Big Tree, common yellow wood, Podocarpus falcatus. rain forest, tree ferns, Kaye. 11421

11422 SOUTH AFRICA: Western Cape Province: Monkeyland and Birds of Eden Parks, near Kurland, S 33.965210 E 23.482338 224 m, 15-Jun-2015 C. R. Nelson # 11422 & J. K. Nelson 87 Wypt 074 monkeyland photos: monkeys and birds, Kaye's list: capuchins, white handed gibbon, Bolivian spider monkey, vervets, ring tailed lemurs, white ruffed lemurs, spider monkey, Kaye, Spectacled langur, gray langur, saki?, man with three types of Machete. photos: Birds of Eden: Cape turtledoves, Knysna turaco, "black" parrots, black collared barbet, go away bird, rose ringed parakeet, "rainbow" lorikeet or something (no photos), big parrot, moorhen, white faced little goose, greater flamingo, red billed hornbill, blue crane, scarlet ibis, crowned crane (no photo), common shellduck, fork tailed drongo. 11422

11423 SOUTH AFRICA: Western Cape Province: Knysna, Bridgewater Bed and Breakfast, S 34.036599 E 23.036402 0 m, 15-Jun-2015 16-Jun-2015 C. R. Nelson # 11423 & J. K. Nelson

87 Wypt 075knysnahotel photos: hotel room. Dinner at Cruise Cafe, seafood. heard frogs at night in salt Marsh. 11423

11424 SOUTH AFRICA: Western Cape Province: Knysna headlands, lower viewpoint, S 34.078320 E 23.060622 0 m, 16-Jun-2015 C. R. Nelson # 11424 & J. K. Nelson 87 Wypt 076knysnaheads photos: scenery. 11424

11425 SOUTH AFRICA: Western Cape Province: Knysna headlands, upper viewpoint, S 34.079516 E 23.062546 80 m, 16-Jun-2015 C. R. Nelson # 11425 & J. K. Nelson 87 Wypt 077knysnaheadtop photos: scenery. 11425

11426 SOUTH AFRICA: Western Cape Province: Heidelberg, ostrich farm at roadside rest area, S 34.089350 E 20.979072 125 m, 16-Jun-2015 C. R. Nelson # 11426 & J. K. Nelson 87 Wypt 078heidelbergostriches photos and videos: ostriches 11426

11427 SOUTH AFRICA: Western Cape Province: between Botrivier and Houhoek, S 34.222869 E 19.174998 257 m, 16-Jun-2015 C. R. Nelson # 11427 & J. K. Nelson 87 Wypt 079proteas photos: pass with Proteas in bloom, just a passing photo. 11427

11428 SOUTH AFRICA: Western Cape Province: Boulders Beach, near Simons Town, S 34.198084 E 18.453563 3 m, 16-Jun-2015 C. R. Nelson # 11428 & J. K. Nelson 87 Wypt 080penguin photos: African penguins, rock hyraxes, Cape wagtail, and yellow succulent. 11428

11429 SOUTH AFRICA: Western Cape Province: Du Toitskloof Pass, stop 1, S 33.724723 E 19.071475 633 m, 17-Jun-2015 C. R. Nelson # 11429 & J. K. Nelson 87 Wypt 081dutoitskloofpass With Michael Picker and Duncan Stevens. photos: scenery, thin soil, Protea repens big pink, fire "damage", Leucodendron. 11429

11430 SOUTH AFRICA: Western Cape Province: Du Toitskloof Pass, stop 2, S 33.724783 E 19.145759 417 m, 17-Jun-2015 C. R. Nelson # 11430 & J. K. Nelson 87 Wypt 083dutoitstwo With Michael Picker and Duncan Stevens. photos: waterfalls? boulders, yellow Leucodendron 11430

11431 SOUTH AFRICA: Western Cape Province: Waaihoek turnoff to Jan du Toit River, S 33.589552 E 19.308933 271 m, 17-Jun-2015 C. R. Nelson # 11431 & J. K. Nelson 87 Wypt 084waaihoekturn Turnoff on dirt road. Vineyard. With Michael Picker and Duncan Stevens. 11431

11432 SOUTH AFRICA: Western Cape Province: Jan Du Toits River, at dam at canyon mouth above orchard, University of Cape Town site, 13 km NW of Worcester, S 33.562958 E 19.339768 331 m, 17-Jun-2015 C. R. Nelson # 11432 & J. K. Nelson 87 Wypt 085bigriverorchard With Michael Picker and Duncan Stevens. photos: Notonemouridae:

Aphanocercella? adults and nymph, Aphanocerca, scenery, Leptophlebiidae nymphs, Empididae. Saw black Tridactylidae. Photos: small adult Trichoptera. Also photos back at hotel of: Leptophlebiidae, Notonemouridae, small Trichoptera, and Empididae. 11432

11433 SOUTH AFRICA: Western Cape Province: Karoo Desert National Botanical Gardens, Worcester, S 33.612565 E 19.449847 327 m, 17-Jun-2015 C. R. Nelson # 11433 & J. K. Nelson 87 Wypt 086karoo With Michael Picker and Duncan Stevens. photos: colorful jay: bokmakierie, double collared sunbird, succulents. Nice lectures on plants by Mike. 11433

11434 SOUTH AFRICA: Western Cape Province: rhino fynbos outside gardens, edge of Karoo Desert National Botanical Gardens, Worcester, S 33.617445 E 19.463130 289 m, 17-Jun-2015 C. R. Nelson # 11434 & J. K. Nelson 87 Wypt 087 no mantos With Michael Picker and Duncan Stevens. beat vegetation for mantophasmatodea, known location. NONE! too early in season, probably still just eggs. photos: habitat. 11434

11435 SOUTH AFRICA: Western Cape Province: edge outside of Karoo Desert National Botanical Gardens, disturbed habitat, Worcester, S 33.615590 E 19.463189 303 m, 17-Jun-2015 C. R. Nelson # 11435 & J. K. Nelson 87 Wypt 088 no mantos 2 With Michael Picker and Duncan Stevens. beat vegetation for mantophasmatodea, known location. NONE! too early in season, probably still just eggs. photos: habitat. 11435

11436 SOUTH AFRICA: Western Cape Province: 5 km west of Worcester, S 33.639106 E 19.381641 226 m, 17-Jun-2015 C. R. Nelson # 11436 & J. K. Nelson 87 Wypt 089 restio no mantos With Michael Picker and Duncan Stevens. beat vegetation for mantophasmatodea, known location. NONE! too early in season, probably still just eggs. photos: habitat. Searched grasses, shrubs, and restios for mantophasmatodea, NONE! After four stops Mike decided it must be too early in the season. Out of time, started to return to Cape Town around 3:30 pm.

Photos: odd Cicadellidae on Restio rush plant, also photos of Restio. More photos later in hotel room, also Restio flowers. 11436

11437 SOUTH AFRICA: Western Cape Province: Bloubergstrand, beach suburb north of Cape Town, S 33.795673 E 18.457557 0 m, 17-Jun-2015 C. R. Nelson # 11437 & J. K. Nelson 87 Wypt 090bloubergstrand photos: scenery at sunset, view to Table Mountain, dinner at the Blue Peter, flag says ship ready to sail, "Outward Bound". (meaning of Blue Peter). 11437

11438 SOUTH AFRICA: Western Cape Province: Cape Town, Noon Gun Hill, three locations seeking view of Table Mountain, S 33.915044 E 18.412315 162 m, 18-Jun-2015 C. R. Nelson # 11438 & J. K. Nelson 87 Wypt 092newgun (should have been "noon gun" but I misheard the name. photos: view of Table Mountain and Noon Gun battery. Other locations

for photos: Wypt 091tablemtn1 S 33.926556 E 18.404338, elev. 96 m. Wypt 093tablemtn3 S 33.917387 E 18.412579 elev. 103 m. 11438

11439 SOUTH AFRICA: Western Cape Province: Cape Town, Kirstenbosch Gardens, S 33.989388 E 18.434091 111 m, 18-Jun-2015 C. R. Nelson # 11439 & J. K. Nelson 87 Wypt 094kirstenbosch (should have written kirstenbosch) photos: BMW rental car. photos: scenery, Strelitzia bird of paradise plant, Pelargoniums, Proteas king protea, cone bushes, Leucospermum reflexum, ELEGIA capensis. Photos: Ericas, Restios, Aloes, southern double collared sunbird, Portulacaria afra elephant food, more plants wild banana Enseta ventricosum.

Wild gardenia Gardenia thunbergia, suurberg cushion bush, Oldenburgia grandis a frosty composite, cape spurfowl, helmeted guineafowl, orange breasted sunbird, mole rat diggings, Egyptian geese, Pteranodon model, cycads, canopy walk with Kaye, pied crow, Pieridae butterflies fighting. Then flight to Johannesburg, then flight to Atlanta, Georgia. Home: 3:00pm on 19 June 2015, about 30 hours in transit! 11439

11440 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 20-Jun-2015 C. R. Nelson # 11440 87 photos: Libellulidae, 12 spot skimmer Libellula pulchella in my garden. 11440

11441 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 21-Jun-2015 C. R. Nelson # 11441 87 photos and video: sunrise: summer solstice, 7:46am MDT. 62 degrees. Kaye and I howled at the sun in our driveway. Time and date.com: Legal: 5:27 am 58 degrees Northeast, sunset with be 9:00 pm 302 degrees north west. Day length 15 hours 2 minutes and one second. 11441

11442 USA: UTAH: Utah Co., Provo, BYU, Life Science Building, N 40.245125 W 111.648518 1401 m 22-Jun-2015 C. R. Nelson # 11442 88 Wypt 047nelsonoffice photos: Widtsoe Building gone. photos: rock squirrel eating petunia in cliff garden on west side, small pond in native plants, area now has benches 11442

11443 USA: UTAH: Utah Co., Provo, BYU, south hillside pond, N 40.245158 W 111.651123 1408 m 26-Jun-2015 C. R. Nelson # 11443 & Entomology class 88 Wypt 095upperpool Riley Nelson, Becca Clement, Italu Martinez, Tyson Terry, Makani Fisher, Junyi Wang, and Kevin Hubbard. photos: Cerambycidae, Necydalis diversicollis. set up a berlese funnel for the day: Diplura Campodeidae, Collembola, Isopoda, Diplopoda, oribatid mites. Set up a malaise trap for the day. Photos: mule deer doe sitting with me during lunch. 11443

11444 USA: UTAH: Utah Co., Goshen Pond ditch, near Hwy 6, sedge meadows, N 39.964302 W 111.855009 1367 m 25-Jun-2015 C. R. Nelson # 11444 & Entomology class

88 Wypt 096goshenditch Riley Nelson, Becca Clement, Italu Martinez, Tyson Terry, Makani Fisher, and Junyi Wang. No glowing Lampyridae, Aeshnidae, Pieridae. photos: Labiidae earwig, first for Utah County that I know of, Labia minor. Heteroceridae, Leptoceridae, Limnephilidae, Arctiidae (Erebidae) 11444

11445 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 28-Jun-2015 C. R. Nelson # 11445 87 Lampyridae 11445

11446 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, tanks and waterfall, N 39.95962 W 111.26776 1895 m 29-Jun-2015 C. R. Nelson # 11446 & J. K. Nelson. 88 wypt 057waterfall rebuilt upper irrigation dam. Joined by Tyson Terry who was changing out the malaise traps. Buprestidae: Acmaeodera 11446

11447 USA: UTAH: Utah Co., Little North Fork Creek, Hwy 92, 1.5 miles south of Sundance, N 40.371207 W 111.567795 1551 m 02-Jul-2015 C. R. Nelson # 11447 & Entomology class 88 Wypt 001nfkhhigh Riley Nelson, Becca Clement, Italu Martinez, Tyson Terry, Makani Fisher, Junyi Wang, Jacob Van Valkenburg, and Kevin Hubbard. Called nfkhhigh because we were slightly higher up canyon than our usual spot. Ephemerellidae: Drunella doddsi, Drunella grandis, Drunella inermis. Baetidae, Heptageniidae, Brachycentridae, Rhyacophilidae, Hydropsychidae, Blephariceridae, Chironomidae, Nymphalidae, Pieridae, photos: Tipulidae Limoniinae, Uenoidae?, people. 11447

11448 USA: UTAH: Wasatch Co. drying pond, 2 miles east of Alpine Loop on Cascade Springs Road, FR 114, N 40.453275 W 111.583733 2167 m 02-Jul-2015 C. R. Nelson # 11448 & Entomology class 88 Wypt 002timpbeaverpond Riley Nelson, Becca Clement, Italu Martinez, Tyson Terry, Makani Fisher, Junyi Wang, Jacob Van Valkenburg, and Kevin Hubbard. Pond dry, some drying mud Lestidae Lestes, photos: Stenopogon, Rhagionidae Symphoromyia. Stratiomyidae. 11448

11449 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 02-Jul-2015 C. R. Nelson # 11449 & J. K. Nelson & Amy, Todd, and Wolfgang Smith. 87 photos: reflections of sunset in Chapman's window. 11449

11450 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, tanks and waterfall, N 39.95962 W 111.26776 1895 m 03-Jul-2015 C. R. Nelson # 11450 & J. K. Nelson. 88 wypt 057waterfall rebuilt upper irrigation dam, again. Chopped heads of musk thistle. with J. K. Nelson, Amy, Todd, and Wolfgang Smith. Paul, Scott, Cassie, and Ophelia Ashton. 11450

11451 USA: UTAH: Utah Co., Provo, old Edgemont North Stake Center, 4300 North Canyon Road, N 40.28963 W 111.65455 1462 m, 04-Jul-2015 C. R. Nelson # 11451 & J. K. Nelson 88 photos: people at Fourth of July Breakfast, some photos by James Oneal. 11451

11452 USA: UTAH: Utah Co., Lehi, Parker home, 772 West 100 South, N 40.38665 W 111.86127 1210 m, 04-Jul-2015 C. R. Nelson # 11452 & J. K. Nelson & family & friends. 88 Google Earth photos: people, Nelson, Smiths, Parkers, Friskes, & video: Vespidae *Polistes dominula* on nest. 11452

11453 USA: UTAH: Utah Co., Provo, BYU, Nelson office, 2119 LSB, N 40.245293 W 111.649165 1407 m 07-Jul-2015 C. R. Nelson # 11453 88 Google Earth photos: David Robinson, former student, with wife Katelyn and young daughter Brielle. 11453

11454 USA: UTAH: Utah Co., Provo, Edgemont 10th Ward LDS Church, 345 East Foothill Drive, N 40.29410 W 111.65240 1482 m 08-Jul-2015 C. R. Nelson # 11454 88 Google Earth photos: Eagle Court of Honor for Russell Hollingworth, Xander Hooper, Chandler Eyre, and Ben Dorton. photos: with bald eagle named Freedom handled by Debbie Peterson 11454

11455 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 09-Jul-2015 C. R. Nelson # 11455 88 photos: rainbow and mountains, time and date in camera wrong, fixed after cabin trip. 11455

11456 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95962 W 111.26776 1895 m 10-Jul-2015 11-Jul-2015 C. R. Nelson # 11456 88 with students: Becca Clement, Makani Fisher, Italu Martinez, Kevin Hubbard, and Junyi Wang. photos and video: Sphecidae *Philanthus* digging, small moth, Pterophoridae, Tortricidae mottled, Mycetophilidae macrocera, Noctuidae yellow hind wings, Sphingidae blue eye spots and pink blush, Lasiocampidae *Malacosoma*, Geometridae, Tortricidae stem binding caterpillar on *Gutierrezia sarothrae* (photos of adults reared in lab 16 Sep 2015 CRNelson 11536), Tortricidae creamy white. 11456

11457 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95340 W 111.26540 1808 m 11-Jul-2015 C. R. Nelson # 11457 88 with students: Becca Clement, Makani Fisher, Italu Martinez, Kevin Hubbard, and Junyi Wang. beaver pond: Aeshnidae, Corixidae, Notonectidae, Dytiscidae. photos: American goldfinch female eating musk thistle seeds, musk thistle, Apidae *Bombus* on musk thistle. 11457

11458 USA: UTAH: Box Elder Co. Brigham City, Cemetery, N 41.502678 W 112.009857 1374m 11-Jul-2015 C. R. Nelson # 11458 & J. K. Nelson 88 Google Earth photos: grave of Elder Boyd K. Packer, buried yesterday. Next to grave of President Lorenzo Snow. 11458

11459 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 13-Jul-2015 C. R. Nelson # 11459 88 photos: tree squirrel, chickaree, in storage area near shed. 11459

11460 USA: UTAH: Salt Lake Co. Salt Lake City, Tracy Aviary, N 40.74267 W 111.87517 1300 m 13-Jul-2015 C. R. Nelson # 11460 & family 88 Google Earth Riley, Kaye, Andrea, Amy, Wolfgang; Elizabeth Bankhead, Jill, Beth. photos: hooded merganser, Andean condor, Southern ground hornbill, sandhill crane, monk parakeet, saffron finch, Guira cuckoo, red legged seriema, Chilean flamingo (video too), ruddy duck, white faced whistling duck, California quail, Xylocopa bee on red mint flowers, Wolfgang Smith drinking water from sculpture, blue crowned motmot, scarlet ibis, peacock, black throated magpie jay, wrinkled hornbill, Bombus on red mint, black necked stilt, American avocet, barred owl, Great gray owl, burrowing owl, long eared owl, people. 11460

11461 USA: UTAH: Utah Co., Left Hand Hobble Creek Canyon, Scout Day Camp, 1.5 km NW of Red Pine Knoll, "Buck Hollow", N 40.252121 W 111.429839 1866 m 14-Jul-2015 C. R. Nelson # 11461 & scouts 88 Wypt 004webeloscamp Riley Nelson, Michael Hunter, Parker Cornilles, James Douglas, Harlon Komenkul, Connor Cook. Also Wypt 005webelosentry N 40.252999 W 111.427750 1894 m; Wypt 007geocachecourse N 40.251465 W 111.432443 1926 m. photos: deer and people, youth leader Bram eating a box elder bug. 11461

11462 USA: UTAH: Millard Co. Meadow Hot Springs, 4 miles west of Meadow town, N 38.862187 W 112.505506 1457 m 16-Jul-2015 C. R. Nelson # 11462 & students 88 Wypt 008meadowspring Riley Nelson, Becca Clement, Italu Martinez, Junyi Wang, Kevin Hubbard, Tyson Terry, Jacob Van Valkenburg, Makani Fisher. photos: site

Sphecidae; Cicindelidae; Libellulidae Tramea brown, Libellula saturata, Libellula spotted, Sympetrum; Aphididae with Chamaemyiidae and Syrphidae larvae on Phragmites, Mutillidae, Tachinidae, Pompilidae, Acrididae, Coenagrionidae. 11462

11463 USA: UTAH: Washington Co. Pine Valley Mountains, Oak Grove Campground, N 37.317858 W 113.450932 1966 m 16-Jul-2015 C. R. Nelson # 11463 & students 88 Wypt 009oakgrove Riley Nelson, Becca Clement, Italu Martinez, Junyi Wang, Kevin Hubbard, Tyson Terry, Jacob Van Valkenburg, Makani Fisher. Sciomyzidae, Chrysomelidae, Hemerobiidae, Bombyliidae, Scarabaeidae Polyphylla obsoleta. 11463

11464 USA: UTAH: Washington Co. 2 miles west of Leeds, N 37.265533 W 113.368630 1229 m 16-Jul-2015 C. R. Nelson # 11464 & students 88 Wypt 0112miwestleeds Riley Nelson, Becca Clement, Italu Martinez, Junyi Wang, Kevin Hubbard, Tyson Terry, Jacob Van Valkenburg, Makani Fisher. Phasmatodea, Corydalidae, Thysanoptera, Aeshnidae, Calopterygidae, Solpugida, photos: tarantula. scorpion, Proctacanthus nearno, Polacantha composita, Philonicus limpipedennis, Scarabaeidae Xyloryctes and more, Cerambycidae Prionus. 11464

11465 USA: UTAH: Washington Co. Red Cliffs Campground, south of Leeds, N 37.224909 W 113.405252 982 m 17-Jul-2015 C. R. Nelson # 11465 & students 88 Wypt 305redcliffs Riley Nelson, Becca Clement, Italu Martinez, Junyi Wang, Kevin Hubbard, Tyson Terry, Jacob Van Valkenburg, Makani Fisher. Halictidae (with Junyi) 11465

11465.5 USA: UTAH: Washington Co. Washington Boilers on Mill Creek, N 37.137190 W 113.513613 865 m 17-Jul-2015 C. R. Nelson # 11465.5 & students 88 Wypt 305redcliffs Photos: people shocking fish in "Boilers", now open after many years.

Riley Nelson, Becca Clement, Italu Martinez, Junyi Wang, Kevin Hubbard, Tyson Terry, Jacob Van Valkenburg, Makani Fisher. 11465.5

11466 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, N 37.144416 W 114.024168 859 m 17-Jul-2015 18-Jul-2015 C. R. Nelson # 11466 & students 88 Wypt 021beaverdamwash Riley Nelson, Becca Clement, Italu Martinez, Junyi Wang, Kevin Hubbard, Tyson Terry, Jacob Van Valkenburg, Makani Fisher. Diabrotica? on Datura wrightii; photos: Bostrichidae, Scolytidae, Alleculidae, Culicidae Anopheles, Erebidae Ascalapha odorata black witch, desert tortoise. 11466

11467 USA: UTAH: Washington Co. Sand Hollow Reservoir, loop on Sand Hollow Road from south of Hurricane to 700 West in Hurricane, N 37.102 W 113.352 987 m 18-Jul-2015 C. R. Nelson # 11467 & students 88 Google Earth Didn't stop. Heriberto Madrigal said to check out the area for dusty blue tenebrionidae, Zopheridae. We found good habitat between reservoir and 700 North. Did not collect.

Riley Nelson, Becca Clement, Italu Martinez, Junyi Wang, Kevin Hubbard, Tyson Terry, Jacob Van Valkenburg, Makani Fisher. 11467

11468 USA: UTAH: Washington Co. Zion National Park, Hwy 9, 1 mile west of Checkerboard Mesa, N 37.222331 W 112.899286 1736 m 18-Jul-2015 C. R. Nelson # 11468 & students 88 Wypt 115checkerboard1miw Riley Nelson, Becca Clement, Italu Martinez, Junyi Wang, Kevin Hubbard, Tyson Terry, Jacob Van Valkenburg, Makani Fisher. photos: scenery, desert bighorn sheep, slot canyon, people. 11468

11469 USA: UTAH: Kane Co., Zion National Park, Hwy 9, 0.2 miles west of Checkerboard Mesa, N 37.226899 W 112.884172 1675 m 18-Jul-2015 C. R. Nelson # 11469 & students 88 Wypt 116sheepzion Riley Nelson, Becca Clement, Italu Martinez, Junyi Wang, Kevin Hubbard, Tyson Terry, Jacob Van Valkenburg, Makani Fisher. photos: desert bighorn sheep ram. 11469

11470 USA: UTAH: Kane Co., Zion National Park, Hwy 9, Checkerboard Mesa viewpoint, N 37.230212 W 112.878706 1722 m 18-Jul-2015 C. R. Nelson # 11470 & students 88 Google Earth Riley Nelson, Becca Clement, Italu Martinez, Junyi Wang, Kevin Hubbard, Tyson Terry, Jacob Van Valkenburg, Makani Fisher. photos: scenery, cloudy weather. 11470

11471 USA: UTAH: Kane Co., Mount Carmel Junction, Hwy 89 and 9, Chevron Station, N 37.223129 W 112.681481 1587 m 18-Jul-2015 C. R. Nelson # 11471 & students 88 Google Earth Riley Nelson, Becca Clement, Italu Martinez, Junyi Wang, Kevin Hubbard, Tyson Terry, Jacob Van Valkenburg, Makani Fisher. photos: Sphingidae (later at CRN 11473)
Pachysphinx modesta. Dead *Lucanidae*, *Cerambycidae* *Prionus californicus*. No *Dynastes granti*! 11471

11472 USA: UTAH: Kane Co., Orderville, Hwy 89, Valley High School, N 37.276236 W 112.637526 1668 m 18-Jul-2015 C. R. Nelson # 11472 & students 88 Google Earth Riley Nelson, Becca Clement, Italu Martinez, Junyi Wang, Kevin Hubbard, Tyson Terry, Jacob Van Valkenburg, Makani Fisher. NO *Scarabaeidae*, *Dynastes granti*! 11472

11473 USA: UTAH: Kane Co., Orderville, Hwy 89, Valley Elementary School, N 37.27560 W 112.63631 1684 m 18-Jul-2015 C. R. Nelson # 11473 & students 88 UTORDER Riley Nelson, Becca Clement, Italu Martinez, Junyi Wang, Kevin Hubbard, Tyson Terry, Jacob Van Valkenburg, Makani Fisher. NO *Scarabaeidae*, *Dynastes granti*!
photos: *Lucanidae*, several collected dead. then photos: Poplar sphinx from CRN11471. 11473

11474 USA: UTAH: Utah Co., Santaquin, Family Tree Restaurant, N 38.875510 W 111.787006 1515 m 18-Jul-2015 C. R. Nelson # 11474 & students 88 Google Earth Riley Nelson, Becca Clement, Italu Martinez, Junyi Wang, Kevin Hubbard, Tyson Terry, Jacob Van Valkenburg, Makani Fisher. photos: basement and ghosts, sunset. 11474

11475 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 24-Jul-2015 C. R. Nelson # 11475 88 morning: adult *Culicidae* in bedroom, two genera.
evening: *Datura wrightii* time lapse opening - 15 second interval 2 open series - 5 second interval. I think a 5 or 10 second interval would be best for the opening. 11475

11476 USA: UTAH: Utah Co., Santaquin Canyon, Road 014, Summit Creek, Tinney Flat Campground, N 39.901773 W 111.727661 2142 m 24-Jul-2015 C. R. Nelson # 11476 & students 88 Wypt 118tinneyflat 11:36am. I also crossed Water Hollow. It had a small creek. Riley Nelson, Shawn Clark, Tyson Terry, Kelsea R. & W. Alexander Harvey, Jonathan Quist, Madison Barksdale & Duncan & dog, and James Call. photos at home: *Mycetophilidae*

macrocera, Sepsidae - lost voucher, Ephydriidae, Lauxaniidae, Chloropidae, Ichneumonidae black, Sciomyzidae, Syrphidae Spilomyia. 11476

11477 USA: UTAH: Utah Co., Santaquin Canyon, Road 014, Santaquin Meadow, N 39.916311 W 111.719128 2373 m 24-Jul-2015 C. R. Nelson # 11477 & students 88 Wypt 119santaquinmeadows 12:19pm

Riley Nelson, Shawn Clark, Tyson Terry, Kelsea R. & W. Alexander Harvey, Jonathan Quist, Madison Barksdale & Duncan & dog, and James Call. photos: Chrysomelidae Trirhabda on Artemisia tridentata. photo at home: Tabanidae: Stonemyia probably californica. 11477

11478 USA: UTAH: Utah Co., Mount Nebo Loop, Road 015, Monument Trailhead, N 39.843806 W 111.721645 2792 m 24-Jul-2015 C. R. Nelson # 11478 & students 88 Wypt 120monumenttrnebo 12:19pm

Riley Nelson, Shawn Clark, Tyson Terry, Kelsea R. & W. Alexander Harvey, Jonathan Quist, Madison Barksdale & Duncan & dog, and James Call. photos: Arctiidae day flying moths Gnophaela vermiculata, used to call Pericopa, now in Erebididae, some mating. Anthomyiidae; Erigeron daisy; tall composite; Bombus on cone flower Rudbeckia occidentalis; Phaecelia?; people; Delphinium; Woodland star and Empididae; Ichneumonidae Megarhyssa?; Conopidae. photos at home: Culicidae larvae and pupae; photos male emerged 26 July 2015 and female emerged 29 July 2015. 11478

11479 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Jul-2015 C. R. Nelson # 11479 88 dead young tanager female, hit window. Culicidae. 11479

11480 USA: ARIZONA: Gila Co. Payson, Jackie Begay's house, N 34.256191 W 111.325986 1519 m 24-Jul-2015 C. R. Nelson # 11480 88 Google Earth C. R. Nelson NOT PRESENT at capture. photos in Utah: Solpugida.

Captured by Brandy and Jason Nelson at Brandy's mother's house and then carried to Utah for me. 11480

11481 USA: UTAH: Box Elder Co. Woods Creek, duck club, 2 miles south of Corinne, N 41.517208 W 112.139878 1288 m 27-Jul-2015 C. R. Nelson # 11481 & family 88 wypt 515farmhouse Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, Artemis Nelson age 3, Astrid Nelson 11 months, Amy Leah Nelson Smith, Todd Smith, Wolfgang Winston Smith 14 months. First trip of the three grandchildren to the farm.

photos: people, scenery, and birds. photos: White pelican. ring billed gull, California gull, Franklins gull, Forsters tern. photos: Canada goose. double crested cormorant, green winged teal, cinnamon teal, ruddy duck, eared grebe, coot, sandhill crane. photos: snowy egret, great blue heron, white faced ibis. Virginia rail, black necked stilt, avocet, killdeer,

harrier, kestrel, barn swallow, cliff swallow, mourning dove, eastern kingbird, western kingbird, Marsh wren, magpie, red winged blackbird, yellow headed blackbird, Brewers blackbird, starling, western meadowlark, house sparrow, some sparrow in greasewood. Includes birds seen on dirt roads between Corinne cemetery and the farm. 11481

11482 USA: UTAH: Utah Co., Provo, BYU, Nelson teaching lab, 2017 LSB, N 40.245293 W 111.649165 1407 m 29-Jul-2015 C. R. Nelson # 11482 88 Google Earth photos: students taking test. 11482

11483 USA: UTAH: Utah Co., Provo, North Park, N 40.241697 W 111.665495 1395 m 29-Jul-2015 C. R. Nelson # 11483 & family 88 Google Earth photos: Brandy and Astrid at swimming pool. 11483

11484 USA: UTAH: Utah Co., Lehi, Parker home, 772 West 100 South, N 40.38665 W 111.86127 1210 m, 30-Jul-2015 C. R. Nelson # 11484 & J. K. Nelson & family & friends. 88 Google Earth photos: people, swim party. Photos: Siricidae Pigeon horntail, Tremex columba (escaped after photo at home).

Riley, Kaye, Jason, Brandy, Artemis, and Astrid Nelson. Todd, Amy, and Wolfgang Smith. Heather & Elliot Astle & friend. Jera, Dave, Desi, Ben, Kristi, Logan, Lincoln, Macie, and Hallie Parker. 11484

11485 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95340 W 111.26540 1808 m 31-Jul-2015 01-Aug-2015 C. R. Nelson # 11485 & family 88 Wheeler family reunion. Riley, Kaye, Jason, Brandy, Artemis, and Astrid Nelson. A. Todd, Amy, and Wolfgang Smith. Andrea Nelson, Jordan Christopher, Jan Gray, Lisa, Spencer, DJ, James Astling; Dell, Stephnie, Sabryna, Mychigan, Daisy, Ryver, Sawyer, and Wyllow Mead. photos: moths at mercury vapor light: Saturniidae Coloradia pandoras moth, Arctiidae (Erebidae) whit with black and lichen moth gray & pink, Noctuidae bland and another with yellow hind wings, Geometridae green tan mottled, more small moths. Tortricidae, Forficulidae, Efferia 2 spp. Megaphorus, Diognites grossus. 11485

11486 USA: UTAH: Utah Co., Spanish Fork, canyon mouth, Little Acorn Drive In, N 40.086579 W 111.593497 1455 m 01-Aug-2015 C. R. Nelson # 11486 & family 88 Google Earth Wheeler family reunion. Riley, Kaye, Jason, Brandy, Artemis, and Astrid Nelson. photos: coral reef fish tank 11486

11487 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 03-Aug-2015 C. R. Nelson # 11487 & A. L. N. Smith 88 photos: Lycosidae, wolf spider mother with egg Mass. More photos CRN 11518 on 25 August 2015 11487

11488 USA: UTAH: Utah Co., Provo, Eastlawn Cemetery Road, N 40.29589 W 111.64670 1505 m 05-Aug-2015 C. R. Nelson # 11488 & scouts 88 Google Earth with Jay and Harlon Komenkul photos: Meloidae, 2 genera including Nemognatha, Curculionidae on Grindelia squarrosa 11488

11489 USA: UTAH: Utah Co., Provo, mouth Rock Canyon, N 40.264649 W 111.631078 1533 m 06-Aug-2015 C. R. Nelson # 11489 88 Wypt 125rockcanyonmouth morning: sweeping insects on Grindelia squarrosa, Heterotheca, Ericameria nauseosa, and Medicago sativa. GPS in afternoon. Took sweepings to class to share with students. 11489

11490 USA: UTAH: Utah Co., Provo, BYU, south hill garden pond, N 40.245224 W 111.651027 1400 m 06-Aug-2015 C. R. Nelson # 11490 88 Wypt 124byusouthhill photos: Aleyrodidae, Bruchidae both on sunflower from eastern US 11490

11491 USA: UTAH: Utah Co., Provo, mouth Slate Canyon N 40.224332 W 111.626002 1490 m 5-6 August 2015 C. R. Nelson # 11491 88 Google Earth C. R. Nelson NOT PRESENT at capture. Caught by Makani Fisher. CRN estimate on gps. photos: mantispidae Plega 11491

11492 USA: UTAH: Utah Co., 1 mile north of Fairfield, Hwy 73 N 40.277514 W 112.094741 1491 m 08-Aug-2015 C. R. Nelson # 11492 & J. S. Bennion 88 Wypt 126nearfairfield with J. S. Bennion photos: summer ground fog in Cedar Valley 11492

11493 USA: UTAH: Tooele Co. Rush Valley, northwest base of Vernon Hills, 0.75 southeast of Faust, N 40.178525 W 112.380799 1585 m 08-Aug-2015 C. R. Nelson # 11493 & J. S. Bennion 88 Wypt 127rushvalleyfausttipplesouth with J. S. Bennion photos: Rush Valley, juniper. Asilidae: Promachus aldrichii female. 11493

11494 USA: UTAH: Tooele Co. Rush Valley, 0.5 miles southwest of Faust, N 40.181126 W 112.395982 1605 m 08-Aug-2015 C. R. Nelson # 11494 & J. S. Bennion 88 Google Earth photos: Nelson & Haws transecs of 1988 - 1989, fence posts still present. with J. S. Bennion Bombyliidae: Geron. 11494

11495 USA: UTAH: Tooele Co. Rush Valley, cement ditch of 1959 along Road 612, north of Greenjacket Ranch, Bennion Creek Diversion. N 40.181126 W 112.395982 1764 m 08-Aug-2015 C. R. Nelson # 11495 & J. S. Bennion 88 Google Earth, approximate Video: J. S. Bennion walking along cement ditch and telling story of water. Google Earth approximate because filmed in several locations near each other. 11495

11496 USA: UTAH: Tooele Co. Rush Valley, 0.25 miles east of Benmore, Road 005, swale on Greenjacket Ranch, N 40.012500 W 112.416622 1816 m 08-Aug-2015 C. R. Nelson # 11496 & J. S. Bennion 88 Wypt 129 benmoreswale good habitat, not many insects, talked

with Alan Mitchell, landowner with Liz Bennion Mitchell of Greenjacket Ranch. Site of CRN 4068 of 13 August 2015. Looking for *Heteropogon* (none) found Meloidae *Nemognatha* on *Grindelia squarrosa*. 11496

11497 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 09-Aug-2015 C. R. Nelson # 11497 & J. K. Nelson 88 wasp caught by Callie McKay. photos: Sphecidae Chlorion from McKay House at 423 East 4380 North, coming up a drain. Photos: Cerambycidae *Prionus californicus* 11497

11498 USA: UTAH: Utah Co., Provo, BYU, south hill garden pond, N 40.245224 W 111.651027 1400 m 10-Aug-2015 C. R. Nelson # 11498 88 Wypt 124byusouthhill Aleyrodidae, adults on horse chestnut and some large eastern sunflower. 11498

11499 USA: UTAH: Utah Co., Provo, BYU, south hill garden pond, N 40.245224 W 111.651027 1400 m 11-Aug-2015 C. R. Nelson # 11499 88 Wypt 124byusouthhill Photos with Nikon D300 on Olympus SZX12 microscope: Aleyrodidae, 11499

11499.5 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 12-Aug-2015 C. R. Nelson # 11499.5 & J. K. Nelson 88 walk with Cub Scouts: Steve Clark adult, Harlon Komenkul and Parker Cornilles. Meloidae *Nemognatha* on *Grindelia squarrosa* 11499.5

11500 USA: UTAH: Kane Co., Orderville, Valley Elementary School, Hwy 89, N 37.27560 W 112.63631 1684 m 16-Aug-2015 C. R. Nelson # 11500 & J. K. Nelson 88 UTORDER also stopped at High School, no *Dynastes granti* at either place. photos: Lasiocampidae *Gloveria*. Scarabaeidae *Polyphylla decemlineata*. Lucanidae. 11500

11501 USA: UTAH: Kane Co., Mount Carmel Junction, Hwys 9 and 89, N 37.223635 W 112.680810 1581 m 16-Aug-2015 C. R. Nelson # 11501 & J. K. Nelson 88 Wypt 130mountcarmel No *Dynastes granti*. photos: Lasiocampidae *Gloveria*, Myrmeleontidae *Vella*, Arctiidae *Artia caja*, black and white species, bland brown species. 11501

11502 USA: ARIZONA: Coconino Co. Colorado River, Hwy 89A, Navajo Bridge, N 36.817349 W 111.631082 1096 m 17-Aug-2015 C. R. Nelson # 11502 & J. K. Nelson 88 Wypt 131navajobridge photos: California condors 11502

11503 USA: ARIZONA: Coconino Co. Coconino National Forest, Double Spring Campground, Hwy 90, near Mormon Lake, N 34.942746 W 111.491281 2162 m 17-Aug-2015 C. R. Nelson # 11503 & J. K. Nelson 88 Wypt 132doublespring photos: Asilidae *Wyleia mydas* on small sunflower *Helianthella*?, Diognites small species, Tachinidae *Belvosia*?, *Paradejeania rutiloides*. *Adejeania vexatrix*; Syrphidae *Volucella mexicana*. 11503

11504 USA: ARIZONA: Maricopa Co. Phoenix, Nelson home, 2520 West Columbine Drive, N 33.599019 W 112.113716 376 m 17-Aug-2015 23-Aug-2015 C. R. Nelson # 11504 & J. K. Nelson 88 Wypt 133nelsoncolumbine Brandy and Jason's house. photos: Embiina and Polyphagidae taken from light fixtures. 11504

11504.5 USA: ARIZONA: Maricopa Co. Phoenix, N 33.59 W 112.11 376 m 21-Aug-2015 C. R. Nelson # 11504.5 & J. K. Nelson 88 Wypt 133nelsoncolumbine videos: Brandy Nelson climbing in and out of the back of the Toyota at various stores around town. 11504.5

11505 USA: ARIZONA: Gila Co. Payson, Hwy 87 north of town, The Home Depot Store, N 34.266360 W 111.323725 1525 m 22-Aug-2015 C. R. Nelson # 11505 & J. K. Nelson 88 Wypt 134paysonhomedepot photos: beetles dead after coming to lights, Scarabaeidae Xyloryctes many and 1 male Dynastes granti, Cerambycidae 11505

11506 USA: ARIZONA: Gila Co. Payson, Oxbow Estates, Pat and Nancy Spurlock home, Hwy 87 N 34.183841 W 111.337745 1437 m 22-Aug-2015 C. R. Nelson # 11506 & family 82 wypt256spurlockpayson Riley, Kaye, Jason, Brandy, Artemis, and Astrid Nelson. Nancy, Pat, Allie Spurlock. Lindsay, Vivian, Seth, and Jackie Begay. photos: first birthday party for Astrid Josephine Nelson. Messy food fight for un. 11506

11507 USA: ARIZONA: Coconino Co. The Gap, Navajo Indian Reservation, Hwy 89, N 36.304661 W 111.461636 1627 m 23-Aug-2015 C. R. Nelson # 11507 & J. K. Nelson 82 Google Earth photos: rainbows south of The Gap; cliffs nearer The Gap. gps is stretch of road (only recorded The Gap) 11507

11508 USA: UTAH: Kane Co., Mount Carmel Junction, Hwys 9 and 89, N 37.223635 W 112.680810 1581 m 23-Aug-2015 C. R. Nelson # 11508 & J. K. Nelson 88 Wypt 130mountcarmel Dynastes granti 3 males and 1 female alive for eggs. photos: Lasiocampidae Gloveria, Saturniidae Hemileuca orange and black. 11508

11509 USA: UTAH: Kane Co., Orderville, Valley Elementary School, Hwy 89, N 37.27560 W 112.63631 1684 m 24-Aug-2015 C. R. Nelson # 11509 & J. K. Nelson 88 UTORDER Dynastes granti 11509

11510 USA: UTAH: Kane Co., Orderville, Valley High School, Hwy 89, N 37.27560 W 112.63631 1684 m 24-Aug-2015 C. R. Nelson # 11510 & J. K. Nelson 88 UTORDER Dynastes granti 11510

11511 USA: UTAH: Iron Co. Cedar Breaks National Monument, Point Supreme Overlook, N 37.613177 W 112.837980 3140 m 24-Aug-2015 C. R. Nelson # 11511 & J. K. Nelson 88 Wpt 136pointssupreme also breakfast picnic of greek yogurt, pizza, and water. photos: scenery and panorama 11511

11512 USA: UTAH: Iron Co. Cedar Breaks National Monument, Sunset Point Overlook, N 37.620523 W 112.828728 3160 m 24-Aug-2015 C. R. Nelson # 11512 & J. K. Nelson 88 Wpt 137sunsetpoint photos: scenery and panorama 11512

11513 USA: UTAH: Iron Co. Cedar Breaks National Monument, Chessmen Ridge Overlook, N 37.631684 W 112.832170 3203 m 24-Aug-2015 C. R. Nelson # 11513 & J. K. Nelson 88 Google Earth Started here to walk to Alpine Pond, looped using upper then lower trail photos:?
bristlecone pines, white fir, aspen, blue spruce. 11513

11514 USA: UTAH: Iron Co. Cedar Breaks National Monument, Alpine Pond Trail, N 37.636042 W 112.824892 3180 m 24-Aug-2015 C. R. Nelson # 11514 & J. K. Nelson 88 Wypt 138alpinepond mountain chickadee, dark eyed junco, chipping sparrow, flicker, ruby crowned kinglet, white eyed vireo, pine grosbeak? with big baby, green towhee, hummingbird female, chipmunk, chickaree tree squirrel. 11514

11515 USA: UTAH: Iron Co. Cedar Breaks National Monument, North View Overlook, N 37.656527 W 112.834499 3180 m 24-Aug-2015 C. R. Nelson # 11515 & J. K. Nelson 88 Wypt 139northview photos: scenery, including views to Brian Head Peak 11515

11516 USA: UTAH: Iron Co. Dixie National Forest, Brian Head Peak, 11,370 feet, N 37.681291 W 112.831382 3442 m 24-Aug-2015 C. R. Nelson # 11516 & J. K. Nelson 88 Wypt 140brianhead photos: scenery and panorama; falcon, pika 11516

11517 USA: UTAH: Iron Co. Parowan Cemetery, rock gate, N 37.837709 W 112.819118 1855 m 24-Aug-2015 C. R. Nelson # 11517 & J. K. Nelson 88 Wypt 141parowancemetery photos: rock arch at cemetery, this photo was a partial reconstruction of a photo of Winston P. Nelson and his sister Rhea Anderson in the 1970s. Aileen Nelson probably took the original photo. 11517

11518 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Aug-2015 C. R. Nelson # 11518 88 Morning:
photos: screech owls
Later in the day I took photos of lycosid mother and hatched babies from CRN 11487, on white paper then Saturniidae Hemileuca from 11508, then lycosid again on cottonwood bark. 11518

11519 USA: UTAH: Utah Co., Provo, BYU, Nelson office, 2119 LSB, N 40.245293 W 111.649165 1407 m 28-Aug-2015 C. R. Nelson # 11519 88 Google Earth Photos:
Frandsen visit, Christine, Harvey, and Paul Frandsen. 11519

11520 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 29-Aug-2015 C. R. Nelson # 11520 88 photos with phone: red breasted nuthatch. 11520

11521 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 30-Aug-2015 C. R. Nelson # 11521 88 photos: Kaye puckering a kiss. 11521

11521 USA: UTAH: Utah Co., Provo, BYU, view from Life Science Building to Martin Building and in Martin Building 206, N 40.245293 W 111.649165 1407 m 31-Aug-2015 C. R. Nelson # 11521 88 Google Earth Photos: buildings. 11521

11522 USA: UTAH: Utah Co., Provo, BYU, Bean Museum, Nelson lab, N 40.253563 W 111.647252 1438 m 01-Sep-2015 C. R. Nelson # 11522 88 photos: PriMary girls from Edgemont 10th Ward tour with leader Sharon Hokanson 11522

11523 USA: UTAH: Utah Co., Provo, BYU, room 206 (former 456) Martin Building, N 40.246928 W 111.6491070 1421 m 02-Sep-2015 C. R. Nelson # 11523 & class 88 photos: students in Biology 100. 11523

11524 USA: UTAH: Utah Co., Provo, Indian Road trail near mouth of Provo Canyon, knob, N 40.309356 W 111.653125 1518 m 02-Sep-2015 C. R. Nelson # 11524 & scouts 88 Google Earth photos: Meloidae, Cantharidae on *Ericameria nauseosa* (photos at home on 3 September 2015) 11524

11525 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.263782 W 111.664134 1404 m 05-Sep-2015 C. R. Nelson # 11525 89 Wypt 142provoriver100 First 50s with Biology 100 class, hard picking to get to 50!, Velocity measure, 10 m: 16.8s, 16.7, 15.4, 14.0, 16.6, 15.6, 14.2, 12.7, 15.3, 14.4. So, 0.66m/sec.
Brian Wilcox videotaped proceedings of both groups. Start: 10:15am end Bio 100 group about 1:00pm. At footbridge.

Riley Nelson, Sarahbeth Brown, Shun Sambongi, Luis Belchior, Cassidy Young, James Stuart, Cyera Bishop (from UNIV 291), Brenna Jameson, Forrest Glines, Jarom Jameson, Abigail Walker, Shanna Besendorfer, Michael Besendorfer, Amy Wallace, Daniel Powley, Riley Johnson, Jenner Brown, Connor Beatty, Jeremy Hardy, Kuresa Suesue, Lexi Lords, Jillian Bentley, Carson Henrie, George McCann, Zachary Christensen, Tanner Brooks, Lee Campbell, Laura Autote, Shaylee Roberts, Becca Brimley, Andrew Mabey, Amber Varney, Ben Scribber, Mitchell Adams, Christian Tran, Jenna Bair, Joseph Barley, Lauren Crosby, Yais A. Luth?, Christina Hicks, Braden Checketts, Jacob Williams, Dallin Fuller, Morgan Mcdonough, Megan Taylor, Rushton Hillbrand, Curtis Clawson, David Schraedel, Hailey

Skinner, Austin Smith, Jeremy Wadsworth, Jordan McInelly, mattie Radke, Dani Finlinson, Andrea Shaw, Kyler Sammer, Madison McDougal, Haley Morris, Allison Garrett, Jenna Southard, Marcus Richardson, Kate Mayes, Chad Brooks, Taylor Fuller, Hannah Quinn, Katherine Nuttall, Thomas Cheney, Tashina Daman, Jessica Cardall, Michael Barker, Katie Bulloch, Jaclyn Shingleton, Bailey Porter, McKenna Taylor, Katie Beach, Eric Thorley, Shelby Brown, Carly Marningly, Jase Schaaf, Colt Thomas, Max vrik Thomas, Quin Goodman, Spencer Dawelson, Hannah Bose Widman, Jocelynn Clegg, Alyssa Timpson, Camilla Stark TA. Taxa: Baetidae, Hirudinea Erpobdella, Helobdella, Simuliidae, Polyscelis flatworms, Oligochaeta, Lymnaea?, Fluminicola, small snail, Argia, sculpin.

11525

11526 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, 50 m upstream from footbridge, N 40.264906 W 111.663631 1400 m 05-Sep-2015 C. R. Nelson # 11526 89 Wypt 143provo291 First 50s with UNIV 291 class, easy picking to get to 50! Better riffle this time of year than that of 11526. Velocity measure, 10 m: Sarahbeth's phone. Brad Wilcox videotaped proceedings of both groups. Start: 12:20pm end 2:45pm.

Riley Nelson, Sarahbeth Brown, Allison Brown, Robyn Whitmer, Paul Russavage, Lauren Wake, Haley Giblette, Garrett Brown, Clifton Anderson, Tanner Nelson, Mackenzie Davis, Brenda Polanco, John Ryan Peterson, Raymond Torres, Alexandria Standiford, Emily Lehman, Danielle Hess, Jaron Lundwall, Cade McGary, Alyssa (Morris) Baum, Megan Barnes, Timothy Whiting, Rachel Whipple TA, Clint Whipple prof, Zachary Dryer, Travis Clemons, Levi Pike, Elizabeth Gibson, Barrett Burgin, Brady Hales, Seth Morrison, Chris Hair, Emily Crowder, Andrew Welker, Grace Bithell, Clayton Williams, Tyler Durfee, Ian Hall, Amber Goulding, Carlee Jane Schmidt, Kevin Green, Chip Oscarson, xx Oscarson, Ethan Oscarson, xx Oscarson, xx Oscarson, xx Oscarson. Taxa: Baetidae, Hirudinea Erpobdella, Helobdella, Polyscelis flatworms, Oligochaeta, Lymnaea?, Fluminicola, small snail, Argia, Elmidae, sculpin, Uenoidae? cases, Acari, NO STONEFLIES.

11526

11527 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95962 W 111.26776 1895 m 06-Sep-2015 07-Sep-2015 C. R. Nelson # 11527 & others, see field notes 89 Riley & Kaye Nelson, Hand & Rex Pond, Blair, Cynthia, and Carly Parrish, Tracy, Penny, Erin McKayla Smith. USU friends. photos: Diogmites grossus, mating pair. Bushy tailed wood rat in live trap. Saw big black house cat with white socks. Saw Adejeania vexatrix on rabbitbrush, photos: golden eagles. Pack rat taken alive, home to Duke Rogers. photos: bushy tailed wood rat, Neotoma cinerea. 11527

11528 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trailhead, N 40.431184 W 111.638976 2237 m 12-Sep-2015 C. R. Nelson # 11528 & others, see field notes 89 Wypt 144timpootrhd Riley Nelson, John Bennion, Steve Tuttle, Janelle Tuttle, Hadley Griggs, Will Finlayson, Heather Thompson, Annalee Norton, Natalie Hopkins, Lydia Mongie, Curt Anderson, and Maya Rupard. John's England study abroad group & more. photos: sunrise on Mount Timpanogos from below. 11528

11529 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trail, Site 5, dry creek below Scout Falls, N 40.42458 W 111.63899 2291 m 12-Sep-2015 C. R. Nelson # 11529 & students 89 photos with Maya Rupard; remembering Sarah Judson. 11529

11530 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trail, west talus slope and hanging gardens below Giant Staircase, N 40.413406 W 111.648648 2741 m 12-Sep-2015 C. R. Nelson # 11530 & J. S. Bennion 89 Google Earth with J. S. Bennion (others elsewhere) photos: pikas, chipmunk, brown creeper, and ruffed grouse. 11530

11531 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trail, north lip of Timpanogos Basin, crossroads, N 40.403151 W 111.644056 3045 m 12-Sep-2015 C. R. Nelson # 11531 & J. S. Bennion 89 Wypt 145crossroads with J. S. Bennion and others, mix of 11528 photos: lunch at 11:00am, scenery, group. 11531

11532 USA: UTAH: Utah Co., Mount Timpanogos, Timpooneke Trail, Timpanogos Saddle, N 40.39605 W 111.65458 3337 m 12-Sep-2015 C. R. Nelson # 11532 & J. S. Bennion 89 TIMPSADDLE with J. S. Bennion and others, mix of 11528 photos: people, scenery, valley views. 11532

11533 USA: UTAH: Utah Co., Mount Timpanogos, Summit, N 40.390938 W 111.646061 3582 m 12-Sep-2015 C. R. Nelson # 11533 & J. S. Bennion 89 Wypt 146timpsummit with J. S. Bennion.

My dad's 96th birthday. photos: people, scenery, valley views, John Bennion, Riley Nelson, Joshua Heward, friend & BYU grad student on bear projects now a teacher at Timpanogos High School, mountain goats. Photos at home: Oestridae Cephonomyia, Asilidae Eucyrtopogon sp. photos: Apiaceae, Penstemon. Met and photographed former students Erica Paxman (animal Diversity Winter 2013) and Clint Purser (Bio 100 Fall 20120). Limestone fossils from top of narrow switchbacks between saddle and summit. 11533

11534 USA: UTAH: Utah Co., Mount Timpanogos, upper Timpanogos basin talus trail to Emerald Lake, N 40.394396 W 111.650049 3273 m 12-Sep-2015 C. R. Nelson # 11534 & J. S. Bennion 89 Google Earth with J. S. Bennion.

My dad's 96th birthday. photos: scenery. I kept a quartzitic or sandstone rock banded with limestone 11534

11535 USA: UTAH: Utah Co., Mount Timpanogos, Emerald Lake, N 40.392718 W 111.640758 3099 m 12-Sep-2015 C. R. Nelson # 11535 89 Wypt 148emeraldake Wypt timphutemerald N 40.394111 W 111.640527 elev. 3143 m. Met former student ?Travis Bogdan? on way down.

My dad's 96th birthday. photos: hut, Emerald Lake, Top of Timpanogos, scenery, mountain goats. 11535

11536 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95962 W 111.26776 1895 m 16-Sep-2015 C. R. Nelson # 11536 89 PHOTO SESSION IN LAB, 16 Sep 2015, from 11 July 2015, photos of adult moths reared from caterpillars on *Gutierrezia sarothrae*, snakeweed of CRN 11456. Tortricidae. *Synnoma lynosyrana*, the rabbitbrush webbing moth, identified by Dr. David Wagner of Univ. Connecticut from the photograph I sent him. Same day identification! Good colleagues are a blessing in my life. 11536

11537 USA: UTAH: Davis Co. N 41.029017 W 112.252201 N 41.029017 W 112.252201 1293 m 18-Sep-2015 19-Sep-2015 C. R. Nelson # 11537 & students 89 Wypt 149whiterockbay Riley Nelson, Samantha Smith, Becca Clement, maillet Adams, Kenny Adams, Russell Anderson, Tyson Terry, Maya Rupard, and Jackson Birrell. night walk: photos: people, milky way time lapse (iso 1600 20 sec wide open, interval of 30 seconds) nice exposure, could have been lighter, scenery and bison. morning: pastel gradients, coyote yelps recorded, scenery, bison with magpies, magpie, sun and lake, runners, sunflowers, pronghorn, sage thrasher. Saw shrikes. 11537

11538 USA: UTAH: Davis Co. Antelope Island, Great Salt Lake, White Rock in White Rock Bay, N 41.004998 W 112.254513 1282 m 19-Sep-2015 C. R. Nelson # 11538 & students 89 Wypt 150whiterock Riley Nelson, Samantha Smith, Becca Clement, maillet Adams, Kenny Adams, Russell Anderson, Tyson Terry, Maya Rupard, and Jackson Birrell. photos: scenery, dead eared grebes, video walks, salt crystal potholes, people on beach, wave Marks in the sand, White Rock, people on rock - group. 11538

11539 USA: UTAH: Davis Co. Antelope Island Causeway, Great Salt Lake, N 41.088044 W 112.191754 1283 m 19-Sep-2015 C. R. Nelson # 11539 & students 89 Google Earth Riley Nelson, maillet Adams, Kenny Adams, and Jackson Birrell. photos: American badger, *Taxidea taxus*. 11539

11540 USA: UTAH: Utah Co., Provo, BYU, south hill Botany pond, N 40.244602 W 111.651457 1400 m 22-Sep-2015 C. R. Nelson # 11540 89 Wypt 001byusequoia

morning: photos: Sequoia, including large stump of recent death and then trees in park setting, *Sequoiadendron giganteum*. 11540

11541 USA: UTAH: Millard Co. Tule Valley, base of Notch Peak, N 39.156930 W 113.452591 1616 m 25-26 September 2015 C. R. Nelson # 11541 & Steven C. Clark. 89 Wypt 003notchbasesunrise photos: scenery of Notch Peak and Tule Valley, time lapse stars over Notch Peak, sunrise and camp. We also stopped at West Desert Rock Art store in Delta and talked with owner Bob Harris. He gave us permission to enter his trilobite claim in Wheeler Amphitheater of the House Range. It is the area behind the backhoe with no trespassing sign near U-Dig fossil site. We didn't have time to visit it in the end. photos: 40 inch great basin rattlesnake, very light colored. Coiled when found, other poses later. 11541

11542 USA: UTAH: Millard Co. Tule Valley, Painter Tanks below Painter Springs (on main dirt road), N 39.191719 W 113.476295 1407 m 26-Sep-2015 C. R. Nelson # 11542 & Steven C. Clark. 89 Wypt 005painterlowspring photos: oasis with water tanks, spring is higher in the canyons. We proceeded north to Marjum Canyon Road and crossed the House Range to eastern flank. We saw flat shales worked by fossil collectors. I need to return here, with a geologist if possible. 11542

11543 USA: UTAH: Millard Co. House Range, Sawtooth Canyon, Miller Canyon Road, Notch Peak Trailhead, N 39.128009 W 113.363739 2076 m 26-Sep-2015 C. R. Nelson # 11543 & Steven C. Clark. 89 Wypt 006notchpeaktrailhead photos: trailhead sign. Both Miler Cove and Millard Canyon Roads converge to allow access to Notch Peak Trailhead. Asilidae: *Holopogon* (NO! other small genus, *Cyrtopogon*?), also *Promachus aldrichii*; Bombyliidae: *Poecilanthrax*. 11543

11544 USA: UTAH: Millard Co. House Range, Sawtooth Canyon, Notch Peak Trail, 1 hour from trailhead, N 39.134073 W 113.395038 2441 m 26-Sep-2015 C. R. Nelson # 11544 & Steven C. Clark. 89 Wypt 007rest1hour rested after 1 hour of steady walking. photos: dark rattlesnake.

Plant specimen, Fabaceae (NO! fernbush, Rosaceae *Chamaebataria millifolium*, det. R. S. Johnson 28 Sep 2015). Found at mid elevation in canyon bottom above Rocky mountain maple "zone".

Pompilidae: *Hemipepsis*? 11544

11545 USA: UTAH: Millard Co. House Range, Sawtooth Canyon, Notch Peak Trail, first look back east to wide valley, N 39.139459 W 113.404233, 2682 m 26-Sep-2015 C. R. Nelson # 11545 & S. C. Clark 89 Wypt 008firstvieweast photos: scenery. At about this level I collected three cones and a small branch of a tall, lush bristlecone pine. 11545

11546 USA: UTAH: Millard Co. House Range, saddle below Notch Peak, first view west, of sheer cliffs, N 39.142854 W 113.405724, 2781 m 26-Sep-2015 C. R. Nelson # 11546 & S. C. Clark 89 Wypt 009firstviewwest photos: scenery, cliffs. Photos: views to Wheeler Amphitheater (trilobite beds to the north east). We met three hikers descending from Notch Peak, returning to Amasa Basin, long walk. Later we met 4-5 hikers ranging from 10 -40 years ascending the peak. One of these hikers, Dillon Mace, recognized me as Andrea Nelson's father. They were in graduate school together. photos: bristlecone pines, gnarled, just below east lip from saddle and sheer cliffs. 11546

11547 USA: UTAH: Millard Co. House Range, Notch Peak Summit, on map as 9654 ft., N 39.142854 W 113.405724, 2781 m 26-Sep-2015 C. R. Nelson # 11547 & S. C. Clark 89 Wypt 010notchpeak photos: scenery, cairn, selfie of Riley and Steve, panoramas, Sevier Lake, Wheeler Amphitheater, hikers log. photos (at home, later on 27 Sep 2015): Oestridae Cephonomyia, fossils in Ordovician dolomite, Asilidae Eucyrtopogon, Aradidae caught on summit cairn. 11547

11548 USA: UTAH: Utah Co., Provo, near Riverwoods shopping center, N 40.296392 W 111.659707, 1440 m 27-Sep-2015 C. R. Nelson # 11548 & family 89 Wypt 011moonlastnight photos: time lapse photos of eclipsing full moon. Riley & Kaye Nelson with Todd, Amy, and Wolfgang Smith. 11548

11549 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 11-Oct-2015 C. R. Nelson # 11549 & family 89 Riley & Kaye Nelson, Wolfgang Smith, Andrea Nelson, Jordan, Taylor, and Michelle Christopher. red naped sapsucker, Stellers jay, raven, red tailed hawk, scrub jay, hermit thrush, white breasted and red breasted nuthatch close together. 11549

11550 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 23-24 October 2015 C. R. Nelson # 11550 & students 89 photos: people. Riley & Kaye Nelson, Sam (antha) Smith, Becca Clement, Morgan & Katie Vonasek, Makani & Chelsea Fisher, Sam (antha) Roan (morning). In the morning I walked with Sam, Becca, and Sam up to the ridge crest above the shooting range, then east along the ridge to the next canyon then traversed west through the pinyon juniper forest back to the waterfall canyon and down to the tanks. I saw douglas firs mixed in the pinyon/juniper forest and just above the waterfall. 11550

11551 USA: UTAH: Utah Co., Provo, Edgemont North Stake Center, Canyon Road at 345 East Foothill Drive, N 40.294254 W 111.652368 1476 m 30-Oct-2015 C. R. Nelson # 11551 89 Google Earth photos: Kaye and Riley in costume as rock stars at Edgemont 10th Ward Halloween Party. Also Wolf and Amy Smith as Buffalo Bill and Calamity Jane. 11551

11552 USA: UTAH: Utah Co., Provo, Mary and Daryl Lee home, 258 East 4075 North, N 40.28758 W 111.65288 1420 m or so 31-Oct-2015 C. R. Nelson # 11552 89 Google Earth photos: Kaye and Riley Nelson as rock stars. Amy, Todd, and Wolf Smith as Calamity Jane, Wild Bill Hickox, and Buffalo Bill Cody. Andrea Nelson as Nux (from the movie "Mad Max". 11552

11553 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 31-Oct-2015 C. R. Nelson # 11553 89 Family Halloween photos Kaye and Riley Nelson as rock stars. Amy, Todd, and Wolf Smith as Calamity Jane, Wild Bill Hickox, and Buffalo Bill Cody. Also Andrea Nelson as Nux (from the movie "Mad Max". 11553

11554 USA: UTAH: Utah Co., Goshen Warm Springs and ponds, north spring pond, N 39.95967 W 111.85538 1363 m 27-Nov-2015 C. R. Nelson # 11554 & others, see field notes 89 113gosh with A. Todd Smith and Samantha Belle "Sam" Roan.

We had the time to walk as far south as the fifth pond south.

This area is open after many years of closure by the Division of Wildlife Resources (as I've been told, based on reports of high selenium and heavy metals levels from the sidehill smelter works of Tintic Standard Reduction Mill, from Jesse Knight silver from Eureka days?). Because I have visited this site so many times in the past I'll give a description using my own names for water bodies: You currently park to the north, because the road is well blocked by a heavy gate, about 200 m north of the first pond (here called north spring pond). Water from this spring and pond can be diverted into a cement ditch that flows north toward the highway or into Pond Two (to the west) by way of a headgate halfway down the west side of north spring pond. By walking another 50-100 m south along a dirt banked ditch you find Pond Three. It is near Pond Two (to the west), but flow seems to pass through North Spring Pond to get to Pond Two. Next walk south over a high divide to Pond 4 which has a cement shelf hanging over the east edge about half way down. This pond is called "North Pond" in a 2003 june sucker/selenium report. This pond feeds a dirt banked ditch that flows south past a short spur ditch to the east (another spring?) and continues south to Pond 5. Pond 5 is called "Lily Pond" in the 2003 june sucker/selenium report. There were abundant water lilies on the pond today. We stopped here for the day, but could see one more large pond further south, call it Pond 6. This pond appeared to be accessed by another road coming from the west. I haven't yet visited this pond. The 2003 june sucker/selenium report summarized selenium and heavy metals in the springs, ponds, and fish. The levels of these toxics approached (and sometimes passed) acceptable limits. The waters bear toxic elements. But the levels only slightly exceeded acceptable limits and in

2003 new limits were being considered. Don't drink the water, but for me it seems that occasional collecting here isn't an acute toxic hazard. Someone could inform me better. Elmiidae at spring head, spired snail *Melanoides tuberculatus*, tall spired snail. photos: Coenagrionidae: *Enallagma*, Helophoridae: *Helophorus* sp., Heteroceridae: *Heterocerus* sp.. Aeshnidae, left handed snail

11554

11555 USA: UTAH: Utah Co., Goshen Warm Springs and ponds, Pond 5, fifth pond south, Lily Pond, N 39.953348 W 111.856176 1378 m 27-Nov-2015 C. R. Nelson # 11555 & others, see field notes 89 wypt 012goshensouth with A. Todd Smith and Samantha Belle "Sam" Roan photos: Coenagrionidae: *Enallagma*, Hydracarina big red, Mesoveliidae: *Mesovelius mulsanti*, Hebridae: *Hebrus*? (just a guess, NO! *Merragata* det CRN 3 Dec 2015), Platyhelminthes *Dugesia* sp. (just a guess NO! *Girardia* det CRN 3 Dec 2015 using Smith, Pennak ed. 4). 11555

11556 USA: UTAH: Utah Co., Spring Creek, Springville, Hwy 89, main Street, near Division of Wildlife Resources office, N 40.181992 W 111.611349 1375 m 27-Nov-2015 C. R. Nelson # 11556 & others, see field notes 89 Wypt 013hatchery same spot as CRN 11193. with A. Todd Smith and Samantha Belle "Sam" Roan gammaridae: *gammarus*, Asellidae: *Asellus*. Saw Simuliidae but kept none. 11556

11557 USA: UTAH: Utah Co., Provo River, Provo Canyon, Hwy 189, 400 meters downstream from Vivian Park Bridge, N 40.355816 W 111.578190 1582 m 02-Dec-2015 C. R. Nelson # 11557 89 Wypt 014oilspillsite photos: Provo River at site of oil spill of 28 November 2015 11557

11558 USA: UTAH: Utah Co., Provo River, Provo Canyon, Hwy 189, Vivian Park Bridge, N 40.356077 W 111.573632 1577 m 02-Dec-2015 C. R. Nelson # 11558 89 Wypt 015vivianparkbridge photos: scenery belted kingfisher 11558

11559 USA: UTAH: Utah Co., Lehi, Parker home, 772 West 100 South N 40.38665 W 111.86127 1210 m 11-Dec-2015 C. R. Nelson # 11559 89 photos: Nick Stoddard and David Parker. Birthday party for Parker family. 11559

11560 USA: UTAH: Salt Lake Co. Draper, Living Planet Aquarium, N 40.532184 W 111.893966 1349 m 24-Dec-2015 C. R. Nelson # 11560 & family; Riley, Kaye, Jason, Brandy, Artemis, Astrid, Andrea, Amy, Wolfgang. 89 Photos: Astrid, Andrea, Kaye, Amy, Wolf, Jason, Brandy, Artemis. photos: river otters, jellyfish, deepsea isopod *Bathynomus giganteus*, spot prawn *Pandalus platyceros*, Pacific hagfish *Etatretus stoutii*, spotted ratfish *Hydrolagus collei*, spider crab *macrocheira kaempferi*, gentoo penguins *Pygoscelis papua*, Megalodon reconstruction with people, humpback whale sculpture, manta ray sculpture,

chambered nautilus *Nautilus pompilius*, shark eggs, sea urchin, bat star, rockmover wrasse with a crest *Novaculichthys taeniourus*, picassofish *Rhinecanthus aculeatus*, threadfin butterflyfish *Chaetodon auriga*, wrasse, american lobster, slate pencil urchin *Eucidaris tribuloides*, zebra mantis shrimp *Lysiosquilla maculata*, shovelnose ray, gray reef shark (black tail), white tip reef shark, black tipped reef shark, nurse shark, zebra shark, sandbar shark (all gray), stingray, humpnose unicornfish, blue spine unicornfish, loggerhead turtle, moray eel. 11560

11561 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Dec-2015 C. R. Nelson # 11561 89 photos: family, california quail, spotted towhee. 11561

11562 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 02-Jan-2016 C. R. Nelson # 11562 & J. K. Nelson 89 Unloaded four chairs from Sherry Wheeler's home at the cabin; also scrap lumber from shop. Diet cokes froze and exploded in the refrigerator. Kaye and I cleaned them up. Took some ash and plum logs home to turn on the lathe. Took some window screen home for bird feeders. Visited Sherry at "Our House" in Provo on the way home. 11562

11563 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 02-Jan-2016 C. R. Nelson # 11563 & J. K. Nelson 89 Attached screen to bird feeder. While cutting slats to hold it in place I sliced into the tip of my right little finger, shaving the bone. I washed it, stanced it with toilet paper and decided to have Kaye drive me first to an emergency clinic then on their advice to the Emergency room at Utah Valley Regional Medical Center. Time line: cut finger: 4:20pm; Clinic 4:35pm; Hospital 4:55pm. Lidocaine shots, tetanus shot, x rays, dissection and stitches. Out at 8:30pm. Percoset and cephalexin at Walgreens, hamburgers at Carl's Jr. on the way home. Home 8:59pm. More photos afterwards, up to summertime. Now (21 June 2016) the finger is almost entirely healed and good as new. It slopes a little on the outside edge, the nail is not growing all the way to the tip, but looks fine. I don't have full feeling in the very tip. Maybe that will change. 21 June 2016. photos: hospital room, 3 Jan 2016 at home unwrapped bandage; 4 Jan 2016 at home unwrapped bandage. many more photos taken along the way through the months. 11563

11564 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.2638 W 111.6642 1408 m 09-Jan-2016 C. R. Nelson # 11564 & class 89 First 100s with Biology 100 class. air temp 10 deg C, water 4 deg C. 35 students, 11 helpers, 1 me. Mark Hutchings. TAs: Camilla Stark, Hannah Leber, Cassidy Young, Lexie Prier, Jaden Anderson, Jared Meek, Makani Fisher, Morgan Vonasek, Maya Rupard, Sam Smith, Becca Clement.

Bio 100: Garret Gang, Benjamin Hatch, Jeffrey Black Andrew Funk, Joseph Belyeu, Olivia Toulson, Hannah Elieson, Charles Mills, Mark Brand, mane Gregon, Kaleib Richey, Mahina Bantilan, Allyson Ririe, Alisa Pierce, Alli Zundel, Jordan Smith, Mei Athay, Connor Lacy, Kelsea Jorden, matthew Talbot, Ryan Warren, Sadie Culla, Jeffrey Pine, Brennon Jacobson. Taxa: Baetis, Erpobdella leeches, Oligochaeta, Hydropsyche, Asellus, sculpin, no stoneflies. Beaver chewed on log. 11564

11565 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, BYU Provo River Park, N 40.2652 W 111.6636 1402 m 09-Jan-2016 C. R. Nelson # 11565 & class 89 First 100s at Pavilion with mixed Bio 100 and Bio 220 class and HON 291 class. TAs: Mariel Flores, Jared Meek, Makani Fisher, Todd Workman.

220: Micah Putnam, Zackery Fronk, Mitchell Allen, Ryan Warren, Lindsey Davenport, Tara Laidlaw, Toria Baker, Riley Cox, Kayla Jeff, Devrie Rozsa, Madison Healy, David Kinsford, Dariel Delos Reyes?, Eric Esplin, Jordan Richardson, Samantha Layton?, Robyn Buchheit, David Tryon, Hannah Waite.

291: Sydney Bright, maili Taniguchi, Anne Bennion, Daril Sbaradaran, Lauren Thomas, Michael Rose, Marian Strong, Jared Dyer, Amanda Buessecker, Phillip Ng, Elide Mojica, Camilla Handley, Jakob Fjeldsted, Analisa Thompson, Dylan Pemberton, David Miner, Tanner Harrison, Rachel Moore, Dallin Packard, Cameron Noorda, Tyler Augenstern, Dan Ankermann, Seth Bailey, Collin Myers, Jacob Zamora, Leena Hwang.

Co-Teacher Chip Oscarson and 6th grade daughter Linnea Oscarson. Taxa: Baetis, Hydropsyche, Hesperophylax, Asellus, Helobdella, Erpobdella, Simulium, Rhyacophila!, not stoneflies. 11565

11566 USA: UTAH: Utah Co., Utah Lake, Lincoln Beach, warm springs near north point, N 40.136446 W 111.806540 1378 m 16-Jan-2016 C. R. Nelson # 11566 & students from lab group. 86 wypt 044lincolnpoint photos: scenery, warm springs, pond above lake level. with Makani Fisher, Morgan Vonasek, Becca Clement, Sam Smith, and Tyson Terry. photos: pelicans. Leeches, Hydroptilidae, Belostomatidae, Libellulidae, saw a Virginia rail and 11566

11567 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 17-Jan-2016 C. R. Nelson # 11567 89 photos: sharp shinned hawk 11567

11568 USA: UTAH: Utah Co., Springville, Wheeler Mortuary N 40.166825 W 111.612812 1397 m 18-Jan-2016 C. R. Nelson # 11568 & J. K. Nelson 89 Google Earth photos: friends and family at viewing of Sherry Wheeler, Francis Shirlene Poulson Wheeler. 11568

11569 USA: UTAH: Utah Co., Springville, Eighth Ward, LDS Church, N 40.162597 W 111.599951 1407 m 19-Jan-2016 C. R. Nelson # 11569 & J. K. Nelson 89 Google Earth photos: morning viewing of Sherry Wheeler, Francis Shirlene Poulson Wheeler, then after funeral meal. Sabryna Mead took the pictures of the Fish Pond for kids with my camera. 11569

11570 USA: UTAH: Utah Co., Springville, Evergreen Cemetery, N 40.140379 W 111.605835 1426 m 19-Jan-2016 C. R. Nelson # 11570 & J. K. Nelson & family 89 Google Earth photos: graveside services for Sherry Wheeler. 11570

11571 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 31-Jan-2016 C. R. Nelson # 11571 89 photos: California quail in aspen trees and snow 11571

11572 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.5 miles south of Vivian Park, N 40.347523 W 111.547296 1662 m 06-Feb-2016 C. R. Nelson # 11572 & students 89 Wypt 018southfork photos: scenery, ice, people.

Riley Nelson, Maya Rupard, Ben Larsen, Jordan Smith, Taylor Smith (wife of Jordan), Anne Bennion. Entomology Club winter stonefly collecting trip.

Photos & video: dipper, winter wren.

Capnia gracilaria, Zapada cinctipes, many benthic taxa. 11572

11573 USA: ARIZONA: Coconino Co. Cameron, Little Colorado River, N 35.876105 W 111.413282 1286 m 13-Feb-2016 C. R. Nelson # 11573 & J. K. Nelson 89 Wypt 019cameron photos: morning sunrise scenery. 11573

11574 USA: ARIZONA: Maricopa Co. Phoenix, Nelson home, 2520 West Columbine Drive, and Cave Creek Park N 33.599243 W 112.113756 379 m 13-Feb-2016 15-Feb-2016 C. R. Nelson # 11574 & J. K. Nelson 89 Wypt 002nelsoncolumbine Brandy and Jason's house. photos: people: Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, Artemis Nelson, and Astrid Nelson.

Gas in small rental car:

Kanab \$12.53 6.3 gallons

Flagstaff \$9.58 5.7 gallons

Phoenix

Took home a section of palm tree trunk, Washingtonia filifera, california fan palm. pigeons rock doves, mourning doves, eurasian collared doves, gila woodpecker, house sparrow, starlings, peach faced lovebirds, common grackle, canada goose, red tailed hawk, mockingbird, ground dove, curve billed thrasher, killdeer. 11574

11575 USA: ARIZONA: Maricopa Co. Phoenix, Shaw Butte LDS Church, 325 W Coral Gables Drive, N 33.62529 W 112.07792 ? m 14-Feb-2016 C. R. Nelson # 11575 & J. K. Nelson 89 Google Earth Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, Artemis Nelson, and Astrid Nelson.

photos: mockingbird 11575

11576 USA: UTAH: Garfield Co. Sevier River, north of Hatch N 37.66526 W 112.42399 2100 m 15-Feb-2016 C. R. Nelson # 11576 & J. K. Nelson 89 Google Earth saw birds on river, from highway: common merganser, common goldeneye, mallard, canada goose, smaller ducks 11576

11577 USA: UTAH: Garfield Co. Sevier River, Hwy 89, north of Panguitch, N 37.90659 W 112.43200 2000 m 15-Feb-2016 C. R. Nelson # 11577 & J. K. Nelson 89 Google Earth Tundra swans, about 8, some white juveniles 11577

11578 USA: UTAH: Utah Co., Orem, Sizzler Restaurant N 40.274508 W 111.685752 1455 m 18-Feb-2016 C. R. Nelson # 11578 & J. K. Nelson 89 Google Earth BYU Zoology Department reunion, photos group. 11578

11579 USA: UTAH: Utah Co., Provo, Provo City Center Temple, open house, University Avenue and Center Street N 40.232675 W 111.659295 1420 m 19-Feb-2016 C. R. Nelson # 11579 & J. K. Nelson 89 Google Earth photos: family and friends at the open house. Riley Nelson, Kaye Nelson, Todd Smith, Amy Smith, Wolfgang Smith, Jera Parker. 11579

11580 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 19-Feb-2016 20-Feb-2016 C. R. Nelson # 11580 89 photos: mule deer doe with a broken left front tibia in our yard. Sad.

She died 22 February 2016. I trimmed three colors of hair from her to use in flytying then pulled this year lying to the street for city workers to dispose. 11580

11581 USA: UTAH: Salt Lake Co. Salt Lake City, Hogle Zoo, 2600 Sunnyside Drive, N 40.750260 W 111.816198 1484 m 05-Mar-2016 C. R. Nelson # 11581 & family 89 wypt 003hoglezoo Riley Nelson, Kaye Nelson, Todd Smith, Amy Smith, Wolfgang Smith, Andrea Nelson, Jordan Christopher. photos: canada goose, ostrich, magpie, peacock and peahen, gorilla, black howler monkey, eastern black and white colobus monkey, house sparrows, wild gopher, amur leopard, siberian lynx, snow leopard, Wolfgang and family, bolivian titi monkey and young, cottonmouth snake, golden lion taMarin monkey, cottontop taMarin monkey, burrowing owl, african straw colored fruit bat, superb starling, roseate spoonbill, aldabra tortoise, meerkat, insect display, rattlesnake skull, python skull, chuckwalla head, harbor seal, california sea lion, crocus, otter, african elephant, african lions, giraffe, box elder bugs. 11581

11582 USA: UTAH: Davis Co. Antelope Island north causeway, N 41.066953 W 112.229946 1283 m 01-Apr-2016 C. R. Nelson # 11582 & others, see field notes 89 Google Earth 2015 Riley Nelson, Jerry Johnson, Byron Adams, Ingo Schlupp, Eli Johnson, Andrea Roth Monzon, Trevor Williams red tailed hawk, northern shoveler ducks, eared grebes, ring billed gulls, cliff swallows, great blue herons, avocet, raven, coot, red winged blackbird, yellow headed blackbird. Most near west circulation culvert.
Closer to Clearfield/Syracuse: starling, collared dove, white faced ibis, canada goose, mallard duck. 11582

11583 USA: UTAH: Davis Co. Antelope Island State Park, visitors center N 41.055213 W 112.240657 1329 m 01-Apr-2016 C. R. Nelson # 11583 & others, see field notes 89 Wypt 004vcantelope Riley Nelson, Jerry Johnson, Byron Adams, Ingo Schlupp, Eli Johnson, Andrea Roth Monzon, Trevor Williams white crowned sparrows, ravens, chukar, red winged blackbird, western meadowlark, magpie. 11583

11584 USA: UTAH: Davis Co. Antelope Island State Park, White Rock Bay, N 41.029017 W 112.252201 1293 m 01-Apr-2016 C. R. Nelson # 11584 & others, see field notes 89 Wypt 149whiterockbay 2015 Riley Nelson, Jerry Johnson, Byron Adams, Ingo Schlupp, Eli Johnson, Andrea Roth Monzon, Trevor Williams long billed curlew, bison, pronghorn, horned lark, white crowned sparrow, killdeer. 11584

11585 USA: UTAH: Box Elder Co. ATK - Thiokol, Lampo Junction, 20 miles west of Brigham City, N 40.658976 W 112.440225 1340 m 01-Apr-2016 C. R. Nelson # 11585 & others, see field notes 89 Wypt 005atkmissile Riley Nelson, Jerry Johnson, Byron Adams, Ingo Schlupp, Eli Johnson, Andrea Roth Monzon, Trevor Williams prairie falcon, red tailed hawk, raven. Also: Salt Creek ponds, closer to Brigham, Google Earth: N 41.603300 W 112.312472 elev. 1291 m. blue winged teal, mallard duck, white pelicans, coots, eared grebes, sandhill crane. 11585

11586 USA: UTAH: Box Elder Co. Golden Spike National Historic Site, Promontory summit, visitors center, N 41.617184 W 112.550931 1497 m 01-Apr-2016 C. R. Nelson # 11586 & others, see field notes 89 Google Earth 2012 Riley Nelson, Jerry Johnson, Byron Adams, Ingo Schlupp, Eli Johnson, Andrea Roth Monzon, Trevor Williams Say's phoebe, golden eagles, ravens 11586

11587 USA: UTAH: Box Elder Co. Great Salt Lake, Rozell Point, Spiral Jetty, N 40.43833 W 112.66604 1260 m 01-Apr-2016 C. R. Nelson # 11587 & others, see field notes 89 103spirpar Photos: salt, scenery, basalt pebble.
Riley Nelson, Jerry Johnson, Byron Adams, Ingo Schlupp, Eli Johnson, Andrea Roth Monzon, Trevor Williams white pelicans flying overhead.

Google Earth Estimate: N 41.440866 W 112.651955 elev. 1296 m: roadside near bend and lake edge: burrowing owl 11587

11588 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 02-Apr-2016 C. R. Nelson # 11588 & J. K. Nelson 89 juncos, scrub jay, raven, magpie, wren, sagbrush lizard, crow, golden eagle 11588

11589 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 04-Apr-2016 C. R. Nelson # 11589 89 photos: turkey vultures, also: AMaryllis blooms on 3 April 2016. 11589

11590 USA: UTAH: Utah Co., Utah Lake State Park, mouth of the Provo River, N 40.237019 W 111.740190 1361 m 05-Apr-2016 C. R. Nelson # 11590 89 wyypt 001utahlake 7:30pm, air temp. 15dC, water temp 12dC. Secchi disk reading 2cm! Seas kayaking with INHUT: Riley Nelson, John Bennion, Brian Cannon, Quinn Linford, Meagan Ricks, Brinnley Ashton, Max Barnes, Ashley Lundquist, Bethany Allen, Liz Peterson, Megan Clarine, Kainoa Ahquin, Jane Smith, Katie Fitzgerald, Jacob Johnson, Dino Lauricella, Joshua Dodge, Teagan Ellsworth, Sarah Cheney, Emma Houghton, Rachel Slade, Gathered some trash in river, including a computer monitor. 19 birds. starling, house sparrow, ring billed gull, killdeer, great tailed grackle, mallard duck, canada goose, white pelican, double crested cormorant, redwing blackbird, yellow headed blackbird, collared dove, Marsh wren, coot. No: magpie, hawks, raven, other ducks, house finch, juncos, herons/egrets, muskrat. 11590

11591 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 07-Apr-2016 C. R. Nelson # 11591 89 photos session at home of Nematomorpha horsehair worms and millipedes caught by Marian Strong somewhere near the Provo River over the past few days. 11591

11592 USA: UTAH: Utah Co., Provo, BYU, Life Science Building window N 40.245125 W 111.648518 1401 m 11-Apr-2016 C. R. Nelson # 11592 89 photos: campus and Mount Timpanogos. 11592

11593 USA: UTAH: Utah Co., Diamond Fork River, Red Ledges Picnic Area, N 40.079820 W 111.403575 1563 m 12-Apr-2016 C. R. Nelson # 11593 & class 89 Wypt 002redledges rappelled two short routes on first cliff/rock north of parking area. Photos: people, scenery. INHUT: Riley Nelson, John Bennion, Brian Hill, Quinn Linford, Ashley Lundquist, Megan Clarine, Emma Houghton, Bethany Allen, Maya Rupard, Anne Bennion, Teagan Ellsworth, Max Barnes, Dino Lauricella, Katie Fitzgerald, Brinnley Ashton, Rachel Slade, Kainoa Ahquin, Liz Peterson, Jane Smith, Jacob Johnson, and Sarah Cheney. Shawn Clark drove up looking for a camp for scouts and we invited him to eat with us. golden eagle, spotted towhee, dipper, white throated swift. Photos: Mayflies dancing above river. 11593

11594 USA: UTAH: Utah Co., Provo River, Upper Falls Park, Hwy 189 east of Bridal Veil Falls, N 40.346165 W 111.593829 1572 m 14-Apr-2016 C. R. Nelson # 11594 & students 89 Wypt 003provofalls photos: site. Collecting with Jackson Birrell and Jared Meek. Started to rain hard. Talked with 72 year old Vernon Moulton of Eagle Mountain, formerly of Heber City and Cameron Park, California. We asked him about giant stoneflies in the river. He said he'd talk to his brother about seeing them too on the middle Provo near Midway. Nymphs and larvae in water: *Pteronarcella badia*, *Isoperla fulva*, *Baetis*, *Rhyacophila*, *Brachycentrus*, *Arctopsyche*, *Asellus*, *Hesperophylax*, *Skwala americana* 1 female ready to emerge, *Hyaella azteca*. Photos: dipper 11594

11595 USA: UTAH: Utah Co., Provo River, Hwy 189, Sundance Tunnel fishing access, N 40.361796 W 111.561003 1579 m 14-Apr-2016 C. R. Nelson # 11595 & students 89 Wypt 005tunnelprovo photos: site. Collecting with Jackson Birrell and Jared Meek. heavy rain. Nymphs and larvae in water: *Isoperla fulva*, *Baetis*, *Brachycentrus*, *Asellus*, *Hesperoperla pacifica*. 11595

11596 USA: UTAH: Utah Co., Provo River, Hwy 189, Nunns Park, N 40.336980 W 111.612382 1524 m 14-Apr-2016 C. R. Nelson # 11596 & students 89 Wypt 004nunnsark photos: site. Collecting with Jackson Birrell and Jared Meek. heavy rain. Nymphs and larvae in water: *Isoperla fulva*, *Baetis*, *Brachycentrus*, *Pteronarcella badia*, *Hesperoperla pacifica*. 11596

11596.5 USA: UTAH: Utah Co., Provo River, Hwy 189, near mouth of canyon, 5600 North near Press Media, N 40.307116 W 111.657821 1448 m 14-Apr-2016 C. R. Nelson # 11596.5 & students 89 Wypt 006provoriver5600N photos: site. Collecting with Jackson Birrell and Jared Meek. heavy rain. Former Paragon Press and Community Press crossing of river, now called Press Media. Nymphs and larvae in water: *Isoperla fulva*, *Baetis*, *Brachycentrus*, *Hesperoperla pacifica*. 11596.5

11597 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 17-Apr-2016 C. R. Nelson # 11597 89 Photos: big family party, finger of Tessa Watson and finger of her mother Loni Watson. Also photo session in yard of:
USA: IDAHO: Power Co., East Fork Rock Creek, 4.3 miles east of Rockland, 26.5 miles SW of Pocatello, 45 road miles SW of Pocatello, N 42.562821 W 112.791440, elev. 5028 ft., 12 April 2016, Daniel Parker. photos *Pteronarcys californica* adults! So early. Also seen as adults here on 9 April 2016. 11597

11598 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB, N 40.245293 W 111.649165 1407 m 21-Apr-2016 C. R. Nelson # 11598 & students 89 Google Earth USA:
UTAH: Washington Co., Beaver Dam Wash, Lytle Ranch Preserve, bunkhouse and first wash

north, 8 April 2016, Makani Fisher, Alice Waldron. Hemileuca on Prunus fasciculatus, Hadrurus arizonensis. photo session of: Saturniidae: Hemileuca menogenii caterpillars and desert hairy scorpion Hadrurus arizonensis collected at Lytle Ranch Preserve.

11598

11599 USA: UTAH: Tooele Co. "Left hand" Vernon Creek above Vernon Reservoir, N 39.951685 W 112.363067 1969 m 25-Apr-2016 C. R. Nelson # 11599 & INHUT 89 Wypt 007abovevernon Photos: people and scenery. First 100s. Full INHUT class (John Bennion stayed at Greenjacket to prepare things: Riley Nelson, Brian Cannon, Brian Hill, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. Kainoa Ahquin dropped out of the class before this first stop on our field tour. red tail hawk, raven, Arctiidae caterpillars on "hemlock", Baetidae, Ephemerellidae 2 spp., Dytiscidae, Oligochaeta, leeches, Platyhelminthes, Sphaeriidae clams, Perlodidae Isoperla, Hydrophilidae, Tipulidae. 11599

11600 USA: UTAH: Tooele Co. Vernon Reservoir, 8 miles south of Vernon N 39.989504 W 112.384742 1862 m 25-Apr-2016 C. R. Nelson # 11600 & INHUT 89 Wypt 009vernonres Full INHUT class (John Bennion stayed at Greenjacket to prepare things: Riley Nelson, Brian Cannon, Brian Hill, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. eared grebes, mallard ducks, brewers blackbird, yellow rumped warbler, raven, swallows, red tail hawk. 11600

11601 USA: UTAH: Tooele Co. Benmore, 5.7 miles south of Vernon N 40.012071 W 112.422075 1821 m 25-Apr-2016 C. R. Nelson # 11601 & INHUT 89 Wypt 011benmore Looked at abandoned townsite. Full INHUT class (John Bennion stayed at Greenjacket to prepare things: Riley Nelson, Brian Cannon, Brian Hill, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11601

11602 USA: UTAH: Tooele Co. Greenjacket Ranch, near Benmore, 6 miles south of Vernon N 40.012709 W 112.399309 1820 m 25-Apr-2016 26-Apr-2016 C. R. Nelson # 11602 & INHUT 90 Wypt 012greenjacket Photos: scenery. wet and rainy. bull castration/medication, management of rangeland, reading of filling of Great Basin, sorting Vernon Creek First 100 samples, walk to Greenjacket grave, reproduction lecture.

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Quinn Linford, Ashley Lundquist,

Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. robin egg, magpies, drove cattle, brewers blackbird, spotted towhee, meadowlark, killdeer, kestrel, horned lark on drive by highway, white pelicans in Spanish Fork, starling in Spanish Fork, 26 April 2016: great horned owl, pinyon jay, magpie, raven. 11602

11603 USA: UTAH: Tooele Co. Greenjacket Grove, Greenjacket Ranch, 6 miles south of Vernon N 40.01180 W 112.397415 1843 m 25-Apr-2016 27-Apr-2016 C. R. Nelson # 11603 & INHUT 90 Wypt 013greenjacketgrove History of settlers. Listened to Valerie Oborn xx then Liz and Alan Mitchell. end of 26 April 2016 John Bennion returned to Provo. 27 April 2016: red breasted nuthatch, collared dove, turkeys, killdeer. Added Meagan Ricks. Riley Nelson, John, Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. evening walk to house on creek: peregrine falcon, 11603

11604 USA: UTAH: Tooele Co. Hwy 36, Vernon Tee Road to Benmore, N 40.082717 W 112.412704 1703 m 27-Apr-2016 C. R. Nelson # 11604 & INHUT 90 Wypt 014vernontee INHUT: Riley Nelson, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. drive to IPP: roughlegged hawk, swainsons hawk, red tail hawk, kestrel, raven, meadowlark, collared doves. 11604

11605 USA: UTAH: Millard Co. Intermountain Power Project, north of Delta, N 39.507283 W 112.575896 1429 m 27-Apr-2016 C. R. Nelson # 11605 & INHUT 90 Wypt 015ipp Tour guides in IPP plant: Adon Smith and xx Smith. INHUT: Riley Nelson, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. eared grebes, mallard duck, ruddy duck, California gull, Brewers blackbird, house finch, starling, raven, cliff swallow, mourning doves. 11605

11606 USA: UTAH: Millard Co. east of Intermountain Power Project, Highway 174, N 39.469544 W 112.457084 1445 m 27-Apr-2016 C. R. Nelson # 11606 & INHUT 90 Wypt

015ipp INHUT:

Riley Nelson, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. pronghorn 11606

11607 USA: UTAH: Washington Co. Mountain Meadow viewpoint, N 37.477118 W 113.632219 1809 m 27-Apr-2016 C. R. Nelson # 11607 & INHUT 90 Wypt 017mountainmeadowview Photos: looking out over the valley of Mountain Meadow Massacre site. INHUT:

Riley Nelson, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11607

11608 USA: UTAH: Washington Co. Mountain Meadow, Mass grave, LDS Monument, N 37.475444 W 113.643656 1725 m 27-Apr-2016 C. R. Nelson # 11608 & INHUT 90 Wypt 018mountainmeadowlds late evening, valley of Mountain Meadow Massacre site. INHUT: Riley Nelson, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11608

11609 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, bunkhouse, N 37.143505 W 114.021469 848 m 27-Apr-2016 01-May-2016 C. R. Nelson # 11609 & INHUT 90 Wypt 019bunkhouse INHUT:

Riley Nelson, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. says phoebe, phainopepla, western kingbird, turkey, southwestern toad, rough winged swallows. Photos: Coleonyx variegatus gecko caught by Maya Rupard, on face with Liz Peterson, Maya Rupard, and Riley Nelson. 29 April 2016: photos: storm in evening, watercolor too. 30 April 2016: summer tanager on joshua tree, black headed grosbeak. 1 May 2016: peregrine falcon over bunkhouse. 11609

11610 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, walk upper road bunkhouse to reservoir, N 37.143505 W 114.021469 848 m 27-Apr-2016 C. R. Nelson # 11610 & INHUT 90 Wypt 019bunkhouse walk with Teagan Ellsworth and Sarah Cheney.

INHUT:

Riley Nelson, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. turkey vulture, lesser goldfinch, turkey, western king bird, mallard duck on reservoir, white faced ibis, great blue heron, and verdin. *Poliomenantha*? (no, probably *Dalea*, 11610

11611 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, walk in wash across to side canyon north of Kaye's Bluff, N 37.157646 W 114.026284 803 m 28-Apr-2016 C. R. Nelson # 11611 & INHUT 90 CRN 11030 INHUT:

Riley Nelson, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. many blooming plants, *Camissonia*, *Senecio*, *Salazaria*, *Baileya*, *Larrea*, *Sphaeralcea*. Western Tanager 11611

11612 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, first wash north of bunkhouse, N 37.143882 W 114.015491 885 m 28-Apr-2016 C. R. Nelson # 11612 & INHUT 90 CRN 11059 Did 3 16 x 16 m nested quadrats (see Horn 1993) one on creosote flat in wash; one on *Hilaria* slope; one in Joshua tree forest.

INHUT:

Riley Nelson, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. Alice the desert tortoise was not at her (his) burrow. The burrow was in disrepair. photos: cactus with small waxy red button blossoms. Belted kingfisher, western tanager. 11612

11613 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, top of Ben's Bluff, N 37.143998 W 114.025318 905 m 29-Apr-2016 C. R. Nelson # 11613 & INHUT 90 CRN 11025 Hiked to top in the morning with Emma Houghton and Katie Fitzgerald.

INHUT:

Riley Nelson, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. mockingbird,

turkey vulture, Gambels quail, spotted towhee, white faced ibis, great blue heron, rough winged swallow (gray back), mallard duck, house finch, phainopepla, belted kingfisher.
11613

11614 USA: UTAH: Washington Co. Beaver Dam Slope, Welcome Springs turnoff, N 37.071685 W 113.919118 1122 m 29-Apr-2016 C. R. Nelson # 11614 & INHUT 90 Google Earth INHUT:

Riley Nelson, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. golden eagle mobbed by raven.

Also: Hwy 91, 2 miles east of Castle Cliff: Bendire's thrasher!!!! 11614

11615 USA: UTAH: Washington Co. Santa Clara River, Hwy 91, opposite Kayenta turnoff, N 37.171810 W 113.714660 920 m 29-Apr-2016 C. R. Nelson # 11615 & INHUT 90 Google Earth Rock climbing area, established routes with bolts and other hardware. INHUT:

Riley Nelson, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. belted kingfisher, mourning dove, yellow warbler, spotted towhee, redwing blackbird, rough winged swallow, red tail hawk, photos of great horned owl on nest, bald eagle, northern flicker, gambels quail, lazuli bunting. Megaloptera larvae *Corydalus texanus*, Scarabaeidae *Cotalpa flavida*, Asilidae *Machimus* and others. 11615

11616 USA: UTAH: Washington Co. Lands Hill Petroglyphs, Santa Clara, Tempipo'op N 37.153857 W 113.704533 978 m 29-Apr-2016 C. R. Nelson # 11616 & INHUT 90 CRN11032 Wypt 396tempipoop Photos: scenery, people, petroglyphs.

INHUT:

Riley Nelson, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. white throated swifts, mourning doves, red tailed hawk, raven. 11616

11617 USA: UTAH: Washington Co. Beaver Dam Slope, Bittersprings, N 37.08649 W 113.92844 1179 m 29-Apr-2016 C. R. Nelson # 11617 & INHUT 90 CRN 8093 Lecture on iteroparous and semelparous reproduction. Symbiosis types.

INHUT:

Riley Nelson, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. Agave utahensis, some blooming; Yucca baccata, Ferocactus acanthodes barrel cactus. 11617

11618 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, first wash north of main reservoir, N 37.151291 W 114.018560 854 m 30-Apr-2016 C. R. Nelson # 11618 & INHUT 90 Wypt 022patchnosereservoir INHUT:

Riley Nelson, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. photos: patch nosed snake noticed by Megan Clarine. 11618

11619 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, Persimmon Grove, Hannah Leavitt Terry monument, N 37.156845 W 114.017136 866 m 30-Apr-2016 C. R. Nelson # 11619 & INHUT 90 CRN 11064 photos: scenery and monument. Lecture on Lytle history by Brian Cannon, polygamy in the desert.

INHUT:

Riley Nelson, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11619

11620 USA: UTAH: Washington Co. Gunlock, LDS Church, N 37.290811 W 113.758356 1123 m 01-May-2016 C. R. Nelson # 11620 & INHUT 90 Google Earth Church services, gave IWA books to Lemuel Leavitt and Hyrum Smith. Met newcomers David and Pam Cannon from Kayenta. Judge Farnsworth.

INHUT: I think we were rejoined by John Bennion here.

Riley Nelson, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11620

11621 USA: UTAH: Washington Co. St. George, tabernacle and temple, N 37.100486 W 113.577686 817 m 01-May-2016 C. R. Nelson # 11621 & INHUT 90 Google Earth temple History of Utah's Dixie by Douglas Alder, John Bennion's undergraduate history teacher from USU and later president of Dixie College.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11621

11622 USA: UTAH: Washington Co. Snow Canyon State Park, campground then walk to lava tube parking area, N 37.204604 W 113.640604 1016 m 01-May-2016 C. R. Nelson # 11622 & INHUT 90 Wypt 023snowcanyon Lecture by Riley, "Ways of Knowing"

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. ladder backed woodpecker, scrub jay, white throated swifts. Photos: Phasmida, walking stick at restroom light. Nymph released after photos. 11622

11623 USA: UTAH: Washington Co. Zion National Park, Angels Landing Trail, N 37.269722 W 112.950736 1513 m 02-May-2016 C. R. Nelson # 11623 & INHUT 90 Google Earth, face before Refrigerator Canyon Also Angels Landing Saddle N 37.272755 W 112.950203 elev. 1644m. I took a photograph here similar to Maynard Dixon's painting.

I chose not to climb to the top with the hoards of ill-prepared people. They made me nervous. I got to descend instead with Katie Fitzgerald. I got to talk with her about many things. That was a much better choice. Anne Benion was hiking in sandals and nervous about going ahead. She did and climbed successfully.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. Ravens, turkey vulture, Utah or Eaton's penstemon, spectacle pod. Photos: Castilleja indian paintbrush, Heuchera? saxifrage. Photos: black throated gray warbler. 11623

11624 USA: UTAH: Washington Co. Zion National Park, Emerald Pools, N 37.257696 W 112.962297 1342 m 02-May-2016 C. R. Nelson # 11624 & INHUT 90 Google Earth I was hiking this section alone. Nice to move slowly.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton,

Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

Photos: Dodecantha, green slime on rock 11624

11625 USA: UTAH: Washington Co. North Fork Road, Zion Ponderosa Resort, N 37.270400 W 112.874763 1989 m 02-May-2016 03-May-2016 C. R. Nelson # 11625 & INHUT 90 Wypt 025zionponderosa Kaye and Andrea Nelson met up with us as they returned from Jason and Brandy's house in Phoenix. It was a cold night and I needed to find extra sleeping bags to keep us warm.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11625

11626 USA: UTAH: Kane Co., Birch Hollow, upper tributary of Orderville Canyon, N 37.318729 W 112.874566 1878 m 03-May-2016 C. R. Nelson # 11626 & INHUT 90 Wypt 028 first rappel Our dirt road was very muddy as we dropped off a truck upstream at the head of Orderville Canyon to serve as a shuttle back when we hiked up Orderville Canyon from the mouth of Birch Hollow where we rappelled several long drops. The Orderville trailhead was at Wypt 026 ordervilletrailhead. We then returned to enter Birch Hollow at the trailhead at Wypt 027birchtrailhead and began our rappel. It took a long time to get us all through the rappeling and canyoneering.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. mountain chickadee, spotted towhee, Lewis? woodpecker, ravens. Brian Hill has seen a Mexican spotted owl here. We didn't see any. 11626

11627 USA: UTAH: Kane Co., Orderville Canyon, jct., Birch Hollow, N 37.323218 W 112.875975 1680 m 03-May-2016 C. R. Nelson # 11627 & INHUT 90 Wypt 030birchmouth end of rappeling. photos: scenery and people. Coal in wash. "Marble" in wash, calcite? Walked slightly downstream in Orderville Canyon to get a gps reading: Wypt 029ordervillejctbirch N 37.324312 W 112.877936 elev. 1738m. Then: Pathway out of Orderville to get to truck Wypt 031orderout N 37.325486 W 112.869648 elev. 1694m.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney,

Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. mountain chickadee, spotted towhee, Lewis? woodpecker, ravens. Brian Hill has seen a Mexican spotted owl here. We didn't see any. 11627

11628 USA: UTAH: Garfield Co. Red Canyon Campground, Hwy 12, N 37.743844 W 112.314999 2184 m 03-May-2016 04-May-2016 C. R. Nelson # 11628 & INHUT 90 Wypt 032redcanyoncamp arrived 9:30pm, no dinner.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. Morning: robins, "yellow throated" warbler, hummingbird. 11628

11629 USA: UTAH: Kane Co., Grand Staircase Escalante National Monument, Hole in the Rock Road, Sooner Rocks, camp, N 37.328286 W 111.058069 1327 m 04-May-2016 05-May-2016 C. R. Nelson # 11629 & INHUT 90 Google Earth Stopped before camping at: City Park in Escalante behind Griffin's Stor for lunch: N 37.771811 W 111.601085 elev. 1757. Then at Devils Garden on the Hole in the Rock Road: Wypt 034devils garden N 37.585057 W 111.414772 elev. 1589 m. Minus Brian Cannon (went back to Provo for appointments until we were back at Capitol Reef). We displeased some Driggs, Idaho couple in the night. They shouted obscenities as they left at daybreak.

INHUT:

Riley Nelson, John Bennion, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. Cotalpa flavida scarabs. I stopped briefly at Entrada dinosaur footprints at mouth of Collet Canyon on the way and saw a mockingbird! 11629

11630 USA: UTAH: Kane Co., Trail at end of 40 Mile Ridge, Crack in the Wall above confluence of Coyote Gulch and the Escalante River, N 37.419465 W 110.985438 1331 m 05-May-2016 C. R. Nelson # 11630 & INHUT 90 Wypt 037crackinthewall Views of "The Elephant", Stevens Arch, and stained walls. We divided the group into two small groups to impact the canyon less. The other group walked down from the water tank to Jacob Hamblin Arch. Our group was: Riley, John, Quinn, Teagan, Emma, Jacob, Joshua, Rachel, Sarah, Liz, and Bethany.

Wypt 036cracktrailhead N 37.403730 W 111.008865 elev. 1406 m.

INHUT:

Riley Nelson, John Bennion, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. We saw a peregrine falcon at the Crack area. In the tinaja on the hike to the crack we saw fairy shrimp, tadpole shrimp, and Dytiscidae. Also a midget faded rattlesnake and leopard lizard. 11630

11631 USA: UTAH: Kane Co., lower Coyote Gulch, Big Alcove above waterfall number one (counting upstream), N 37.422238 W 111.000629 1186 m 05-May-2016 06-May-2016 C. R. Nelson # 11631 & INHUT 90 Wypt 038bigalcove Photos: scenery. Our half group was: Riley, John, Quinn, Teagan, Emma, Jacob, Joshua, Rachel, Sarah, Liz, and Bethany.

INHUT:

Riley Nelson, John Bennion, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11631

11632 USA: UTAH: Kane Co., Coyote Gulch at Ruins Alcove and Black Lagoon, N 37.414716 W 111.021243 1174 m 06-May-2016 C. R. Nelson # 11632 & INHUT 90 Wypt 039ruins (check Google Earth) Photos: scenery, hanging gardens, lake in the side canyon. Tiki punch soda pop reunion with other half of group. Our half group was: Riley, John, Quinn, Teagan, Emma, Jacob, Joshua, Rachel, Sarah, Liz, and Bethany.

INHUT:

Riley Nelson, John Bennion, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. photos: hanging gardens. 11632

11633 USA: UTAH: Kane Co., Coyote Gulch at Coyote Bridge, N 37.416938 W 111.025547 1179 m 06-May-2016 C. R. Nelson # 11633 & INHUT 90 Wypt 040sarrachs1 Photos: scenery just 100 m downstream from bridge. Learning about transects and quadrats with Sarah Cheney and Rachel Slade. Also photos and videos of twisted ribbon narrows of Coyote Gulch before entering the Massive pillowed walls section of the canyon. Our half

group was: Riley, John, Quinn, Teagan, Emma , Jacob, Joshua, Rachel, Sarah, Liz, and Bethany.

INHUT:

Riley Nelson, John Bennion, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. photos: hanging gardens. 11633

11634 USA: UTAH: Kane Co., Coyote Gulch at Jacob Hamblin Arch alcove, N 37.418780 W 111.044014 1267 m 06-May-2016 07-May-2016 C. R. Nelson # 11634 & INHUT 90 Wypt 041hamblinarch Camped the night. Walked another 1.5 miles upstream in the evening. Photos: Big Dipper framed by alcove at 2:30am. Our half group was: Riley, John, Quinn, Teagan, Emma , Jacob, Joshua, Rachel, Sarah, Liz, and Bethany.

INHUT:

Riley Nelson, John Bennion, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11634

11635 USA: UTAH: Kane Co., Coyote Gulch at top of Moki Steps (Hamblin Arch area), and walk to 40 Mile Ridge Water Tank, N 37.419404 W 111.042148 1303 m 07-May-2016 C. R. Nelson # 11635 & INHUT 90 Wypt 042mokistepstop We hesitated ascending at the Moki steps because of early morning rain and planned to walk out to Hurricane Trailhead. This would have cost several extra hours and problems catching up with the other half of the group, but Quinn caught up with us and decided it was safe. So he worked us up the rope on the steps. No problems. Photos: ascending rope. Our half group was: Riley, John, Quinn, Teagan, Emma , Jacob, Joshua, Rachel, Sarah, Liz, and Bethany.

INHUT:

Riley Nelson, John Bennion, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. Photos: Tradescantia spiderwort, large Oenothera evening primrose. then at end of slickrock: Wypt 043endslickrockhopper N 37.406461 W 111.045395 elev. 1412m Raphidophoridae sand treaders (also took a close up of one I carried to Torrey). 11635

11636 USA: UTAH: Garfield Co. Escalante River area, Hwy 12, slickrock between radio tower and Hogsback N 37.748879 W 111.456353 1898 m 07-May-2016 C. R. Nelson # 11636 & INHUT 90 Google Earth (Hwy 12 east of radio tower) Photos on my camera by John Bennion while I drove. Deep hail accumulation! Break in weather for lunch and tour of Anasazi State Park at Boulder then snow crossing over Boulder Mountain. Laundry in Torrey until about 3:30pm then on to Capitol Reef Field Station.

INHUT:

Riley Nelson, John Bennion, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11636

11637 USA: UTAH: Wayne Co. Capitol Reef National Park, Capitol Reef Field Station, on lower Pleasant Creek, N 38.185339 W 111.178606 1817 m 07-May-2016 10-May-2016 C. R. Nelson # 11637 & INHUT 90 Wypt 047capreeffieldstat 7 May 2016: evening meal and orientation by UVU station manager Gena. 8 May 2016: photos: morning scenery, church in Torrey in morning then walk to petroglyphs with Gena and group in the late afternoon.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 9 May 2016, morning, osprey! 11637

11638 USA: UTAH: Wayne Co. Capitol Reef National Park, Pleasant Creek at base of field station, N 38.183683 W 111.176808 1797 m 09-May-2016 C. R. Nelson # 11638 & INHUT 90 Wypt 044pleasantcreekcapreef early morning contemplation. Water flowing clear and high

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. hummingbird 11638

11639 USA: UTAH: Wayne Co. Capitol Reef National Park, Cassidy Arch, top, N 38.261180 W 111.225739 1814 m 09-May-2016 C. R. Nelson # 11639 & INHUT 90 Wypt 046cassidytop photos: prepared for rappeling. Teagan Ellsworth hair got stuck in belay device part way down the first 150 foot rappel. Got her hair cut by Canadian visitors

rappeling to rescue her. Emma and I talked as we walked back down the trail. Cassidy Arch trailhead in Grand Wash, Wypt 045cassidytrailhead N 38.263819 W 111.215810 elev. 1670 m

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. white throated swifts, ravens, turkey vulture, canyon wren 11639

11640 USA: UTAH: Wayne Co. Capitol Reef National Park, Cohab Canyon, camground and trailhead top, N 38.281034 W 111.243980 1768 m 10-May-2016 C. R. Nelson # 11640 & INHUT 90 Wypt 048cohabtop photos: scenery

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. photos: Marmot babies at roadside; yellow rumped warblers 11640

11641 USA: UTAH: Wayne Co. Capitol Reef National Park, Cohab Canyon, second slot on right from Fruita side, N 38.281582 W 111.241467 1747 m 10-May-2016 C. R. Nelson # 11641 & INHUT 90 Wypt 048cohabslottalk photos: scenery; stopped and talked about wilderness.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. photos: canyon wren, raven. 11641

11642 USA: UTAH: Wayne Co. Capitol Reef National Park, Hickman Arch Trailhead, Fremont River, N 38.288659 W 111.227508 1623 m 10-May-2016 C. R. Nelson # 11642 & INHUT 90 Wypt 050hickmantrailhead photos: scenery; lunch on the Fremont River.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton,

Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. Later, after this stop, we saw pronghorns between Green River and Crescent Junction. 11642

11643 USA: UTAH: Grand Co. Canyonlands National Park, Mesa Arch, Island in the Sky area, N 38.388028 W 109.863629 1856 m 10-May-2016 C. R. Nelson # 11643 & INHUT 90 Wypt 051mesaarch photos: scenery.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. photos: Castilleja chromosa? with nice backgrounds. 11643

11644 USA: UTAH: Grand Co. Canyonlands National Park, Grandview Overlook, Island in the Sky area, N 38.310184 W 109.856600 1907 m 10-May-2016 C. R. Nelson # 11644 & INHUT 90 Wypt 052grandview photos: scenery.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11644

11645 USA: UTAH: Grand Co. Lone Mesa BLM campground, N 38.636639 W 109.804282 1636 m 10-May-2016 11-May-2016 C. R. Nelson # 11645 & INHUT 90 Wypt 05lonemesacamp Camp for night.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11645

11646 USA: UTAH: Grand Co. Colorado River, Hwy 279, Potash Boat Ramp, River Mile 0, N 38.505664 W 109.659347 1184 m 11-May-2016 C. R. Nelson # 11646 & INHUT 90 Put in for Cataract Canyon raft trip with guides from Worldwide River Expeditions: Andrew & Rachel Baum, Jed Hazlett, and Derek Salomonson

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11646

11647 USA: UTAH: San Juan Co. Colorado River, Cane Canyon, below Pyramid Butte, River Mile 4-6, N 38.442740 W 109.674699 1195 m 11-May-2016 C. R. Nelson # 11647 & INHUT 90 Wypt 055canecreek photos: scenery and people

Cataract Canyon raft trip with guides from Worldwide River Expeditions: Andrew & Rachel Baum, Jed Hazlett, and Derek Salomonson

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. canada geese, white faced ibis, red tail hawk, raven, white throated swift. 11647

11648 USA: UTAH: San Juan Co. Colorado River, ThelMax and Louise Cliff, River Mile 9, land access of dirt Potash Road, N 38.452565 W 109.729600 1177 m 11-May-2016 C. R. Nelson # 11648 & INHUT 90 Wypt 056thelMax louise photos: scenery and people. Cliff where ThelMax and Louise movie's final cliff scene was filmed.

Cataract Canyon raft trip with guides from Worldwide River Expeditions: Andrew & Rachel Baum, Jed Hazlett, and Derek Salomonson

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. cliff swallows 11648

11649 USA: UTAH: San Juan Co. Colorado River, petrified wood walk, Rico Formation, River Mile 10, N 38.443644 W 109.744409 1200 m 11-May-2016 C. R. Nelson # 11649 & INHUT 90 Wypt 057petrified rico Cataract Canyon raft trip with guides from Worldwide River Expeditions: Andrew & Rachel Baum, Jed Hazlett, and Derek Salomonson

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. Petrified wood in Rico Formation, seems like Moenkopi to me, but solid maroon, Andrew says it is Rico, and thus Pennsylvanian to Permian. Shown one log 21 meters long. Uta

stansburiana, Urosaurus ornatus, tiger? whiptail lizard. Also Marine fossils near petrified wood. 11649

11650 USA: UTAH: San Juan Co. Colorado River, view up to Deadhorse Point, River Mile 11, N 38.452163 W 109.750578 1181 m 11-May-2016 C. R. Nelson # 11650 & INHUT 90 Wypt 058deadhorse Photos: scenery.

Cataract Canyon raft trip with guides from Worldwide River Expeditions: Andrew & Rachel Baum, Jed Hazlett, and Derek Salomonson

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. photos: Sceloporus (eastern fence lizard?), white throated swifts, yellow warbler, Wilsons warbler, ?Vireo? nest in cliff (many photos) 11650

11651 USA: UTAH: San Juan Co. Colorado River, upstream from mouth Lathrop Canyon, River Mile 24, N 38.368494 W 109.767912 1183 m 11-May-2016 12-May-2016 C. R. Nelson # 11651 & INHUT 90 Wypt 059campone Photos: scenery and people. Walk after crossing river to west: ancestral pueblan granary, room, petroglyphs (circles and rainbow, three shamans). 12 May 2016: walk before sunrise to high spot downriver on rim. Up through a chimney near camp.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. Cataract Canyon raft trip with guides from Worldwide River Expeditions: Andrew & Rachel Baum, Jed Hazlett, and Derek Salomonson raven, violet green swallow, flycatcher, cowbird, vireo. 11651

11652 USA: UTAH: San Juan Co. Canyonlands National Park, Colorado River, Cataract Canyon, Indian Creek, River Mile 30.5 N 38.296165 W 109.786821 1200 m 12-May-2016 C. R. Nelson # 11652 & INHUT 90 Wypt 060indiancreek Walk to granaries then further to falls about 1.5 miles from river.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley

Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. Cataract Canyon raft trip with guides from Worldwide River Expeditions: Andrew & Rachel Baum, Jed Hazlett, and Derek Salomonson 11652

11653 USA: UTAH: San Juan Co. Canyonlands National Park, Colorado River, Cataract Canyon, Indian Creek Falls, River Mile 30.5 N 38.288464 W 109.777545 1185 m 12-May-2016 C. R. Nelson # 11653 & INHUT 90 Wypt 061indianfalls Photos: scenery. Walked to granaries near river then further to falls about 1.5 miles from river.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. Cataract Canyon raft trip with guides from Worldwide River Expeditions: Andrew & Rachel Baum, Jed Hazlett, and Derek Salomonson 11653

11654 USA: UTAH: San Juan Co. Canyonlands National Park, Colorado River, Cataract Canyon, The Loop, upstream of saddle, N 38.243699 W 109.817742 1195 m 12-May-2016 C. R. Nelson # 11654 & INHUT 90 Wypt 062loopup Photos: scenery.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. Cataract Canyon raft trip with guides from Worldwide River Expeditions: Andrew & Rachel Baum, Jed Hazlett, and Derek Salomonson photos: collared lizards 11654

11655 USA: UTAH: San Juan Co. Canyonlands National Park, Colorado River, Cataract Canyon, The Loop, at saddle, N 38.242229 W 109.811586 1328 m 12-May-2016 C. R. Nelson # 11655 & INHUT 90 Wypt 063looptop Photos: scenery and group shot at top.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

Cataract Canyon raft trip with guides from Worldwide River Expeditions: Andrew & Rachel Baum, Jed Hazlett, and Derek Salomonson 11655

11656 USA: UTAH: San Juan Co. Canyonlands National Park, Colorado River, Cataract Canyon, The Loop, downstream from saddle, N 38.241318 W 109.808801 1199 m 12-May-2016 C. R. Nelson # 11656 & INHUT 90 Wypt 064loopdown Photos: scenery.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

Cataract Canyon raft trip with guides from Worldwide River Expeditions: Andrew & Rachel Baum, Jed Hazlett, and Derek Salomonson collared lizard caught by Maya Rupard 11656

11657 USA: UTAH: San Juan Co. Canyonlands National Park, Colorado River, Cataract Canyon, confluence of Green River and Colorado River, N 38.189634 W 109.886187 1167 m 12-May-2016 C. R. Nelson # 11657 & INHUT 90 Wypt 065confluence Photos: scenery.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

Cataract Canyon raft trip with guides from Worldwide River Expeditions: Andrew & Rachel Baum, Jed Hazlett, and Derek Salomonson 11657

11658 USA: UTAH: San Juan Co. Canyonlands National Park, Colorado River, Cataract Canyon, NPS danger sign and campground sign in, N 38.169420 W 109.911686 1157 m 12-May-2016 C. R. Nelson # 11658 & INHUT 90 Wypt 066dangersign Photos: people.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

Cataract Canyon raft trip with guides from Worldwide River Expeditions: Andrew & Rachel Baum, Jed Hazlett, and Derek Salomonson 11658

11659 USA: UTAH: San Juan Co. Canyonlands National Park, Colorado River, Cataract Canyon, below confluence, Red Lake Canyon, N 38.154416 W 109.929086 1174 m 12-May-2016 13-May-2016 C. R. Nelson # 11659 & INHUT 90 Wypt 067redlake Hike with Andrew Baum looking for grafitti of Denis Julien 1836. Didn't find it. We searched all the big

boulders (many limestone) below high cliffs between beginning of Brown Betty Rapid and Red Lake Canyon. Hard work.

Photos: people.

another gps: Wypt 068redlake N 38.154614 W 109.929143 elev. 1154 m.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

Cataract Canyon raft trip with guides from Worldwide River Expeditions: Andrew & Rachel Baum, Jed Hazlett, and Derek Salomonson 11659

11660 USA: UTAH: Wayne Co. Canyonlands National Park, Colorado River, Cataract Canyon, The Doll House above Spanish Bottom, Colorado River Mile 213, N 38.158967 W 109.944661 1565 m 13-May-2016 C. R. Nelson # 11660 & INHUT 90 Google Earth Hiked up from Spanish Bottom. Also recorded this gps downstream, not sure why recorded it on this page: Wypt 069bowdiecanyon N 37.985444 W 110.154961 elev. 1137 m.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

Cataract Canyon raft trip with guides from Worldwide River Expeditions: Andrew & Rachel Baum, Jed Hazlett, and Derek Salomonson Much Stanleya, princes plume in many rocky sloped places during this entire trip.

Photos: crinoids of three sizes in limestone below Cedar Mountain Formation on walk to top. 11660

11661 USA: UTAH: San Juan Co. Canyonlands National Park, Colorado River, Cataract Canyon, Rapids section of trip, Rapids 1-29, N 38.148705 W 109.927207 1187 m 13-May-2016 C. R. Nelson # 11661 & INHUT 90 Google Earth Started rapids with Brown Betty and ended (using Google Earth) at last rapids, N 38.041554 W 110.065042 elev. 1133 m.

many photos of scenery and people with my two cameras.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton,

Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.
Cataract Canyon raft trip with guides from Worldwide River Expeditions: Andrew & Rachel Baum, Jed Hazlett, and Derek Salomonson 11661

11662 USA: UTAH: Garfield Co. Canyonlands National Park, Colorado River, Cataract Canyon, The Slab Campground below Bowdie Canyon, N 37.972267 W 110.163839 1104 m 13-May-2016 14-May-2016 C. R. Nelson # 11662 & INHUT 90 Wypt 070slab sandy beach, restful. Star shots 3:00am. This is the spot where Andrew proposed Max rriage to Rachel a few years back.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.
Cataract Canyon raft trip with guides from Worldwide River Expeditions: Andrew & Rachel Baum, Jed Hazlett, and Derek Salomonson canada goose, raven 11662

11663 USA: UTAH: Garfield Co. Canyonlands National Park, Colorado River, Cataract Canyon, between Slab Campground and Hite Boat Ramp, N 37.866258 W 110.279114 1114 m 14-May-2016 C. R. Nelson # 11663 & INHUT 90 Wypt 071sheepcreek photos: people and scenery; many gps readings:

Extent of Lake Powell:

Wypt 071sheepcreek (recorded above)
great blue heron, canyon wren, canada goose.

Wypt 072hitebridge

N 37.891390 W 110.369840 elev. 1110m.

Wypt 073dirtydevil

N 37.888283 W 110.389541 elev. 1094 m.

Wypt 074hiteramp

N 37.888100 W 400641 elev. 1118 m.

photos: loading boats, burnt battery.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley

Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

Cataract Canyon raft trip with guides from Worldwide River Expeditions: Andrew & Rachel Baum, Jed Hazlett, and Derek Salomonson tamarisk log to work into art back home; 11663

11664 USA: UTAH: San Juan Co. Monument Valley, Navajo Indian Reservation, N 36.98259 W 110.18190 1606 m 14-May-2016 C. R. Nelson # 11664 & INHUT 90 CRN10378

Descended Moki Dugway into Mexican Hat, gassed up and crossed into Monument Valley in Utah and Arizona.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

saw house sparrow in Mexican Hat. 11664

11665 USA: UTAH: San Juan Co. Sand Island Campground, San Juan River, near Bluff, N 37.262486 W 109.613380 1313 m 14-May-2016 15-May-2016 C. R. Nelson # 11665 & INHUT 90 Wypt 075sandislandbluff Photos: morning, north petroglyphs varied including "Mammoth". Andy Gulliford, editor of "Outdoors in the Southwest an adventure anthology" talked with us in the campground. Wilderness was Old Testament banishment and New Testament birth of Christianity. man is a visitor who does not remain. No rescue wilderness? debate among class member. Nature heals humans (E. O. Wilson, The Future of Life). Wilderness tithing: restoration, giving back. Colorado River Compact: 17.5 million acre feet allotted, the mean flow is actually 12 million acre feet. Use percentage. Personal responsibility for a particular place. I told him about Bill Jordan's "Sunflower Forest" and the change in environmentalism: colonization, sacred, community (and redefine beyond Leopold).

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

evening: white crowned sparrow, raven, spotted towhee, collared dove, canada goose.

morning: ring necked pheasant, yellow headed blackbird, black headed grosbeak. 11665

11666 USA: UTAH: San Juan Co. Newspaper Rock, Indian Creek, N 37.988078 W

109.518023 1867 m 15-May-2016 C. R. Nelson # 11666 & INHUT 90 Wypt

076newspaperrock Photos: petroglyphs.

Later used internet at LDS church at 701 Locust Lane, Moab, Utah. We tried to go to church in Bluff. No one at church, probably stake conference. many cars at church in Monticello.

Continued to Moab for singles ward. No one at the church there. . .

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

11666

11667 USA: UTAH: Grand Co. Colorado River, Hwy 128, Big Bend Campground, N

38.651632 W 109.478040 1239 m 15-May-2016 16-May-2016 C. R. Nelson # 11667 &

INHUT 90 Wypt 077bigbendcampup 15 May 2016: Camped up side canyon in organized group camp area. Set up camp ready for a big wind. It came and was dusty. Lectured on evolution during lulls.

16 May 2016: morning walk and photography by the river, clearing skies.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

morning: spotted towhee. 11667

11668 USA: UTAH: Grand Co. Arches National Park, Double Arch and Windows area, N

38.68758 W 109.53782 1568 m 16-May-2016 C. R. Nelson # 11668 & INHUT 90 CRN10278

164turret Photos: scenery and plants.

Assigned students to find 20 species of plants, name them and draw them. Good exercise to focus their looking.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

plants. See list in my black book field book. 11668

11669 USA: UTAH: Grand Co. Arches National Park, Delicate Arch and trail, N 38.743860 W 109.499049 1483 m 16-May-2016 C. R. Nelson # 11669 & INHUT 90 Google Earth Photos: scenery and people. Brian Cannon read from "Desert Solitaire" by Edward Abbey. Good response. At the end of the reading it began to rain and we walked back soaked. It was nice to see all the rivulets of water on the slickrock. It was impressive. I stopped briefly at the petroglyphs near the trailhead, the rain had stopped mostly by then.
Also: Arches Visitor Center, Wypt 079 archesvisitorcenter N 38.616179 W 109.620417 elev. 1254 m.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

photos: plants.

Delicate Arch had a patch of Princes plume (*Stanleya pinnata*) on top, our signature plant for this year. 11669

11670 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 16-May-2016 17-May-2016 C. R. Nelson # 11670 & J. K. Nelson & INHUT 90 Kaye Nelson and INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

Green River Shale fish fossils 11670

11671 USA: UTAH: Utah Co., Mount Timpanogos, Timp Lodge, Stewarts Creek N 40.389344 W 111.585987 1922 m 17-May-2016 20-May-2016 C. R. Nelson # 11671 & J. K. Nelson & INHUT & NAPS 2016 90 Wypt 080timplodge I hosted North American Plecoptera Symposium 2016 here with help from INHUT and others. The night of 19-20 May 2016 I stayed with INHUT in Anne Bennion's family cabin (Edwards and Clive families) in nearby Brickerhaven. This was a couple hundred yards upstream from Timp Lodge. I had time to collect here. The night of 20-21 May 2016 I stayed at home in Provo.

Kaye Nelson and INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

Others collected at Stewarts Falls. Jacob Johnson found interesting "trilobite"? fossil at the falls (might be an echinoderm). Also collected at Anne Bennion's Edwards/Clive family cabin in Brickerhaven on Stewarts Creek. I caught: Prostoia, Zapada, Paraleuctra, Mycetophilidae, and Hemerobiidae. 11671

11672 USA: UTAH: Utah Co., Diamond Fork River at Three Forks Trailhead, N 40.084563 W 111.355553 1669 m 18-May-2016 C. R. Nelson # 11672 & J. K. Nelson & INHUT & NAPS 2016 90 Wypt 081threeforks I hosted some from the North American Plecoptera Symposium 2016 here with help from INHUT and others.

IPresent: Charles H. Nelson, C. Riley Nelson, Jon Lee, Chris Verdone, Boris Kondratieff, Jane Earle, Kevin Alexander, Makani Fisher, Teagan Ellsworth, and Maya Rupard. Pteronarcella badia nymphs and adult. Isogenoides zionensis adults. Isoperla fulva, Elateridae. Gopher snakes? 11672

11673 USA: UTAH: Utah Co., Diamond Fork River at Diamond Campground, N 40.072353 W 111.428775 1585 m 18-May-2016 C. R. Nelson # 11673 & J. K. Nelson & INHUT & NAPS 2016 90 Wypt 082diamond I hosted some from the North American Plecoptera Symposium 2016 here with help from INHUT and others.

IPresent: Charles H. Nelson, C. Riley Nelson, Jon Lee, Chris Verdone, Boris Kondratieff, Jane Earle, Kevin Alexander, Makani Fisher, Teagan Ellsworth, and Maya Rupard. Amphizoidae adults and larvae to Boris Kondratieff, Pteronarcys californica nymphs, Dryopidae Helichus, Isogenoides zionensis nymphs, Drunella grandis. 11673

11674 USA: UTAH: Utah Co., Utah Lake, airport road, near north end of runway, N 40.230396 W 111.735365 1373 m 20-May-2016 C. R. Nelson # 11674 & INHUT 90 Wypt 083utahlake photos: scenery and people. Listened to Robert Carter tell of Provo history. INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. Birds with Maya Rupard: western tanager 1, canada goose 2, mallard ducks 10, western kingbird at nest in small cottonwood 5, red winged blackbird 20, yellow headed blackbird 50, killdeer 6, white faced ibis 30, snowy egret 5, cliff swallow 5, great blue heron 1, caspian tern 2, mourning dove 5, white pelican 5, double crested cormorant 1, western meadowlark 1, photos Bullocks oriole 2, california gull 1, yellow warbler 1, robin 1, mapie 1, ring necked pheasant 1, and brewers blackbird 2. 23 total species. 11674

11675 USA: UTAH: Utah Co., Provo River, Lakeshore Drive bridge, near airport, N 40.239751 W 111.711894 1374 m 20-May-2016 C. R. Nelson # 11675 & INHUT 90 Wypt

084airportbridge photos: scenery and people. Listened to Robert Carter tell of Provo history.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

photos: june/utah suckers spawning west of bridge. starling, chorus frog, yellow warbler
11675

11676 USA: UTAH: Utah Co., Provo River, Fort Utah monument near Paul Ream Park, N 40.23983 W 111.68829 1379 m 20-May-2016 C. R. Nelson # 11676 & INHUT 90 CRN8895
photos: scenery and people. Listened to Robert Carter tell of Provo history, especially Fort Utah.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. barn swallow 11676

11677 USA: UTAH: Utah Co., Provo River, Provo, near State Street bridge, Macey's store parking lot, N 40.25323 W 111.66797 1403 m 20-May-2016 C. R. Nelson # 11677 & INHUT 90 CRN8896 352 Max CEYS Listened to Robert Carter tell of Provo history, especially Fort Utah. Especially the battle of Provo River and Big Elk, Squaw Peak, West Mountain head cutting.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11677

11678 USA: UTAH: Utah Co., Provo River, Provo, North Park, 500 West 500 North, Pioneer Village, N 40.242067 W 111.667010 1393 m 20-May-2016 C. R. Nelson # 11678 & INHUT 90 Google Earth Listened to Robert Carter tell of Provo history, especially Fort Provo. Toured cabins, especially Turner and Loveless cabins.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney,

Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11678

11679 USA: UTAH: Utah Co., Provo River, Provo, 2230 North Bridge, Riverside Park BYU, N 40.264906 W 111.663631 1400 m 20-May-2016 C. R. Nelson # 11679 & INHUT 90 CRN11526 Lunch

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11679

11680 USA: UTAH: Utah Co., Provo River, Hwy 189, between Deer Creek Dam and Vivian Park, N 40.35575 W 111.57341 1587 m 20-May-2016 C. R. Nelson # 11680 & INHUT 90 CRN10253 at takeout Floated river in inflatable kayaks, shared with Katie Fitzgerald.

Started at:

CRN10252 N 40.40102 W 111.53117 elev. 1622 m.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. yellow warblers 25, mallard ducks 10, violet green swallows 10, rough winged swallows 10, barn swallows 5, dipper 3, great blue heron 1, muskrat 1, beaver lodges 3, sparrows streaked 2. 11680

11681 USA: UTAH: Utah Co., Fairfield, Camp Floyd, N 40.260494 W 112.092774 1486 m 21-May-2016 C. R. Nelson # 11681 & INHUT 91 Wypt 085campfloyd Photos: 1898 public school.

Noticed day in Nikon D610 camera is off by one day. It reads as 20 May for this locality in the camera. Wrong. This book is correct, as to date. I corrected the date problem on the camera on 11 June 2016 in the morning Need to remember this in the picture databasing efforts.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney,

Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. pine siskin, brewers blackbird, robin, red tailed hawks, 11681

11682 USA: UTAH: Tooele Co. Bennion Creek, south end of Rush Valley, Bennion Memorial, N 39.982558 W 112.430057 1939 m 21-May-2016 C. R. Nelson # 11682 & INHUT 91 Wypt 086bennionmemorial Photos: John Bennion speaking of sister wives (Esther Birch (Ann) and Mary Turpin) surviving early years. Chaining, land improvement.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. death camas *Zigadenus* or near, more lower in the sagebrush less at higher elevations. 11682

11683 USA: UTAH: Tooele Co. Sheeprock Mountains, Bennion Creek at mine camp N 39.953058 W 112.446076 2136 m 21-May-2016 23-May-2016 C. R. Nelson # 11683 & INHUT 91 Wypt 087bennionminehollow Same camp as INHUT 2012 and other INHUTs. Teagan and Maya sampled creek.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. blooming plants: lupine, *Hydrophyllum*, dandelion, serviceberry. green tailed towhee 2, yellow warbler 3, great blue heron 1

Morning: yellow warbler 15, robin 5, song sparrow 3, green tailed towhee 10, spotted towhee 1, solitary vireo 2, kestrel 1, broad tailed hummingbird 4, golden eagle 1, mourning dove 1, western tanager 1, chukar 5.. 11683

11684 USA: UTAH: Tooele Co. Vernon, church, N 39.953058 W 112.446076 2136 m 22-May-2016 C. R. Nelson # 11684 & INHUT 91 Wypt 088vernon Same camp as INHUT 2012 and other INHUTs. Teagan and Maya sampled creek.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

collared dove 10, house finch 20, meadowlark 2, killdeer 1, american goldfinch 1 male.
11684

11685 USA: UTAH: Tooele Co. Sheeprock Mountains, Bennion Canyon mouth, north ridge, N 39.955340 W 112.446486 2172 m 23-May-2016 C. R. Nelson # 11685 & INHUT 91 Wypt 089bennionridge sunrise walk alone. photos: scenery view to Mount Timpanogos and other peaks.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11685

11686 USA: UTAH: Tooele Co. Sheeprock Mountains, Dutch Peak, Bennion Canyon trail up, N 39.952735 W 112.470928 2449 m 23-May-2016 C. R. Nelson # 11686 & INHUT 91 Wypt 093dutch4 Seven sites spaced about 100m elevation between Bennion Camp (11685) and top of Dutch Peak. Used site 4 as the generalized gps. Students took about 5 plots of 2 x 2 m each for plant species richness and dominant cover.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

Wypt 090dutch1 - camp: N 39.953006 W 112.446198 elev. 2139

Wypt 091dutch 2: N 39.948460 W 112.458581 elev. 2238m

Wypt 092dutch 3: N 39.950077 W 112.467715 elev. 2338m

Wypt 093dutch 4: N 39.952735 W 112.470928 elev. 2449m

Wypt 095dutch 5 high: N 39.954039 W 112.475791 elev. 2589m

Wypt 096dutch 6: N 39.954551 W 112.478687 elev. 2658m

Wypt 097dutch 7 - summit: N 39.955169 W 112.480540 elev. 2726m. Tops no more elevation: 9186 ft. 7 is the summit. 11686

11687 USA: UTAH: Tooele Co. Sheeprock Mountains, Dutch Peak, bench above Bennion Canyon, N 39.952202 W 112.472687 2523 m 23-May-2016 C. R. Nelson # 11687 & INHUT 91 094castillejaridge

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney,

Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. sprigs of Castilleja chromosa given to all in the group to celebrate the birth of Leah Valentine Smith to Amy Leah Nelson Smith. I heard of the birth here, when I got in mobile phone range. Amy and baby are safe and healthy. Leah's name came days later. 9 pounds 2 ounces. 21.5 inches tall, Wolfgang was 21. 10:37am. 11687

11688 USA: UTAH: Tooele Co. Sheeprock Mountains, Dutch Peak, summit, N 39.955169 W 112.480540 2726 m 23-May-2016 C. R. Nelson # 11688 & INHUT 91 097dutch7 Photos: summit panoramas and group shot.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. small PachystiMax right on top, next to the Opuntia cactus. 11688

11689 USA: UTAH: Tooele Co. Sheeprock Mountains, first slope down from Dutch Peak, descent to Harker Canyon, N 39.957457 W 112.480230 2669 m 23-May-2016 C. R.

Nelson # 11689 & INHUT 91 098dutchdownhorned INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. photos: horned lizard 11689

11690 USA: UTAH: Tooele Co. Sheeprock Mountains, saddle below Dutch Peak on Harker Canyon descent, N 39.957886 W 112.479889 2649 m 23-May-2016 C. R. Nelson # 11690 & INHUT 91 099dutchsaddlechemtalk Brian Cannon gave a lecture about environment chemicals and such. The lecture was based on "Canaries on the Rim" and the dumping grounds of chemicals.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. photos: horned lizard 11690

11691 USA: UTAH: Tooele Co. Sheeprock Mountains, descent to Harker Canyon, steep slope, N 39.960624 W 112.480408 2595 m 23-May-2016 C. R. Nelson # 11691 & INHUT

91 Wypt 100oddredplant INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.
photos: odd plant, Scroph? (No, avens, Geum triflorum, old mans whisters, det. R. Johnson 2016) 11691

11692 USA: UTAH: Tooele Co. Sheeprock Mountains, route down from Dutch Peak, to Harker Canyon, bench, N 39.975316 W 112.481828 2145 m 23-May-2016 C. R. Nelson # 11692 & INHUT 91 Wypt 101harkerbench INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.
photos: lupines, Lupinus on Harker Bench trail, 11692

11693 USA: UTAH: Tooele Co. Sheeprock Mountains, ridge off Dutch Peak jct Harker Canyon, route down, N 39.977377 W 112.481462 2116 m 23-May-2016 C. R. Nelson # 11693 & INHUT 91 Wypt 103harkerpetroglyph Fremont indian petroglyph, seen with John Bennion. on horizontal rock, new to John Bennion.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11693

11694 USA: UTAH: Tooele Co. Lookout Pass Dog Cemetery, N 40.118595 W 112.577616 1792 m 23-May-2016 C. R. Nelson # 11694 & INHUT 91 Wypt 104lookoutdogcemetery
photos: John Bennion telling story of dogs and doctors.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11694

11695 USA: UTAH: Tooele Co. Skull Valley, Iosepa, N 40.542085 W 112.733204 1369 m 23-May-2016 24-May-2016 C. R. Nelson # 11695 & INHUT 91 Wypt 105iosepa photos: talked with Cory Hoopiaina, Kanaka Lake, lone juniper dying (a sign similar to the loss of people from Iosepa.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11695

11696 USA: UTAH: Tooele Co. Stansbury Park, Ezra T. Benson grist mill, N 40.651514 W 112.297185 1282 m 24-May-2016 C. R. Nelson # 11696 & INHUT 91 Wypt 106bensonmill Tour pioneer grain elevators and mill.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11696

11697 USA: UTAH: Salt Lake Co. Salt Lake City, Natural History Museum of Utah, N 40.76227 W 111.82377 1507 m 24-May-2016 C. R. Nelson # 11697 & INHUT 91 CRN11332, Wypt 467museum Photos: genome on mannaquin

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11697

11698 USA: UTAH: Salt Lake Co. Salt Lake City, Emigration Canyon, David & Rebecca Bennion home, N 40.788136 W 111.742780 1842 m 24-May-2016 25-May-2016 C. R. Nelson # 11698 & INHUT 91 Wypt 107bennionsemigration INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. photos: out of sequence shots of Cyrtopogon robber fly from Bennion Canyon CRN11686 11698

11699 USA: UTAH: Salt Lake Co. Salt Lake City, mouth Emigration Canyon, This is the Place Monument, N 40.752399 W 111.816147 1503 m 25-May-2016 C. R. Nelson # 11699 & INHUT 91 Toured Brigham Young's Forest Farm house, moved from Sugarhouse. INHUT: Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney,

Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11699

11700 USA: UTAH: Salt Lake Co. Salt Lake City, Temple Square, N 40.769861 W

111.892910 1318 m 25-May-2016 C. R. Nelson # 11700 & INHUT 91 Photos: Seagull Monument, some exhibits in Church History Museum. Knotty walking stick and John Taylor's watch from Carthage. Hahn's Mill faceplate of mill. Hyrum Smith's death mask.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11700

11701 USA: UTAH: Davis Co. Antelope Island State Park, Buffalo Point, N 41.03299 W

112.26408 1464 m 25-May-2016 C. R. Nelson # 11701 & INHUT 91 Photos: people and sunset, scenery. Magic moments!

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11701

11702 USA: UTAH: Davis Co. Antelope Island State Park, Whiterock Bay, N 41.030310 W

112.250524 1295 m 25-May-2016 27 Max y 2016 C. R. Nelson # 11702 91 Wypt

110whiterock 25 Max y 2016: evening walk to the edge. 26 Max y 2:30 am star time lapse.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

loggerhead shrike 5, red winged blackbird 12, western meadowlark 15, long billed curlew 10, photos: willet & egg & on top of greasewood 4, California gull 50, American white pelican 25, chipping sparrow? rusty hat plain breast 1, brownheaded cowbird 5, yellow headed blackbird 1, barn swallow 3, northern harrier 1, black billed magpie 7, horned lark 15. Photos: pronghorn.

25 Max y 2016 Bison walking through camp rubbing shelter near tents in the middle of the night. Terror. 11702

11703 USA: UTAH: Davis Co. Antelope Island State Park, Visitor Center, N 41.056594 W 112.241463 1329 m 26-May-2016 C. R. Nelson # 11703 91 CRN11264 INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. white crowned sparrow, raven, barn swallow, rock wren, meadowlark, lark sparrow. Burrowing owl on campground turnoff, coyotes on road to Garr Ranch. 11703

11704 USA: UTAH: Davis Co. Antelope Island State Park, Garr Ranch, N 40.925420 W 112.167987 1296 m 26-May-2016 C. R. Nelson # 11704 91 Wypt 111garr ranch INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. Great horned owl, adult and 2-3 chicks, robin 3, song sparrow, yellow headed blackbird, meadowlark. bison. 11704

11705 USA: UTAH: Box Elder Co. Bear River, Corinne boat ramp float to first take out on Bird Refuge Road, (use Woods Creek as the middle for the gps), N 41.507819 W 112.139731 1264 m 27-May-2016 C. R. Nelson # 11705 91 Wypt 116woodscreek (jct Bear River) INHUT:

Riley Nelson, John Bennion, Brian Cannon (& family: Annalee, Jared, and Joseph), Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

Wypt 112bear30 (30 minutes downstream) N 41.530496 W 112.101110 elev 1274 m; Wypt 113 small channel below reeder N 41.523787 W 120529 elev. 1277 m (same channel as small stream near Woods Creek gate on farm?); Wypt 114straighton N 41.509802 W 112.121160 elev. 1279 m; Wypt 115outforfarm N 41.508521 W 112.130157 elev 1275 m; Wypt 117 bear out (takeout point) N 41.481648 W 112.145929 elev. 1277 m. Russian olives, willows, and tamarisks thick close to Corinne town, then thin out downstream. collared dove, mourning dove, starling, house sparrow, robin, California gull, yellow warbler, black headed grosbeak, Bullocks oriole, great blue heron, black crowned night heron, cliff swallow, barn swallow, eastern kingbird, western kingbird, white faced ibis, northern harrier, red tailed hawk, red winged blackbird, yellowheaded blackbird, brown headed cowbird, American white pelican, snowy egret, least sandpiper, raven, Canada goose, cinnamon teal, mallard, gadwall, marsh wren. 11705

11706 USA: UTAH: Box Elder Co. Bear River Migratory Bird Refuge, 15 miles west of Brigham City, auto tour start, N 41.480140 W 112.268228 1283 m 27-May-2016 C. R. Nelson # 11706 91 CRN10193 With Andrea Nelson too.

INHUT:

Riley Nelson, John Bennion, Brian Cannon (& family: Annalee, Jared, and Joseph), Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

Wypt 112bear30 (30 minutes downstream) N 41.530496 W 112.101110 elev 1274 m; Wypt 113 channel below reeder N 41.523787 W 120529 elev. 1277 m (same channel as stream near Woods Creek gate on farm?); Wypt 114straighton N 41.509802 W 112.121160 elev. 1279 m; Wypt 115outforfarm N 41.508521 W 112.130157 elev 1275 m; Wypt 117 bear out (takeout point) N 41.481648 W 112.145929 elev. 1277 m. Long list of birds by group. Get it from Maya Rupard. 11706

11707 USA: UTAH: Box Elder Co. Woods Creek Duck Club, 2 miles south of Corinne, N 41.517078 W 112.139981 1271 m 27-May-2016 28-May-2016 C. R. Nelson # 11707 91 Wypt 118farmfrontporch INHUT:

Riley Nelson, John Bennion, Brian Cannon (& family: Annalee, Jared, and Joseph), Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth.

Later ate at Maddox in Perry, Utah. frigs, chorus frogs and leopard frogs. California gull, Forsters tern, white faced ibis, avocet, coot, cinnamon teal, gadwall, shoveler, canada geese, sandhill cranes, yellow headed blackbird, red winged blackbird, marsh wren, white pelican, harrier, brown headed cowbird, meadowlark, rail?, black necked stilt, killdeer, mallard duck, black crowned night heron, ring necked pheasant, great egret, Caspian tern, willet, curlew, kestrel, starling. 11707

11708 USA: UTAH: Box Elder Co. Honeyville, Crystal Springs, N 41.657417 W 112.090212 1303 m 28-May-2016 29-May-2016 C. R. Nelson # 11708 91 Wypt 119crystalsprings swim, soak, slide, and shower.
morning photos of ponds and mountains.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya

Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. pelicans
11708

11709 USA: UTAH: Box Elder Co. Brigham City, 3rd/15th Ward, LDS Church building, N 41.51515 W 112.01924 1334 m 29-May-2016 C. R. Nelson # 11709 91 CRN8921 church and friends.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11709

11710 USA: UTAH: Box Elder Co. Brigham City, Thompson - Hansen Pioneer home, 121? North Main Street, N 41.513375 W 112.015520 1319 m 29-May-2016 C. R. Nelson # 11710 91 Wypt 120hansenhomes Photos: people listening to Brian Quayle Cannon's polygamy lecture.

With Leonard Hawkes.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11710

11711 USA: UTAH: Box Elder Co. Brigham City, tabernacle, N 41.50541 W 112.01493 1360 m 29-May-2016 C. R. Nelson # 11711 91 CRN9488 Douglas Willoughby tour guide, husband of Georgia Ann Hunsaker, son in law of Betty and Willie Hunsaker.

With Leonard Hawkes.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11711

11712 USA: UTAH: Box Elder Co. Brigham City, Nelson home, 211 North 300 West, N 41.515311 W 112.020877 1335 m 29-May-2016 C. R. Nelson # 11712 91 Google Earth Lunch in yard with Rick and Lana Nelson. My brother.

With Leonard Hawkes.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist,

Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11712

11713 USA: UTAH: Box Elder Co. Little Mountain, Scout Point, west of Corinne, N 41.586033 W 112.251426 1474 m 29-May-2016 30-May-2016 C. R. Nelson # 11713 91 Wypt 122scoutpointcamp Photos: With Delose and Janice Conner, Leonard Hawkes, people and scenery.

Storytelling at Scout Point: Riley: Winston's "Moose shit pie"; Leonard: Vern Spencer's "The Orange Triangle"; Delose: "The Little Green Man."

30 May 2016: fossils, horn coral, crinoids, brachiopod, Fenestrella.

Also point near storytelling:

Wypt 121 scoutpointfireside N 41.584380 W 112.252239 elev. 1449m, near fossil site.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11713

11714 USA: UTAH: Box Elder Co. Golden Spike National Historic Site, Promontory Summit, N 41.617894 W 112.551536 1490 m 30-May-2016 C. R. Nelson # 11714 91 Wypt 123goldenspike photos: people at reenactment of the driving of the Golden Spike.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11714

11715 USA: UTAH: Box Elder Co. Great Salt Lake, Spiral Jetty near Rozell Point, N 41.438254 W 112.666207 1280 m 30-May-2016 C. R. Nelson # 11715 91 Wypt 124spiraljetty photos: people shore, parking lot, pink lake, foam, salt as sand, Liz Peterson (nice conversation), Anne Bennion.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11715

11716 USA: UTAH: Box Elder Co. Mantua, Box Elder Campground, westside of Mantua, N 41.492533 W 111.949054 1585 m 30-May-2016 31-May-2016 C. R. Nelson # 11716 91

Wypt 125boxeldercamp big red poppies flowering on road between campground and Mantua Cemetery.

Sick stomach in the morning.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11716

11717 USA: UTAH: Box Elder Co. Mantua, cemetery, N 41.497628 W 111.950878 1586 m 30-May-2016 C. R. Nelson # 11717 91 Google Earth Visited graves with John Bennion. Graves of Ole P. Nielsen, Ole P. & Elvina Halling Nelson, Grant and Jean Nelson, decorated with mules ear, Wyethia and sagebrush. Lars J. Halling with wives Marie and Marie.

INHUT, back at camp:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11717

11718 USA: UTAH: Box Elder Co. Brigham City, cemetery, N 41.502115 W 112.007934 1378 m 30-May-2016 C. R. Nelson # 11718 91 Google Earth, Nelson grave Visited graves alone. Graves of parents Winston P. and Aileen DouL Larsen Nelson, decorated with purple iris, Wyethia, and sagebrush. Someone (probably Delose Conner family) had decorated with pine cones. Also graves of Peter and Annie Petersen, Einar and Beatric Larsen, Rosa Larsen, Anna Christina and Jens Peter Larsen.

INHUT, back at camp:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11718

11719 USA: IDAHO: Bannock Co. Red Rock Pass, Hwy 91, N 42.354275 W 112.049388 1463 m 31-May-2016 C. R. Nelson # 11719 91 Wypt 126redrockpass Talked about draining of Lake Bonneville. Photos: people and scenery.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya

Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11719

11720 USA: IDAHO: Franklin Co. Bear River Massacre Monuments, lower signs on highway N 42.14082 W 111.91129 1463 m 31-May-2016 C. R. Nelson # 11720 91 CRN8482

Lecture on Bear River Massacre by Brian Cannon.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11720

11721 USA: IDAHO: Franklin Co. Bear River Massacre Monuments, high bluff overlook, Hwy 91, N 42.152591 W 111.907293 1427 m 31-May-2016 C. R. Nelson # 11721 91 Wypt 127bearrivermassacreupland Photos: people reading signs, written more from the indian perspective.

INHUT: only half of group.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11721

11722 USA: IDAHO: Franklin Co. Bear River, Oneida Narrows, Redpoint Campground, N 42.234358 W 111.759591 1432 m 31-May-2016 02-Jun-2016 C. R. Nelson # 11722 91 Wypt 128oneidanarrowsredpoint Morning: 1 June 2016: talked with Mitch Wade of Brigham City. He married into the Velasquez family and we talked of Larry, Diana, Laurie, Layne, Archie, Jerry, and Vernon and more.

Afternoon: 1 June 2016: Detailed first 100 study: 11 taxa from 17 samples. black fly larvae 15%, New Zealand mudsnail 16%, midge 16%, Baetidae 43%, flatworm 4%, Lymnaea snail 0.05%, water mite 2%, Oligochaeta 2%, Leech 2%, Daphnia 0.05%, Dytiscid larvae 0.05%, caddisfly 0.05%.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. American goldfinch, yellow warbler, Canada goose, white pelican, raven, sparrow, Brewers blackbird,

robin, lazuli bunting, mallard duck, crow, cedar waxwing, song sparrow. 2 June 2016: ring necked pheasant, photos of morning mists. 11722

11723 USA: IDAHO: Franklin Co. Bear River, Oneida Narrows, near top end of reservoir, sidehill, N 42.321186 W 111.713191 1532 m 01-Jun-2016 C. R. Nelson # 11723 91 Wypt 130trilobites Hunting trilobites with small group: C. R. Nelson, Jacob Johnson, Quinn Linford, Maya Rupard, and Max Barnes.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. trilobite fossils 11723

11724 USA: IDAHO: Bear Lake Co. Spence Gulch, 3 air miles west of Liberty, Danish Flat Road, N 42.303349 W 111.509342 2075 m 02-Jun-2016 C. R. Nelson # 11724 91 Wypt 132spencegulchfossils Hunting trilobites with whole group, led by Val and Jo Anderson Gunther. Photos: scenery and people, fossils. Type locality of Spence Formation, named for Bishop Spence of Liberty by Charles Walcott of the Smithsonian in early 1900s. Rediscovered by Lloyd and Val Gunther in 1960s or 1970s.

From Google Earth: south on Church Road 1.3 miles, west on winding road to Danish Flats, north 0.9 miles on Flats road, outcrop in gulch about 200 m or so of walking.

More instructions: turn off highway 36 toward mountain at the Liberty church and snake for 5-6 miles to get to Danish Flats; continue on middle road for a couple miles, turn on trail (no landmark) in sometimes wet canyon, go down canyon until a small shale bluff is on the left: quarry out the fossils.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. trilobite and Hyolitha fossils 11724

11725 USA: IDAHO: Bear Lake Co. St. Charles Creek, St. Charles Campground, N 42.113343 W 111.446400 1871 m 02-Jun-2016 03-Jun-2016 C. R. Nelson # 11725 91 Wypt 134st.charlescampa Maya Rupard and Teagan Ellsworth collected two First 100 samples and I helped identify the rich species. Ashley Lindquist finally found a way to

explore for her Nature Experience.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. morning: yellow warbler, black capped chickadee, MacGillivrays warbler. 11725

11726 USA: IDAHO: Bear Lake Co. Minnetonka Cave, west of St. Charles, N 42.088237 W 111.519576 2322 m 02-Jun-2016 C. R. Nelson # 11726 91 Wypt

133minnetonkacaveentrance photos: people, cave formations.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11726

11727 USA: IDAHO: Bear Lake Co. Bear Lake, North Beach State Park, N 42.117574 W 111.296354 1812 m 03-Jun-2016 C. R. Nelson # 11727 91 Wypt 135bearlakenorthbeach

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. white pelican, double crested cormorant, western grebe, Brewers blackbird, Caspian terns, California gulls, killdeer, osprey, brown headed cowbird, barn swallows, cliff swallows. 11727

11728 USA: UTAH: Rich Co. Garden City, Lebeau's Drive In. N 41.947579 W 111.393748 1810 m 03-Jun-2016 C. R. Nelson # 11728 91 Wypt 136lebeaus Raspberry milkshakes

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11728

11729 USA: UTAH: Rich Co. Bear Lake summit, Hwy 89, Old Limber Pine Nature Trail, N 41.919572 W 111.474678 2408 m 03-Jun-2016 C. R. Nelson # 11729 91 Wypt

138oldlimberpine Brian Cannon talked about Old Ephraim folklore while overlooking the Sinks, Wypt 137abovesinks N 41.923288 W 111.475128 elev. 2403m. Peter Sinks

information: record low temperature -69.3 F (-56 C) on 1 February 1985. While I was living in Provo. Photos: people.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11729

11730 USA: UTAH: Cache Co. Logan Canyon, Hwy 89, Ricks Spring, N 41.840067 W 111.588624 1798 m 03-Jun-2016 C. R. Nelson # 11730 91 photos: Meagan Ricks, her ancestor found the spring.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11730

11731 USA: UTAH: Cache Co. Logan Canyon, Hwy 89, Third Dam, Springhollow group campsite, N 41.751265 W 111.717167 1556 m 03-Jun-2016 04-Jun-2016 C. R. Nelson # 11731 91 Wypt 140springhollow Camped around big cement slab up side canyon.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. Perlomyia? 11731

11732 USA: UTAH: Cache Co. Wellsville, American West Heritage Center, 4025 South Highway 89, N 41.660788 W 111.900841 1368 m 04-Jun-2016 C. R. Nelson # 11732 91 Wypt 141historicalfarm Photos: scenery, animals, people.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Meagan Ricks, Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. Bullocks oriole, sandhill cranes, white faced ibis, house sparrow, starling, golden eagle, swainsons hawk, red naped sapsucker, brown headed cowbird, peacock, chicken, yellow warbler, turkey vulture, mallard duck, collared dove, More? Ask Anne Bennion, she was keeping a list. 11732

11733 USA: UTAH: Box Elder Co. Brigham City, Peach City Drive In, N 41.516769 W 112.015694 1333 m 04-Jun-2016 C. R. Nelson # 11733 91 Wypt 142bess (at "Bess Tesoro gas station) Photos: people eating ice cream, Walt Mann Specials.

INHUT:

Riley Nelson, John Bennion, Brian Cannon (& family: Annalee, Jared, and Joseph), Quinn Linford, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. Meagan Ricks with us since Greenjacket! 11733

11734 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 09-Jun-2016 10-Jun-2016 C. R. Nelson # 11734 & J. K. Nelson 91 stayed over night. Moved sheep carcass out of spring canyon between the two irrigation dams. It was dry and easy, no maggots. 11734

11735 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 10-Jun-2016 C. R. Nelson # 11735 91 Tahitian Chicken feast, chicken, taro, paere (wahoo) fish raw and broiled, parrotfish (both fishes from the asian market on Center Street in Provo), ufi (yam), umara (white sweet potato), macaroni salad, fruit salad, mangos, many soft drinks and juices, rice, cookies, lettuce salad, banana po'e. Sang "Te manu Pukarua, e rua puka manu".

INHUT, partial: Riley Nelson, Kaye Nelson, Anne Bennion, Teagan Ellsworth, Maya Rupard, John Bennion, Karla Bennion, Brinnley Ashton, Ashley Lundquist, Megan Clarine, Meagan Ricks, Jacob Johnson, Max Barnes, Dino Lauricella, Liz Peterson, Emma Houghton, Jane Smith, Bethany Allen, Rachel Slade, Katie Fitzgerald, and Sarah Cheney. 21 total. 11735

11736 USA: UTAH: Utah Co., Squaw Peak Road, overlook, N 40.302206 W 111.625195 2023 m 12-Jun-2016 C. R. Nelson # 11736 91 Google Earth photos: scenery. Kaye and Riley on 36th Wedding Anniversary. We ate a 13" blue colored parrotfish with taro, sweet potatoes, and strawberries. Leftovers from CRN11735. I salted and dried its head and scales as demonstration specimens. The coral eating teeth of this fish impress me. We enjoyed the sunset together again after 36 years. Saw Coluber constrictor mormon, a blue racer snake also called mormon racer. 11736

11737 USA: UTAH: Emery Co. San Rafael Swell, Little Grand Canyon of the San Rafael River, Wedge Overlook, N 39.093027 W 110.758851 1908 m 13-Jun-2016 C. R. Nelson # 11737 91 Wypt 145wedge Photos: scenery in the rain. We also stopped and ate lunch at Fuller Bottom Trailhead on the San Rafael River. It was raining and the water too high to comfortably walk so we changed plans to walk in through the bottom from the San Rafael

River Bridge.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Quinn Linford, Meagan Ricks, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11737

11738 USA: UTAH: Emery Co. San Rafael Swell, Little Grand Canyon of the San Rafael River, Little Grand Canyon overlook, N 39.095514 W 110.749032 1915 m 13-Jun-2016 C. R.

Nelson # 11738 91 Wypt 146littlegrandoverlook Photos: scenery.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Quinn Linford, Meagan Ricks, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11738

11739 USA: UTAH: Emery Co. San Rafael Swell, Buckhorn Wash area, dinosaur track, N 39.160562 W 110.729149 1669 m 13-Jun-2016 C. R. Nelson # 11739 91 Wypt

147dinosaurtrack Photos: ?

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Quinn Linford, Meagan Ricks, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11739

11740 USA: UTAH: Emery Co. San Rafael Swell, Buckhorn Wash pictographs, N 39.123392 W 110.694403 1651 m 13-Jun-2016 C. R. Nelson # 11740 91 Wypt 148buckhornrockart

Photos: pictographs

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Quinn Linford, Meagan Ricks, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11740

11741 USA: UTAH: Emery Co. San Rafael Swell, Little Grand Canyon of the San Rafael River, San Rafael River bridge, N 39.081063 W 110.666240 1541 m 13-Jun-2016 15-Jun-2016 C.

R. Nelson # 11741 91 Wypt 162sanrafaelbridge 15 June Photos: scenery. Trailhead to walk up river: Wypt 149sanrafaelriverbridgetrailhead N 39.077746 W 110.685432 elev. 1549 m.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Quinn Linford, Meagan Ricks, Ashley

Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11741

11742 USA: UTAH: Emery Co. San Rafael Swell, Little Grand Canyon of the San Rafael River, Cane Wash camp near mouth, N 39.092280 W 110.731499 1571 m 13-Jun-2016 15-Jun-2016 C. R. Nelson # 11742 91 Wypt 160canecamp Photos: scenery.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Quinn Linford, Meagan Ricks, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11742

11743 USA: UTAH: Emery Co. San Rafael Swell, Little Grand Canyon of the San Rafael River, Cane Wash trail up to saddle on long ridge, N 39.092280 W 110.731499 1647 m 14-Jun-2016 C. R. Nelson # 11743 91 Wypt 151canesaddle Photos: scenery. Two trips: early morning alone and later with whole group.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Quinn Linford, Meagan Ricks, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11743

11744 USA: UTAH: Emery Co. San Rafael Swell, Little Grand Canyon of the San Rafael River, Cane Wash ridge, north of saddle and wash, slab camp in Wingate Sandstone, N 39.091399 W 110.736785 1635 m 14-Jun-2016 C. R. Nelson # 11744 91 Wypt 152slabcavecamp Photos: scenery. Two trips: early morning alone and later with whole group. Campsite under a big wedges of sandstone.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Quinn Linford, Meagan Ricks, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11744

11745 USA: UTAH: Emery Co. San Rafael Swell, Little Grand Canyon of the San Rafael River, Cane Wash ridge, point of Wingate Sandstone, north side, N 39.092491 W 110.737151 1540 m 14-Jun-2016 C. R. Nelson # 11745 91 Wypt 150saddlepoint Photos: scenery. early morning alone, drew, painted, and wrote.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Quinn Linford, Meagan Ricks, Ashley

Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11745

11746 USA: UTAH: Emery Co. San Rafael Swell, Little Grand Canyon of the San Rafael River, "Sentinel Rock" above valley northwest of Cane Wash, N 39.093958 W 110.738884 1630 m 14-Jun-2016 C. R. Nelson # 11746 91 Wypt 153sentinelrock Photos: scenery. I informally named and painted this prominence in the first valley northwest of Cane Wash. See more notes CRN11748.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Quinn Linford, Meagan Ricks, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11746

11747 USA: UTAH: Emery Co. San Rafael Swell, Little Grand Canyon of the San Rafael River, "Sentinel Rock" USGS section marker, N 39.095265 W 110.739388 1601 m 14-Jun-2016 C. R. Nelson # 11747 91 Wypt 154usgsmarker Photos: USGS section marker.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Quinn Linford, Meagan Ricks, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11747

11748 USA: UTAH: Emery Co. San Rafael Swell, Little Grand Canyon of the San Rafael River, "Sentinel Rock" pictographs on south side, N 39.094117 W 110.739133 1622 m 14-Jun-2016 C. R. Nelson # 11748 91 Wypt 155pictographsentinelrock Photos: pictographs: wavy line, stairway, pocket watch.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Quinn Linford, Meagan Ricks, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. *Efferia benedicti* and *Efferia albibarbis*. Saw *Apioceridae* *Apiocera* sp. male. 11748

11749 USA: UTAH: Emery Co. San Rafael Swell, Little Grand Canyon of the San Rafael River, springs, Virgin Spring Canyon, N 39.079874 W 110.778548 1602 m 14-Jun-2016 C. R. Nelson # 11749 91 Wypt 156virginspring Photos: people and scenery, painting. Pumped water to drink.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Quinn Linford, Meagan Ricks, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11749

11750 USA: UTAH: Emery Co. San Rafael Swell, Little Grand Canyon of the San Rafael River, Virgin Spring Canyon pictographs near mouth, N 39.082951 W 110.776597 1608 m 14-Jun-2016 C. R. Nelson # 11750 91 Wypt 157virginpictographs Photos: rock art.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Quinn Linford, Meagan Ricks, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11750

11751 USA: UTAH: Emery Co. San Rafael Swell, Little Grand Canyon of the San Rafael River, just downstream from mouth of Virgin Spring Canyon, N 39.085319 W 110.774619 1578 m 14-Jun-2016 C. R. Nelson # 11751 91 Wypt 158downmouthvirgin Photos: scenery and people. Two routes around left bank cliffs: a hard scramble on solid slickrock away from the river and an easier crouch climb right at the water's edge. 50-150m further downstream there is a looser climb up rimrock falls and longer walk on top to drop into Virgin Spring Canyon. I prefer the crouch right near the river.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Quinn Linford, Meagan Ricks, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11751

11752 USA: UTAH: Emery Co. San Rafael Swell, Little Grand Canyon of the San Rafael River, swimming hole, just upstream from Cane Wash, N 39.097797 W 110.728977 1574 m 14-Jun-2016 C. R. Nelson # 11752 91 Wypt 159swimminghole Photos: people in swimming hole

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Quinn Linford, Meagan Ricks, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11752

11753 USA: UTAH: Emery Co. San Rafael Swell, Little Grand Canyon of the San Rafael River, between Cane Wash and San Rafael River bridge, N 39.091543 W 110.725037 1570 m 14-Jun-2016 C. R. Nelson # 11753 91 Wypt 161templesquare Photos: pile of rocks that made

me think of Temple Square in Salt Lake City. Closer to trailhead: petrified wood.

INHUT:

Riley Nelson, John Bennion, Brian Cannon, Brian Hill, Quinn Linford, Meagan Ricks, Ashley Lundquist, Emma Houghton, Rachel Slade, Joshua Dodge, Dino Lauricella, Sarah Cheney, Maya Rupard, Jane Smith, Anne Bennion, Max Barnes, Bethany Allen, Brinnley Ashton, Jacob Johnson, Liz Peterson, Katie Fitzgerald, Megan Clarine, and Teagan Ellsworth. 11753

11754 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 22-Jun-2016 C. R. Nelson # 11754 & P. F. Ashton 91 Cleaned out rust flakes from several nozzles. Two horse hair worms caught in nozzle of Rain Bird sprinkler head. 11754

11755 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 24-Jun-2016 25-Jun-2016 C. R. Nelson # 11755 & family 91 evening: large Great Basin rattlesnake on driveway road about 50 m up from highway gate. Kaye and Wolfgang nearly stepped on it. From photos it was about 40 inches with 10 rattles, last broken. Large, heavy snake.

Riley, Kaye, Amy, Wolf, and Leah. great basin rattlesnake 11755

11756 USA: OREGON: Umatilla Co. Deadman Pass, scenic view 3 miles east of Deadman Pass rest area, N 45.579867 W 118.451626 1118 m 30-Jun-2016 C. R. Nelson # 11756 & J. K. Nelson 91 Wypt 001deadmanspassoverlook photos: scenery, view to the north 11756

11757 USA: OREGON: Umatilla Co. Deadman Pass rest area, I-84, 17 miles east of Pendleton, N 45.601264 W 118.507968 1081 m 30-Jun-2016 C. R. Nelson # 11757 & J. K. Nelson 91 Wypt 002deadmanspassrest Lunch of Doritos and coconut cream pie from Marie Callendar's in Boise, Idaho. Photos: excess of cigarette butts. robins, western tanager, house finch, all eating Rainier cherries off a tree at the rest area. Brewers blackbird. 11757

11758 USA: WASHINGTON: Benton Co. Jump Off Joe Peak, off Hwy 397, south of Kennewick, N 46.103894 W 119.130139 668 m 30-Jun-2016 C. R. Nelson # 11758 & J. K. Nelson 91 Wypt 004jumpoffjoe photos: scenery, view from high spot overlooking the confluence of the Snake and Columbia Rivers. Exited I-82 at Hwy 397, very quickly found Bateman Road to the east that turned to dirt. Passed Y to Owens Road, took Jump Off Joe Road at Y and went to the top at radio towers and windmills. Many "no trespassing" signs, up the main road though is public access. Also grabbed a quick phone photo at crossing of Columbia River at Umatilla: Wypt 003columbiariver N 45.937054 W 119.331077 elev. 106m. 11758

11759 USA: WASHINGTON: Kittitas Co. Ellensburg, Mann/Parker home, 3701 Robinson Canyon Road, 6 miles west of town center, N 47.014983 W 120.668893 566 m 30-Jun-2016 01-Jul-2016 C. R. Nelson # 11759 & J. K. Nelson 91 Wypt 005mannparkerhome home of Jera and David Parker, and Joyce and Jerry Mann. Toured house and 8 acre gardens and forest. 11759

11760 USA: WASHINGTON: Kittitas Co. Taneum Creek Campground, 16.5 miles northwest of Ellensburg, N 47.108370 W 120.856744 742 m 30-Jun-2016 C. R. Nelson # 11760 & J. K. Nelson 91 Google Earth Picnic in evening with Dave and Jera Parker. skins of Perlodidae, pictures on several phones. 11760

11761 USA: WASHINGTON: Kittitas Co. Umtanum Falls, Umtanum Creek, 8 miles southeast of Ellensburg, N 46.892984 W 120.628611 748 m 01-Jul-2016 C. R. Nelson # 11761 & J. K. Nelson 92 Wypt 007umtanutfalls photos: scenery & people. Riley, Kaye, and Jera Parker.

Trailhead to falls: Wypt 006umtanutfallstrhd N 46.899631 W 120.643087 elev. 781 m. Asilidae: photos: Holopogon (NO! probably Cophura), photos: Stenopogon. Western Tanager and sparrow. 11761

11762 USA: WASHINGTON: Kittitas Co. Roslyn, storefronts, N 47.222636 W 120.994641 685 m 01-Jul-2016 C. R. Nelson # 11762 & J. K. Nelson 92 Wypt 008roslyn photos: town of the television series "Northern Exposure." Called Cicely in the series. 11762

11763 USA: WASHINGTON: King Co. Duvall, Wheeler home N 47.723779 W 121.923618 161 m 01-Jul-2016 02-Jul-2016 C. R. Nelson # 11763 & J. K. Nelson 92 Wypt 009duvallwheeler We ate dinner here with Brett and Gayle Wheeler on 1 July then drove closed to Seattle for dessert with the whole Washington Wheeler clan. Matt & Dee Wheeler and kids Caden, Asher, and Silas. Josh and Kenzie Wheeler. Mark Wheeler. Benjamin Wheeler. D. J. and his family couldn't come. 2 July 2016: photos chestnut backed chickadee. 11763

11763.5 USA: WASHINGTON: King Co. Snoqualmie Falls, N 47.543285 W 121.837977 137 m 02-Jul-2016 C. R. Nelson # 11763.5 & J. K. Nelson 92 Wypt 010snoqualmiefalls photos: falls, scenery, and people. 11763.5

11764 USA: WASHINGTON: Pierce Co. Mount Rainier National Park, Chinook Pass, Tipsoo Lake, N 46.869476 W 121.516285 1611 m 02-Jul-2016 C. R. Nelson # 11764 & J. K. Nelson 92 Wypt 011chinookpass Walked around Tipsoo Lake. With David and Jera Parker. photos: scenery, time lapse of clouds veiling Mount Rainier. 11764

11765 USA: WASHINGTON: Pierce Co. Mount Rainier National Park, Sunrise visitor center, end of the road, N 46.915712 W 121.644531 1951 m 02-Jul-2016 C. R. Nelson # 11765 & J.

K. Nelson 92 Wypt 012sunriselodge With David and Jera Parker.

photos: Mount Rainier, people, Photos: glacier lilies, avalanch lilies, anemone. 11765

11766 USA: WASHINGTON: Pierce Co. Mount Rainier National Park, Sunrise Point, view area, road to Sunrise, N 46.917167 W 121.588956 1857 m 02-Jul-2016 C. R. Nelson #

11766 & J. K. Nelson 92 Wypt 013sunrisepoint With David and Jera Parker.

photos: Mount Rainier and Mount Adams. 11766

11767 USA: WASHINGTON: Pierce Co. Mount Rainier National Park, Reflection Lake, near Paradise, Stevens Canyon Road, N 46.768260 W 121.728394 1477 m 02-Jul-2016 C. R.

Nelson # 11767 & J. K. Nelson 92 Wypt 014reflectionlake With David and Jera Parker.

photos: reflections of trees in lake. We waited for 15 minutes to see if clouds would clear from Mount Rainier. No. 11767

11768 USA: WASHINGTON: Pierce Co. Mount Rainier National Park, viewpoint Stevens Canyon Road, 2 miles south of Paradise Loop, N 46.773158 W 121.744028 1470 m 02-Jul-2016 C. R. Nelson # 11768 & J. K. Nelson 92 Wypt 015belowparadise With David and Jera Parker.

photos: columnar basalt, view down Paradise Canyon. Mount Rainier in clouds. 11768

11769 USA: WASHINGTON: Lewis Co. Mount Rainier area, Mineral, Hwy 7, Mineral to Morton Highway, N 46.712423 W 122.209242 465 m 02-Jul-2016 C. R. Nelson # 11769 & J. K. Nelson 92 Wypt 016mineral With David and Jera Parker.

photos: Mount Rainier in sunset light. 11769

11770 USA: WASHINGTON: Lewis Co. Morton, jct Hwy 7 and 12, N 46.552923 W 122.277303 286 m 02-Jul-2016 04-Jul-2016 C. R. Nelson # 11770 & J. K. Nelson 92 Wypt 017morton With David and Jera Parker.

Season Motel. Church in Cowlitz Falls Ward. house sparrow 11770

11771 USA: WASHINGTON: Cowlitz Co. North Fork Toutle River, Hoffstadt Bluff Lodge, N 46.327078 W 122.490170 430 m 03-Jul-2016 C. R. Nelson # 11771 & J. K. Nelson 92 Wypt 018hoffstadtbluff With David and Jera Parker.

Photos: view Mount St. Helens and North Fork Toutle River. Lunch at the lodge. 11771

11772 USA: WASHINGTON: Skamania Co. Mount St. Helens National Volcanic Monument, Johnston Ridge Observatory, N 46.276427 W 122.215750 1310 m 03-Jul-2016 C. R.

Nelson # 11772 & J. K. Nelson 92 Wypt 019johnston With David and Jera Parker.

Photos: scenery 11772

11773 USA: WASHINGTON: Cowlitz Co. Mount St. Helens National Volcanic Monument, Castle Lake view area, N 46.296042 W 122.299293 1020 m 03-Jul-2016 C. R. Nelson #

11773 & J. K. Nelson 92 Wypt 020castleview With David and Jera Parker.

Photos: scenery,

Photos: also down canyon. mind dazzling noble fir plantation. 11773

11774 USA: WASHINGTON: Cowlitz Co. North Fork Toutle River, Kid Valley, west of Mount St. Helens, N 46.376669 W 122.609126 195 m 03-Jul-2016 C. R. Nelson # 11774 & J. K. Nelson 92 Wypt 021toutlenorthfork With David and Jera Parker.

Collected pumice and ash, for lecture examples. 11774

11775 USA: WASHINGTON: Lewis Co. Toledo, St. Francis Xavier mission, N 46.467371 W 122.828168 105 m 03-Jul-2016 C. R. Nelson # 11775 & J. K. Nelson 92 Wypt 022toledochurch With David and Jera Parker.

Photos: Mount St. Helens from lowlands. 11775

11776 USA: WASHINGTON: Lewis Co. Mount Rainier National Park, Grove of the Patriarchs, Stevens Canyon Road, N 46.758323 W 121.557024 685 m 04-Jul-2016 C. R. Nelson # 11776 & J. K. Nelson 92 Wypt 023patriarchs With David and Jera Parker.

Photos: trees and Ohanapecosh River Western cedar, Thuja. Douglass fir, hemlock. 11776

11777 USA: WASHINGTON: Pierce Co. Mount Rainier National Park, Paradise view area and visitor center, N 46.785927 W 121.736864 1646 m 04-Jul-2016 C. R. Nelson # 11777 & J. K. Nelson 92 Wypt 024paradise With David B. and Jera Parker.

Photos: high elevation trees in heavy fog. 11777

11778 USA: WASHINGTON: Lewis Co. Mount Rainier National Park, Box Canyon of the Muddy Fork of the Cowlitz River, Stevens Canyon Road, N 46.765289 W 121.634752 923 m 04-Jul-2016 C. R. Nelson # 11778 & J. K. Nelson 92 Wypt 025boxcowlitz With David B. and Jera Parker.

Photos: trees & gorge of the river. Photos: Vine maple leaves and samaras, *Acer circinatum*. 11778

11779 USA: WASHINGTON: Kittitas Co. Ellensburg, Mann/Parker home, 3701 Robinson Canyon Road, 6 miles west of town center, N 47.014983 W 120.668893 566 m 04-Jul-2016 05-Jul-2016 C. R. Nelson # 11779 & J. K. Nelson 92 Wypt 005mannparkerhome home of Jera and David Parker, and Joyce and Jerry Mann.

4 July 2016: evening picnic with Parkers and Manns. 11779

11780 USA: UTAH: Beaver Co. north end of Minersville Reservoir, south of Adamsville, N 38.243973 W 112.813629 1678 m 12-Jul-2016 C. R. Nelson # 11780 & S. M. Clark 92 Wypt 026adamsville with Shawn M. Clark. *Cicindela*, *Stichopogon trifasciatus*, *Sympetrum corruptum*, *Tramea lacerata* and *onusta*, *Enallagma* abundant, *Libellula forensis* eight spotted skimmer, saw *Anax junius*, red curculionidae on *Helianthus annuus* sunflower.

sandhill cranes, California gull, mourning dove, barn swallow, rough winged swallow, Canada goose, raven. 11780

11781 USA: UTAH: Washington Co. Leeds Canyon, 2.5 miles west of Leeds, N 37.266389 W 113.370196 1241 m 12-Jul-2016 13-Jul-2016 C. R. Nelson # 11781 & S. M. Clark 92 Wypt 027leeds2.5 with Shawn M. Clark.

Camped on clear night, cool for July, good sleep. Clear sky - Milky Way & meteors. Ran UV light. UV light: *Polacantha composita*, *Diptotaxis*, *Myrmeleontidae*. 11781

11782 USA: UTAH: Washington Co. lower North Creek, first bridge north of Hwy 9, on Kolob Terrace Road, new bridge, N 37.205036 W 113.171278 1046 m 13-Jul-2016 C. R. Nelson # 11782 & others, see field notes 92 Wypt 028lowernorthcreek with Megan C. Petersohn and Emily Sandall. 15 dragonfly nymphs of mercury study of national parks. *Progomphus borealis*, *Erpetogomphus compositus* (thought might be *Ophiogomphus*), *Libellula saturata*, *Libellula luctuosa*, *Libellula comanche*? could be male of *Erythemis collocata*, *Sympetrum semicinctum*, *Anax junius*, small blue libellulid mystery?, *Libellula pulchella*?. Saw *Argia* 2 spp., No *Hetaerina*, *Pantala*?, *Tramea*. Asilidae: *Triorla interrupta*, *Efferia* sp. male, *Polacantha*. Black phoebe and Great Blue Heron. 11782

11783 USA: UTAH: Washington Co. Zion National Park, Lava Point view area, N 37.383708 W 113.028498 2392 m 13-Jul-2016 C. R. Nelson # 11783 & others, see field notes 92 Wypt 030lavapoint with Megan C. Petersohn and Emily Sandall.

Photos: wide view. saw *Papilio zelicaon*?, large black. Rock squirrel begged at picnic area. 11783

11784 USA: UTAH: Washington Co. Zion National Park, Lava Point ponds, 0.9 miles west of Lava Point view area, N 37.385045 W 113.044932 2408 m 13-Jul-2016 C. R. Nelson # 11784 & others, see field notes 92 Wypt 032lavapointponds with Megan C. Petersohn and Emily Sandall.

Two ponds in open meadow. photos: tiger salamanders, mallard duck hen and half grown chicks.

Sympetrum, probably *corruptum*, none caught. *Enallagma*, see Emily and Megan. Asilidae: *Proctacanthus*. 11784

11785 USA: UTAH: Washington Co. Zion National Park, Cave Valley, Kolob Terrace Road, N 37.314554 W 113.111401 1782 m 13-Jul-2016 C. R. Nelson # 11785 & others, see field notes 92 Wypt 033cavevalley with Megan C. Petersohn and Emily Sandall.

Photos: scenery, with white grass fields. 11785

11786 USA: UTAH: Washington Co. Springdale, O. C. Tanner Center, N 37.200211 W 113.005092 1252 m 13-Jul-2016 14-Jul-2016 C. R. Nelson # 11786 & others, see field notes

92 Wypt 034octanner with S. M. Clark, Seth Bybee, Samantha Smith, and Becca Clement
Tettigoniidae, Cerambycidae, Blattellidae 11786

11787 USA: UTAH: Washington Co. Zion National Park, Middle Emerald Pool, N 37.258450
W 112.963003 1372 m 14-Jul-2016 C. R. Nelson # 11787 & others, see field notes 92 Wypt
035middleemerald with Megan Petersohn, Emily Sandall, and Sandra Hunt-VonArb.

Mercury of Odonata study, Cordulegaster and Aeshna.

Photos: scenery and people.

Second gps same spot: Wypt 036middleemeraldtwo N 37.258436 W 112.962836

Cordulegaster and Aeshna for mercury. Photos: Hetaerina vulnerata canyon rubyspot,
Argia vivida? including one emerging next to skin, Bombyliidae Anthrax possibly tigrinus,
canyon tree frog, 11787

11788 USA: UTAH: Washington Co. Zion National Park, Virgin River below Weeping Rock, N
37.271729 W 112.940316 1325 m 14-Jul-2016 C. R. Nelson # 11788 & others, see field
notes 92 Google Earth with Megan Petersohn, Emily Sandall, and Sandra Hunt-VonArb.

photos: Great White Throne. 11788

11789 USA: UTAH: Washington Co. Zion National Park, Virgin River, Riverside Trail, above
Temple of Sinawava, N 37.297788 W 112.947796 1376 m 14-Jul-2016 C. R. Nelson #
11789 & others, see field notes 92 Wypt 037narrows (Megan photo) with Megan Petersohn,
Emily Sandall, and Sandra Hunt-VonArb.

photos: masses of people and members of our group. 11789

11790 USA: UTAH: Juab Co. Baker Hot Springs, 7.5 miles north of Brush Wellman Road, N
39.610457 W 112.730375 1397 m 18-Jul-2016 C. R. Nelson # 11790 & others, see field
notes 92 Wypt 038bakerhotsprings with Josh Rose opihi@mindspring.com; Ken Lebo
klebo@dejazzd.com, Clay Corbin ccorbin@bloomu.edu

Erythemis collocata, Sympetrum 2-3 spp. semicinctum, corruptum, #3?, Libellula
comanche, Libellula pulchella, Aeshna (not caught), Argia, Enallagma, Ischnura, Tramea
lacerata black seen not caught, Gomphidae Erpetogomphus compositus, Libellula
composita, Libellula forensis, Plathemis subornata, Libellula quadrimaculata or young P.
subornata. 11790

11791 USA: UTAH: Juab Co. Fish Springs National Wildlife Refuge, North Spring, on Pony
Express Road, N 39.887161 W 113.413936 1299 m 18-Jul-2016 C. R. Nelson # 11791 &
others, see field notes 92 Wypt 039fishspringsnorth with Josh Rose
opih@mindspring.com; Ken Lebo klebo@dejazzd.com, Clay Corbin ccorbin@bloomu.edu.
Also with Oliver & Carol Flint, Seth Byby, Becca Clement, Samantha Smith, and many
others.

Photos: scenery.

Erythemis collocata, *Libellula saturata*, *Tramea lacerata*, *Anax junius*, photos: *Anax walsinghami*, *Libellula composita*, *Libellula forensis*, *Sympetrum semicinctum* and *corruptum*. Dytiscidae. *Erpetogomphus compositus*, *Plathemis subornata*, *Ischnura*, *Enallagma*, *Rhionaeshna multicolor*, released by Ken Lebo. 11791

11792 USA: UTAH: Juab Co. Fish Springs National Wildlife Refuge, Mallard - Shoveler Loop, N 39.851979 W 113.370211 1312 m 18-Jul-2016 C. R. Nelson # 11792 & others, see field notes 92 Google Earth with Josh Rose opihi@mindspring.com; Ken Lebo klebo@dejazzd.com, Clay Corbin ccorbin@bloomu.edu.

Photos?: scenery.

Auto Route: ruddy duck, coots, spotted sandpiper, pied billed grebe. 11792

11793 USA: UTAH: Tooele Co. Pony Express Trail, 3 miles southwest of Simpson Springs, N 40.007814 W 112.835030 1386 m 18-Jul-2016 C. R. Nelson # 11793 & others, see field notes 92 Wypt 040horses with Josh Rose opihi@mindspring.com; Ken Lebo klebo@dejazzd.com, Clay Corbin ccorbin@bloomu.edu.
photos: wild horses. 11793

11794 USA: UTAH: Tooele Co. Pony Express Trail, Simpson Springs, pond on flats, N 40.043306 W 112.794113 1447 m 18-Jul-2016 C. R. Nelson # 11794 & others, see field notes 92 Wypt 041simpsonsprings with Josh Rose opihi@mindspring.com; Ken Lebo klebo@dejazzd.com, Clay Corbin ccorbin@bloomu.edu.

saw *Erythemis collocata* and *Sympetrum corruptum*, and *Aeshna/Rhionaeshna*. Caught *Enallagma civile*. Asilidae: *Efferia benedicti*. 11794

11795 USA: UTAH: Tooele Co. Rush Valley, Mid-Valley Road, Pony Express Monument, N 40.205166 W 112.297405 1543 m 18-Jul-2016 C. R. Nelson # 11795 & others, see field notes 92 Wypt 042rushvalleypony with Josh Rose opihi@mindspring.com; Ken Lebo klebo@dejazzd.com, Clay Corbin ccorbin@bloomu.edu.

Photos: pronghorn buck. 11795

11796 USA: UTAH: Summit Co. Uinta Mountains, Ponds Lake near Crystal Lake Trailhead (also known as Lily Lakes, west, N 40.684328 W 110.964235 3039 m 23-Jul-2016 C. R. Nelson # 11796 & J. K. Nelson 92 Wypt 044pondslakelilylake quiet pond 200 meters north and west of Crystal Lake Trailhead, Wall Lake Trail. Photos: scenery and people. Adults: Libellulidae. Photos: adult and nymphs *Leucorrhinia hudsonica*? small nymphs, *Enallagma*, adults and nymphs of Corduliidae *Cordulia shurtleffi* (posed) large nymphs, *Rhionaeshna* nymphs, Phryganeidae *Agrypnia* adult and larvae, Lestidae *Lestes* nymph, Dytiscidae *Acilius* males and females. big black leech *Hirudinea* and egg cocoons, chorus

frog, tiger salamanders, Pedicularis, black fuzzy pupae?, water lilies Nuphar polysepala.
11796

11796.5 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 25-Jul-2016 C. R. Nelson # 11796.5 & family 92 Wolfgang Winston Nelson found a dead Wiedemeyer's admiral butterfly "a brite" in his two year old language. He also found a sagebrush lizard in the windowsill, inside, "a weez". Photos by Kaye. Wiedemeyer's admiral butterfly and sagebrush lizard 11796.5

11797 USA: UTAH: Utah Co., Mount Nebo Loop, near Monument Mount Nebo/North Peak Trailhead, N 39.848330 W 111.722143 2830 m 26-Jul-2016 27-Jul-2016 C. R. Nelson # 11797 & others, see field notes 92 Wypt 045northpeaktrailhead Start hike to top of Mount Nebo. Photos: people and scenery. Collected especially near trailhead then in forest on rim of north couloir, north of North Peak. End 27 July 2016: Wypt 049northpeaktrailhead N 39.848440 W 111.722115 elev. 2820 m.

Riley Nelson, Becca Clement, Samantha Smith, Angie Smith, Russell Anderson, and Rachel Fuller. Laphria fernaldi to Sam, collected near CRN10770. Cyrtopogon. In stand of insect killed Engelmann spruce near couloir but on ridge. Use coordinates for this former site on these insects' labels. 11797

11798 USA: UTAH: Utah Co., Mount Nebo, North Peak Trail, Wolf Pass, N 39.831271 W 111.750724 3235 m 26-Jul-2016 27-Jul-2016 C. R. Nelson # 11798 & others, see field notes 92 Wypt 046wolfpass Photos: scenery and people. Camped the night at the pass, collected many specimens on traverse trail west of North Peak. Papilionidae: Parnassius. Morning: photos: scenery and people, watercolor of sunrise and Skyline Drive. Riley Nelson, Becca Clement, Samantha Smith, Angie Smith, Russell Anderson, and Rachel Fuller. evening: photos: mountain goats on slope south of Wolf Pass. Morning: photos: 11798

11799 USA: UTAH: Utah Co., Mount Nebo, North Peak Trail, "false summit" between North Summit Mount Nebo and North Peak, N 39.827675 W 111.756000 3489 m 27-Jul-2016 C. R. Nelson # 11799 & others, see field notes 92 Wypt 047falsesummit Photos: scenery and people.

Riley Nelson, Becca Clement, Samantha Smith, Angie Smith, Russell Anderson, and Rachel Fuller. Cuterebra bot fly among many hilltopping insects. Cyrtopogon (lumped with those from North Summit Nebo). 11799

11800 USA: UTAH: Utah Co., Mount Nebo Trail, summit North Summit Mount Nebo, N 39.821890 W 111.760439 3640 m 27-Jul-2016 C. R. Nelson # 11800 & others, see field

notes 92 Wypt 048nebosummit Photos: scenery and people.

Riley Nelson, Becca Clement, Samantha Smith, Angie Smith, Russell Anderson, and Rachel Fuller. Cuterebra bot fly among many hilltopping insects. Photos: Cyrtopogon pretty male at home on rock from summit. 11800

11801 USA: UTAH: Davis Co. Great Salt Lake Shorelands Preserve, Kays Creek area, 3 miles west of Kaysville, N 41.037479 W 112.002419 1280 m 28-Jul-2016 C. R. Nelson # 11801 & others, see field notes 92 Wypt 050shorelands The Nature Conservancy sponsored "Bat & Bug Night" UV light trap. About 40 people including Cub Scouts. A very few mosquitoes. Much irrigation water in Kays Creek, heading to the Great Salt Lake.

Photos: scenery and people.

Riley Nelson, Becca Clement, Samantha Smith, Angie Smith, Russell Anderson, and Rachel Fuller. Photos: Limnephilidae Limnephilus. Corixidae several species, abundant. white lined sphinx moth. Hydrophilidae Hydrophilus triangularis, Tropisternus, bullfrog, saw Rhionaeshna multicolor?, Erythemis collocata. Mosquitoes Culicidae. Tipulidae. Notonectidae. Carabidae. Scarabaeidae Polyphylla decemlineata. 11801

11802 USA: UTAH: Utah Co., Lower Hobble Creek at I-15, near Utah Lake, N 40.183710 W 111.647341 1366 m 29-Jul-2016 C. R. Nelson # 11802 & others, see field notes 92 Wypt 051lowerhobble With Tyson Terry, Russell Anderson, Shawn Clark, and three other students. Photos: Tephritidae, Membracidae Stictocephala bisonia buffalo treehopper, Pentatomidae small black and red. Photos: Tramea lacerata (posed) female of mating pair, male lost head. Sympetrum corruptum, Ischnura sp, Erythemis collocata, saw Anax junius, Libellula forensis. Found a rather clean large carp head and took it home. I soaked it in bleach water on 23 December 2016 and moved away more of the black skin and scales. I'll glue it later, probably on 24 December 2016. I kept the pectoral fins with it. The fleshy lips of this fish, and the two barbels dried nicely on the specimen to add to its teaching specimen value. 11802

11803 USA: UTAH: Utah Co., Spring Creek, Utah Lake canal at I-15, N 40.201952 W 111.654967 1366 m 29-Jul-2016 C. R. Nelson # 11803 & others, see field notes 92 Wypt 052freewayspring With Tyson Terry, Russell Anderson, Shawn Clark, and three other students. saw Aeshna/Rhionaeshna, Sympetrum, Libellula forensis. Gave Monoxia Chrysomelidae from annual "Atriplex" to Shawn Clark. No specimens kept by me. Looked for Bryozoans under riffle rocks, none seen. Saw Hydrophilidae, Oreonectes crayfish, and flatworms / planaria / platyhelminthes 11803

11804 USA: UTAH: Salt Lake Co. Salt Lake City, Liberty Park, Tracey Aviary, N 40.743628 W 111.874787 1300 m 01-Aug-2016 C. R. Nelson # 11804 & family 92 Wypt 053traceyaviary Riley, Kaye, Jason, Brandy, Artemis, Astrid, Amy, Wolfgang, and Leah. photos: birds 11804

11805 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 02-Aug-2016 03-Aug-2016 C. R. Nelson # 11805 & family 92 2 August: photos: people.

3 August: photos: hummingbirds, morning and afternoon. people playing in the swimming pool. Kids found bones of a deer and played with them and broke one large one. Later I glued the bone back together and took them home.

Riley, Kaye, Jason, Brandy, Artemis, Astrid, Amy, Wolfgang, and Leah. 11805

11806 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 04-Aug-2016 C. R. Nelson # 11806 92 photos: black headed grosbeak 11806

11807 USA: UTAH: Weber Co. Ogden, Comfort Suites hotel, 21st and I-15, N 41.225290 W 112.010816 1296 m 05-Aug-2016 06-Aug-2016 C. R. Nelson # 11807 92 Wypt 054comfortsuiteogdenfreeway Riley, Kaye, Jason, Brandy, Artemis, and Astrid. photos: freeway and hotel, wall of bubbles with Artemis. Watercolor of freeway. 11807

11808 USA: UTAH: Box Elder Co. Brigham City, Nelson home, 211 North 300 West, N 41.515722 W 112.020919 1333 m 06-Aug-2016 C. R. Nelson # 11808 & family 92 Google Earth Photos, Nelson reunion: progeny of Winston P. and Aileen Doul Larsen Nelson. With Young cousins.

Riley, Kaye, Jason, Brandy, Artemis, Astrid, Andrea Nelson. Amy, Todd Wolfgang, Leah Smith, Jordan Christopher. Jean and Paul Belfiglio, Nick, Chris, Mandy, Rex, Guy, Ivy, Rick, Lana Nelson. Sally, Jerry, William, Henry, Andrew, Griffin, Jenna Wright. Ned, Melanie, Tod, James, Hadlee Young. Erin Young Aho, and Guy Banner. 35 total. 11808

11809 USA: UTAH: Box Elder Co. Brigham City Cemetery, N 41.502115 W 112.007934 1378 m 06-Aug-2016 C. R. Nelson # 11809 & family 92 Google Earth, Nelson grave Visited grave of Winston P. and Aileen Doul Larsen Nelson with Riley, Kaye, Jason, Brandy, Artemis, Astrid, Amy, Todd, Wolfgang, and Leah. 11809

11810 USA: UTAH: Box Elder Co. Mantua, Box Elder Campground, N 41.492533 W 111.949054 1585 m 06-Aug-2016 C. R. Nelson # 11810 & family 92 Wypt 125boxeldercamp Visited grave of Winston P. and Aileen Doul Larsen Nelson with Riley, Kaye, Jason, Brandy, Artemis, Astrid, Amy, Todd, Wolfgang, and Leah. Gathered capsues full of seeds from dried poppies. Large red petals on these plants last May. Plant, Papaveraceae: Papaver orientale. 11810

11811 USA: UTAH: Box Elder Co. Mantua Cemetery, N 41.497628 W 111.950878 1586 m 06-Aug-2016 C. R. Nelson # 11811 & family 92 Google Earth Visited graves of Ole P. and Elvina H. Nelson; Lars J. and Anne Marie Halling; Grant and Jean Nelson with Riley, Kaye, Jason, Brandy, Artemis, Astrid, Amy, Todd, Wolfgang, and Leah. 11811

11812 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 11-Aug-2016 12-Aug-2016 C. R. Nelson # 11812 & J. K. Nelson 92 Helped Manukea Irvine with his truck radiator on Highway 6. Set up camera to record photos of Perseid meteor shower from 11:30pm to 2:30am. Took bones that had been found by Artemis and Wolfgang home to repair with glue (CRN11805). Gathered seeds of desert blazing star, *Mentzelia laevicaulis*. 11812

11813 USA: UTAH: Utah Co., Provo, N 39.9 W 111.3 1829 m 24-Aug-2016 C. R. Nelson # 11813 92 Photos: Anax junius male head collected by Gavin Martin. C. R. Nelson photographer but not present when collected. Voucher with Seth Bybee for lab colony. 11813

11814 USA: UTAH: Box Elder Co. Brigham City, Nelson home, 211 North 300 West, N 41.515722 W 112.020919 1333 m 25-Aug-2016 30-Aug-2016 C. R. Nelson # 11814 & family 92 Google Earth Photos: people, self-portrait, cheerios cereal in bowl. Anisopodidae on window sill. 11814

11815 USA: UTAH: xx Co. Uinta basin, get locality from Makani Fisher C. R. Nelson # 11815 Makani Fisher 92 Asilidae, *Leptogaster* sp.; photos: Mantispa, small pair 11815

11816 USA: UTAH: Wasatch Co. Indian Creek, wildlife viewing area, 1 mile south of main road to Renegade Point Marina on Strawberry Reservoir, N 40.106099 W 111.183581 2339 m 02-Sep-2016 C. R. Nelson # 11816 & class 92 Aquatic Entomology and Limnology classes. Began to rain hard at end of 45 minutes of collecting. Hurried back to camp higher upstream to secure gear.

Riley Nelson, Teagan Ellsworth, Becca Clement, Trevor Williams, Yelena Pacheco, Jeff Andrus. Others on lake: Dennis Shiozawa, Paul Evans, Makani Fisher, Josh, Jared Meek, and Jessica Pukahi. Sialidae, Pytchopteridae, Tipulidae, Baetidae, Limnephilidae 2 spp, Lepidostomatidae?, Elmidae. 11816

11817 USA: UTAH: Wasatch Co. Indian Creek, 3.6 miles south of main road to Renegade Point Marina on Strawberry Reservoir, N 40.075652 W 111.215392 2407 m 02-Sep-2016 03-Sep-2016 C. R. Nelson # 11817 & class 93 Wypt 002indianupdam (beaver dam) Aquatic Entomology and Limnology classes. Riley Nelson, Teagan Ellsworth, Becca Clement, Trevor Williams, Yelena Pacheco, Jeff Andrus. Others on lake: Dennis Shiozawa, Paul Evans, Makani Fisher, Josh, Jared Meek, and Jessica Pukahi. Also, Camp (photos): Google Earth: N

40.076013 W 111.211421 elev. 2411 m.

Leptophlebiidae, Baetidae, Limnephilidae, Uenoidae or Lepidostomatidae 11817

11818 USA: UTAH: Wasatch Co. Indian Creek, at junction main road to Renegade Point Marina on Strawberry Reservoir, N 40.118227 W 111.174764 2308 m 03-Sep-2016 C. R. Nelson # 11818 & class 93 Wypt 003indianmainroad Aquatic Entomology class: Riley Nelson, Becca Clement, Trevor Williams, Yelena Pacheco, and Jeff Andrus. Sialidae, Heptageniidae, Leptophlebiidae, Baetidae, Elmidae, Dytiscidae, Tipulidae, Ceratopogonidae, Chironomidae, Limnephilidae. kokanee salmon upstream 200 m. 11818

11819 USA: UTAH: Wasatch Co. Strawberry Reservoir, Renegade Point Marina, N 40.124515 W 111.152326 2318 m 03-Sep-2016 C. R. Nelson # 11819 & class 93 Google Earth Photos: people. Wind came up so main group couldn't cross lake to catch crayfish to eat. Ate at Granny's in Heber. Aquatic Entomology and Limnology classes: Riley Nelson, Dennis Shiozawa, Paul Evans, Becca Clement, Trevor Williams, Yelena Pacheco, Josh , and Jeff Andrus. 11819

11820 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 04-Sep-2016 05-Sep-2016 C. R. Nelson # 11820 & J. K. Nelson & friends 93 Hung Pinon Cove sign, hung porch swing on back patio, rode 4 wheeler with Carly. played cards - hand and foot. Riley Nelson, Kaye Nelson, Blair Parrish, Cynthia Parrish, Carly Parrish, Hank Pond, and Rexanne Pond. deer skull, eroded to show sinuses. Tenebrionidae, Eleodes small, in cooler when got home. Kept for a pet, escaped in office after a couple days. 11820

11821 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River, near Guard Station, site 3, N 40.451861 W 111.657144 1885 m 06-Sep-2016 C. R. Nelson # 11821 & class 93 Wypt 005afsite3 Riley Nelson, Becca Clement, Trevor Williams, Kevin Lamb, Yelena Pacheco, Robert Erickson, Jeff Andrus, Jared Meek, Jackson Birrell, and Samantha Roan. Philopotamidae, Dolophilodes sp., small Perlodidae, Hydropsychidae Arctopsyche, Tipulidae, Chironomidae, Ephemerellidae Drunella grandis, Drunella doddsi; Rhyacophilidae, Dixidae, Ephemerella?, Baetis, Heptageniidae. 11821

11822 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River, site 4, Timpooneke Campground and Guard Station, N 40.431770 W 111.637478 2230 m 06-Sep-2016 C. R. Nelson # 11822 & class 93 Wypt 485site4trap Riley Nelson, Becca Clement, Trevor Williams, Kevin Lamb, Yelena Pacheco, Robert Erickson, Jeff Andrus, Jared Meek, Jackson Birrell, and Samantha Roan.. Perlodidae Megarcys signata nymph, Chloroperlidae Sweltsa borealis, Nemouridae, Tipulidae, Ephemerellidae Drunella grandis. 11822

11823 USA: UTAH: Utah Co., Mount Timpanogos, American Fork Canyon, Hwy 92, South Fork American Fork River near Timpooneke Guard Station, jct Great Western Trail, above site 4, N 40.4304083 W 111.638709 2297 m, 06-Sep-2016 C. R. Nelson# 11823 & class 93 Wypt 007timpoonekespring Riley Nelson, Becca Clement, Trevor Williams, Kevin Lamb, Yelena Pacheco, Robert Erickson, Jeff Andrus, Jared Meek, Jackson Birrell, and Samantha Roan.. photos: Limnephilidae Chyranda centralis larva and Apataniidae Allomyia n. sp. larva 11823

11824 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.263789 W 111.664394 1399 m 10-Sep-2016 C. R. Nelson # 11824 & class 93 Wypt 008provo2230bridge First 100s with Biology 100 class and Aquatic Entomology class. air temp 24 deg C, water 14 deg C. Flow 5 runs of 5 meters average 7 sec = 0.71 m/sec. 53 people on site.

Riley Nelson, Bio 100: Isabella Wilkins, Jonathan Litster, Genevieve Patterson (daughter), David Roberts, Andrew Jorgensen, Mary Buckley, Bronwyn Bates, Logan Robertshaw, Austin Wang, Kylee Campbell, Mack Guymon, Adelaide Hammond, Abby Donaldson, Shannon McConaghie, Gretchen Maxwell, Hunter Markus, Josh Kennedy, Keenan Walgren, Carter Heslop, Jason Kelly, Austin Morris, Tyler Kraupp, Nicolas Walker, Cassidy Vela TA, Makani Fisher TA, Jesse Jordan, Wyatt LeFevre, Audrey Goates, Irelynd Brown, Jonathan Kimble, Karl Applegarth, Tyler Blackham, Brandon Marshall, Hannah Campbell, Natalia Green, Kenya Augustin, Garret Smith, Jonah Sundrud, Hunter Johnson, Milla Wilbert, Dallin Connell, Sam Larsen, and Lyndee Johns. Aquatic Entomology: Rebecca Clement, Teagan Ellsworth, Jared Meek, Kevin Lamb, Jeff Andrus, Yelena Pacheco, Samantha Roan, Robert Erickson. Oligochaeta, Hirudinea 2 spp., Baetis, Hydropsychidae, Asellus, Trichoptera Leptoceridae Oecetis? and Limnephilidae Hesperophylax, sponge, sculpin, Simuliidae, Chironomidae, Acari, flying Aeshnidae, Platyhelminthes Polyscelis corona? 11824

11825 USA: UTAH: Utah Co., Provo River, Provo, 2230 North Bridge, Riverside Park BYU, N 40.264904 W 111.663405 1410 m 10-Sep-2016 C. R. Nelson # 11825 & class 93 Wypt 009provopavil Air temp: 24 deg C, Water temp 14 deg C. Flow: 5 runs of 5 meters: 7.21, 6.87, 7.15, 6.5, 8.3. Average: 0.712 m/sec. 42 people on the river. Both sites: 53 + 42 - 4 doubles = 91.

UNIV 291, Nature and Culture: Madison Brasher, Brian Allen, Braydon Egbert, Brian Moose, Eric Green, Brooke Obrey, McKaella Swenson, Rex Buys, Michael Stanley, Joseph Billings, Michael Bruno, Maren Monson, Mason Graham, Cat Calancea, Chris Muir, Kelsey Cogswell, Christian Jou, Emily Wright, Tate Rudolphi, Elizabeth Keeney, Sarah Kamhout, Kiley Sheldon, Madelynn Taylor, Rebecca Russavage, Joshua Jorgensen, Seth Poulsen, Madde Grant, Caleb Brown, Morgan Holmes, Jacob Fredericksen, Chip Oscarson instructor, Camilla Stark TA, Jared Meek TA and Aq Ent. Aquatic Entomology: Rebecca

Clement, Samantha Roan, and Teagan Ellsworth. Baetis, Hirudinea 2 spp.,
Platyhelminthes Polyscelis corona?, Oligochaeta, Trichoptera Leptoceridae?
Hydropsychidae, Chironomidae, Asellus, Acari. 11825

11826 USA: UTAH: Box Elder Co. Brigham City, Bear River Migratory Bird Refuge visitor center, N 41.508281 W 112.070867 1279 m 15-Sep-2016 C. R. Nelson # 11826 & class 93 Wypt 010birdrefuge Limnology and Aquatic Entomology northern field trip: Riley Nelson, Becca Clement, Jackson Birrell, Jared Meek, Teagan Ellsworth, Samantha Roan, Trevor Williams, Jeff Andrus, Yelena Pacheco, Robert Erickson. Limnology: Dennis Shiozawa, Makani Fisher, Cameron Christofferson, Josh Verde, Jessica Pukahi, Mikaela Woodford, Yuka Yanagita. Jackson and Jared in both classes. Another person's gps: N 41.50837 W 112.07095 elev. 1278m. Gambusia, Canada geese, barn swallows, coot, Dolichopodidae, Aeshna, Anax, Sympetrum 2 spp., Erythemis collocata, Enallagma, Archaeognatha, carp. 11826

11827 USA: IDAHO: Bannock Co. Marsh Valley at Downey exit of I-15, at Treasure Lane and Tool Road, N 42.430904 W 112.184636 1457 m 15-Sep-2016 C. R. Nelson # 11827 & class 93 Wypt 011marshvalley Limnology and Aquatic Entomology northern field trip: Riley Nelson, Becca Clement, Jackson Birrell, Jared Meek, Teagan Ellsworth, Samantha Roan, Trevor Williams, Jeff Andrus, Yelena Pacheco, Robert Erickson. Limnology: Dennis Shiozawa, Makani Fisher, Cameron Christofferson, Josh Verde, Jessica Pukahi, Mikaela Woodford, Yuka Yanagita. Jackson and Jared in both classes. photos: Marsh Valley, Bonneville flood. 11827

11828 USA: IDAHO: Bannock Co. Red Rock Pass, Hwy 91, N 42.354430 W 112.048910 1461 m 15-Sep-2016 C. R. Nelson # 11828 & class 93 Wypt 012redrock Limnology and Aquatic Entomology northern field trip: Riley Nelson, Becca Clement, Jackson Birrell, Jared Meek, Teagan Ellsworth, Samantha Roan, Trevor Williams, Jeff Andrus, Yelena Pacheco, Robert Erickson. Limnology: Dennis Shiozawa, Makani Fisher, Cameron Christofferson, Josh Verde, Jessica Pukahi, Mikaela Woodford, Yuka Yanagita. Jackson and Jared in both classes. photos: scenery and people. Site of break through of Bonneville Flood. 11828

11829 USA: IDAHO: Caribou Co. Tin Cup Creek, Hwy 34, 7 miles west of Freedom, N 42.978392 W 111.169304 1874 m 15-Sep-2016 16-Sep-2016 C. R. Nelson # 11829 & class 93 Wypt 014tincupmorn Limnology and Aquatic Entomology northern field trip: Riley Nelson, Becca Clement, Jackson Birrell, Jared Meek, Teagan Ellsworth, Samantha Roan, Trevor Williams, Jeff Andrus, Yelena Pacheco, Robert Erickson. Limnology: Dennis Shiozawa, Makani Fisher, Cameron Christofferson, Josh Verde, Jessica Pukahi, Mikaela Woodford, Yuka Yanagita. Jackson and Jared in both classes. First 100s. photos: scenery and people, big Limnephilidae came to light, Dicosmoecus?, Helicopsychidae,

Brachycentridae, Philopotamidae?, Hydropsychidae Hydropsyche, Pteronarcyidae Pteronarcys californica, Pteronarcella?, Perlidae Hesperoperla pacifica, Claassenia? sabulosa, Perlodidae Skwala?, Athericidae, Heptageniidae, Hydrophilidae, Dytiscidae, Corixidae, Gerridae, Aeshnidae, Gomphidae, Sialidae, sponge, photos large liverwort, Chironomidae, snails 3 kinds, sculpin, long nose or speckled dace, Nostoc algae, Potentilla, beaver, belted kingfisher, dipper. 11829

11830 USA: WYOMING: Teton Co. Grand Teton National Park, Teton Point turnout, N 43.718025 W 110.660300 2046 m 16-Sep-2016 C. R. Nelson # 11830 & class 93 Wypt 015tetonview Lunch. Glacier lecture by D. K. Shiozawa, time lapse clouds Grand Teton, time lapse clouds northern Tetons.

Limnology and Aquatic Entomology northern field trip: Riley Nelson, Becca Clement, Jackson Birrell, Jared Meek, Teagan Ellsworth, Samantha Roan, Trevor Williams, Jeff Andrus, Yelena Pacheco, Robert Erickson. Limnology: Dennis Shiozawa, Makani Fisher, Cameron Christofferson, Josh Verde, Jessica Pukahi, Mikaela Woodford, Yuka Yanagita. Jackson and Jared in both classes. Baetidae: Callibaetis photos by Teagan Ellsworth, Staphylinidae. 11830

11831 USA: WYOMING: Teton Co. Grand Teton National Park, Jenny Lake near visitor center, N 43.755894 W 110.721698 2074 m 16-Sep-2016 C. R. Nelson # 11831 & class 93 Wypt 017jenny Photos: scenery

Limnology and Aquatic Entomology northern field trip: Riley Nelson, Becca Clement, Jackson Birrell, Jared Meek, Teagan Ellsworth, Samantha Roan, Trevor Williams, Jeff Andrus, Yelena Pacheco, Robert Erickson. Limnology: Dennis Shiozawa, Makani Fisher, Cameron Christofferson, Josh Verde, Jessica Pukahi, Mikaela Woodford, Yuka Yanagita. Jackson and Jared in both classes. Perlodidae in lake 11831

11832 USA: WYOMING: Park Co. Yellowstone National Park, Lewis Lake, north end camp, N 44.314261 W 110.605594 2379 m 16-Sep-2016 17-Sep-2016 C. R. Nelson # 11832 & class 93 Wypt 018lewislake Photos: scenery and people. Camped night in an overflow group area authorized by host in Lewis Lake Campground. Nice marshy longshore lagoon remnant. sunset.

Limnology and Aquatic Entomology northern field trip: Riley Nelson, Becca Clement, Jackson Birrell, Jared Meek, Teagan Ellsworth, Samantha Roan, Trevor Williams, Jeff Andrus, Yelena Pacheco, Robert Erickson. Limnology: Dennis Shiozawa, Makani Fisher, Cameron Christofferson, Josh Verde, Jessica Pukahi, Mikaela Woodford, Yuka Yanagita. Jackson and Jared in both classes. Photos: Columbia spotted frog. 11832

11832 USA: WYOMING: Park Co. Yellowstone National Park, Yellowstone Lake, longshore bar view, N 44.472871 W 110.526340 2368 m 17-Sep-2016 C. R. Nelson # 11832 & class

93 Wypt 019yellowlakelongshore Photos: scenery and people. Lecture on near shore dynamics and caldera/volcanism.

Limnology and Aquatic Entomology northern field trip: Riley Nelson, Becca Clement, Jackson Birrell, Jared Meek, Teagan Ellsworth, Samantha Roan, Trevor Williams, Jeff Andrus, Yelena Pacheco, Robert Erickson. Limnology: Dennis Shiozawa, Makani Fisher, Cameron Christofferson, Josh Verde, Jessica Pukahi, Mikaela Woodford, Yuka Yanagita. Jackson and Jared in both classes. Photos: elk. Scaup on lagoon. 11832

11833 USA: WYOMING: Park Co. Yellowstone National Park, Fountain Paint Pots area, N 44.549807 W 110.806323 2220 m 17-Sep-2016 C. R. Nelson # 11833 & class 93 Wypt 020fountainpaintpots Photos: scenery and people.

Limnology and Aquatic Entomology northern field trip: Riley Nelson, Becca Clement, Jackson Birrell, Jared Meek, Teagan Ellsworth, Samantha Roan, Trevor Williams, Jeff Andrus, Yelena Pacheco, Robert Erickson. Limnology: Dennis Shiozawa, Makani Fisher, Cameron Christofferson, Josh Verde, Jessica Pukahi, Mikaela Woodford, Yuka Yanagita. Jackson and Jared in both classes. Photos: bacterial mats 11833

11834 USA: WYOMING: Park Co. Yellowstone National Park, Madison River, west bridge, N 44.662358 W 110.962826 2052 m 17-Sep-2016 C. R. Nelson # 11834 & class 93 Wypt 021madisonbridge Limnology and Aquatic Entomology northern field trip: Riley Nelson, Becca Clement, Jackson Birrell, Jared Meek, Teagan Ellsworth, Samantha Roan, Trevor Williams, Jeff Andrus, Yelena Pacheco, Robert Erickson. Limnology: Dennis Shiozawa, Makani Fisher, Cameron Christofferson, Josh Verde, Jessica Pukahi, Mikaela Woodford, Yuka Yanagita. Jackson and Jared in both classes. Photos: elk 11834

11835 USA: MONTANA: Gallatin Co. Hebgen Lake Dam, N 44.865060 W 111.335312 2007 m 17-Sep-2016 C. R. Nelson # 11835 & class 93 Wypt 022hebgendam Photos: scenery. Limnology and Aquatic Entomology northern field trip: Riley Nelson, Becca Clement, Jackson Birrell, Jared Meek, Teagan Ellsworth, Samantha Roan, Trevor Williams, Jeff Andrus, Yelena Pacheco, Robert Erickson. Limnology: Dennis Shiozawa, Makani Fisher, Cameron Christofferson, Josh Verde, Jessica Pukahi, Mikaela Woodford, Yuka Yanagita. Jackson and Jared in both classes. 11835

11836 USA: MONTANA: Madison Co. Quake Lake visitor center, N 44.830573 W 111.425387 1977 m 17-Sep-2016 C. R. Nelson # 11836 & class 93 Wypt 023quakelake Photos: scenery.

Limnology and Aquatic Entomology northern field trip: Riley Nelson, Becca Clement, Jackson Birrell, Jared Meek, Teagan Ellsworth, Samantha Roan, Trevor Williams, Jeff Andrus, Yelena Pacheco, Robert Erickson. Limnology: Dennis Shiozawa, Makani Fisher,

Cameron Christofferson, Josh Verde, Jessica Pukahi, Mikaela Woodford, Yuka Yanagita. Jackson and Jared in both classes. 11836

11837 USA: MONTANA: Madison Co. Madison River, Hwy 87, N 44.826296 W 111.486702 1871 m 17-Sep-2016 C. R. Nelson # 11837 & class 93 Wypt 024madison87 Photos: scenery and people.

Limnology and Aquatic Entomology northern field trip: Riley Nelson, Becca Clement, Jackson Birrell, Jared Meek, Teagan Ellsworth, Samantha Roan, Trevor Williams, Jeff Andrus, Yelena Pacheco, Robert Erickson. Limnology: Dennis Shiozawa, Makani Fisher, Cameron Christofferson, Josh Verde, Jessica Pukahi, Mikaela Woodford, Yuka Yanagita. Jackson and Jared in both classes. Pteronarcyidae Pteronarcys californica, Perlidae Hesperoperla pacifica, Deuterophlebiidae, Blephariceridae, Glossosomatidae, Hydropsychidae, Athericidae, Chironomidae, Tipulidae, Simuliidae, Baetidae, Elmidae, flatworm, Oligochaeta, snails. Photos: bald eagle. 11837

11839 USA: UTAH: Utah Co., Provo, Wilford Baird bee house, N 40.297159 W 111.651500 1480 m 19-Sep-2016 C. R. Nelson # 11839 93 Google Earth Greater wax moth: Pyralidae: Galleria mellonella on honeybee combs.

Photos: new adults and a larva, pupal cases. 5 October 2016 in lab. 11839

11840 USA: UTAH: Utah Co., Goshen Warm Springs and ponds, N 39.959628 W 111.855592 1381 m 22-Sep-2016 C. R. Nelson # 11840 & class 93 wypt025goshennorth Riley Nelson, Becca Clement, Trevor Williams, Teagan Ellsworth, Jackson Birrell, Kevin Lamb, Jeff Andrus, Yelena Pacheco, Jared Meek, Robert Erickson. Baetidae: Callibaetis and Centroptilum?/ Libellulidae: Libellula saturata, Tramea lacerata, Enallagma, Ischnura, Pantala?; Calopterygidae: Hetaerina americana. Mesoveliidae, Gerridae, Gyrinidae, Hydrometridae, Naucoridae, Elmidae, snails 3 kinds, Dytiscidae. Flatworms, Aeshnidae, Leptohyphidae? or Caenidae, Tipulidae. 11840

11841 USA: FLORIDA: Orange Co. Orlando, International Drive, Holiday Inn Express, N 28.455601 W 81.473400 41 m 25-30 September 2016 C. R. Nelson # 11841 & students 93 Googleearth 29 Sep 2016: Nile Ethiopian Restaurant. Dara Satterfield, Beatriz Willink, Amanda Whispell, Riley Nelson, Tyson Terry, Paul Frandsen, Tristan McKnight, Richard J. Rowe of James Cook University. 28 Sep 2016: Becca Clement and Mathilde Goudreau with insects from pool filter.

29 Sep 2016: photo: purple moth

Photos at home: Curculionidae staged on leaf of Ficus benjamina.

11841

11842 USA: FLORIDA: Orange Co. Orlando, International Drive, Orange County Convention Center, International Congress of Entomology, N 28.425465 W 81.468861 36 m 25-30 September 2016 C. R. Nelson # 11842 & students 93 GoogleEarth 26 Sep 2016: bus patrons.

27 Sep 2016: yellow pans from Sky Walk, art in Convention Center, friends in Johnny Rockets Diner. Steve Mason, Karl Kjer, Sabryna Simon, Dominic Evangelista, Paul Frandsen, Harald Letsch, and Jon Gelhaus; architecture of Convention Center.

28 Sep 2016: Larry Jech and Nadeer Youssef, BioQup booth, Kim Huntzinger, Insect Expo: Passalidae with Mykita Martin, mother Cami Martin, Mason Martin, termites on ink, maggot Matisse art. Celia Stuart (former UT student, Louise Fall of BioQuip, also Miriam Hay - Ree (spelling?) UT grad student while I was there. Frandsen and Martin families Christin Frandsen eating mealworm.

29 Sep 2016: photos heavy rain from Sky Walk of Convention Center; photos; presentation addresses.

30 Sep 2016: photos: Chen Zhi Teng with Plecoptera poster. Jon Gelhaus with poster. saw wild alligators, anhingas, and wood stork on way to Orlando Airport.

Photos and video at home: Mexican jumping beans, 3 and 5 October 2016 bought at ICE, supplier is jumpingbeansrus.com 11842

11843 USA: FLORIDA: Volusia Co. Atlantic Ocean, New Smyrna beach, N 29.022401 W 80.885805 0 m 28-Sep-2016 C. R. Nelson # 11843 & others, see field notes 93 Wypt026newsmyrna Photos: Christine Frandsen and Harvey, scenery waves and storm.

Paul, Christine, and Harvey Frandsen. Cami Martin and ?, Riley Nelson. photos: birds: sandpiper, turnstone, brown pelican; Asilidae: Laphystia.

11843

11844 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 02-Oct-2016 C. R. Nelson # 11844 93 photos: cat faced spider, Araneidae, Araneus gemmoides.

3 October 2016: photos and videos: jumping beans from booth at ICE in Orlando. 11844

11845 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.953212 W 111.264956 1819 m 06-Oct-2016 C. R. Nelson # 11845 & Aquatic Entomology class 93 Wypt027soldier Riley Nelson, Becca Clement, Teagan Ellsworth, Jared Meek, Kevin Lamb, Pobert Erickson, Trevor Williams, Yelena Pacheco, Sam Roan, and Jeff Andrus. Gomphidae: Erpetogomphus, Perlodidae, Heptageniidae: Heptagenia; Ephemerellidae; Tipulidae; Beetidae; Athericidae; Hydropsychidae; Elmidae; Dytiscidae;

Corixidae; Brachycentridae; Simuliidae; Aeshnidae? Robert; Chironomidae; sculpin.
11845

11846 USA: UTAH: Utah Co., Diamond Fork River, Diamond Fork Campground, N 40.071922 W 111.428532 1589 m 06-Oct-2016 C. R. Nelson # 11846 & Aquatic Entomology class 93 Wypt028diamond Riley Nelson, Becca Clement, Teagan Ellsworth, Jared Meek, Kevin Lamb, Robert Erickson, Trevor Williams, Yelena Pacheco, Sam Roan, and Jeff Andrus. *Pteronarcys californica*, *Claassenia sabulosa*, *Isogenoides zionensis*, Ephemereidae, Glossosomatidae, Brachycentridae, Hydropsychidae, Simuliidae, Baetidae, Heptageniidae. 11846

11847 USA: UTAH: Utah Co., Spring Creek, Hwy 89, Main Street Springville near Division of Wildlife Resources office, N 40.182421 W 111.612428 1370 m 08-Oct-2016 C. R. Nelson # 11847 Makani Fisher. 93 Makani Fisher collector. Photos: *Sisyridae*: *Climaciella californica*, pupa, cocoon, and pupal chamber. Collected by Makani Fisher, C. R. Nelson not present when collected, but knows the spot. Also Thysanoptera: thrips crawling on pupal chamber. 11847

11848 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 15-Oct-2016 C. R. Nelson # 11848 & family 93 J. K. and C. R. Nelson with Wolfgang Winston Smith. Carried a load of firewood to the cabin from Todd and Amy's house in the little trailer. Wolf and I rode a four wheeler. Paul and Scott Ashton came to finish winterizing the water systems. We needed to leave to get to a High Priest Quorum dinner at the pavilion of the old stake center. 11848

11849 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 16-Oct-2016 C. R. Nelson # 11849 93 Photos: time lapse sequences of Squaw Peak area and Mount Nebo. focus was jumpy because I left it on autofocus.
11849

11850 USA: UTAH: Beaver Co. Beaver River, 2 miles west of Minersville Dam, Hanging Rock Recreation Area, N 38.214500 W 112.865371 1624 m 16-Oct-2016 C. R. Nelson # 11850 & class 93 Wypt025beaverdown Riley Nelson, Robert Johnson, Jared Meek, Becca Clement, Teagan Ellsworth, Yelena Pacheco, Robert Erickson. Accidentally left a brand new D net! Ouch! \$70. This was its first use. I suppose some fisherman is loving it now. Gomphidae, Hydropsychidae, Calopterygidae *Hetaerina americana*, Coenagrionidae *Enallagma*? *Argia*, Saldidae, Hydrophilidae, Dytiscidae, Dryopidae, Corixidae, Notonectidae, Chironomidae, Hirudinea, crayfish *Orconectes virilis*. 11850

11851 USA: UTAH: Washington Co. Leeds Creek, 3 miles west of Leeds, N 37.273394 W 113.388854 1310 m 20-21 October 2016 C. R. Nelson # 11851 & class 93

Wypt026leedshigh Riley Nelson, Robert Johnson, Jared Meek, Becca Clement, Teagan Ellsworth, Yelena Pacheco, Robert Erickson. Perlidae, Naucoridae, Calopterygidae, Hydroptilidae, Hydropsychidae, Cordulegastridae, Baetidae: Camelobaetidius?, Ephemerellidae, Leptophlebiidae, Nemouridae, Perlodidae. Asilidae: Sintoria 11851

11852 USA: UTAH: Washington Co. Leeds Creek, 2 miles west of Leeds, N 37.266137 W 113.368299 1212 m 21-Oct-2016 C. R. Nelson # 11852 & class 93 Wypt027leeds2mile Riley Nelson, Robert Johnson, Jared Meek, Becca Clement, Teagan Ellsworth, Yelena Pacheco, Robert Erickson. Corydalidae, Lestidae, Isoperla, Baetidae, Naucoridae, Hydropsychidae, Tipulidae, Gerridae, mountain sucker fish, Leptophlebiidae, Dytiscidae. 11852

11853 USA: UTAH: Washington Co. Washington "Boilers" pond, 0.2 miles NE of Mill Creek, N 37.137188 W 113.513527 856 m 21-Oct-2016 C. R. Nelson # 11853 & class 93 Wypt028washingtonboiler1 Riley Nelson, Robert Johnson, Jared Meek, Becca Clement, Teagan Ellsworth, Yelena Pacheco, Robert Erickson. Tambaqui/pacu fish, convict cichlid, golden cichlids. Ischnura, Libellula saturata, Sympetrum, Enallagma? 2 spp., Calopterygidae: Hetaerina americana. Photos: Willows with Tanglefoot on tops catching dragonflies, left by someone else! 11853

11854 USA: UTAH: Washington Co. Virgin River, jct Santa Clara River, St. George, N 37.074282 W 113.578437 767 m 21-Oct-2016 C. R. Nelson # 11854 & class 93 Wypt029virginconfup Riley Nelson, Robert Johnson, Jared Meek, Becca Clement, Teagan Ellsworth, Yelena Pacheco, Robert Erickson. Gomphidae, Leptohyphidae, Baetidae, Ephyridae, Calopterygidae, Coenagrionidae, Libellulidae, Naucoridae Ambrysus, Veliidae Rhagovelia. 11854

11855 USA: NEVADA: Clark Co. Muddy River, Hidden Valley below power plant, N 36.652580 W 114.618839 479 m 21-Oct-2016 C. R. Nelson # 11855 & class 93 Wypt030muddyhidden Riley Nelson, Robert Johnson, Jared Meek, Becca Clement, Teagan Ellsworth, Yelena Pacheco, Robert Erickson. Belostomatidae Belostoma, Isonychiidae Isonychia, Calopterygidae Hetaerina americana, Leptohyphidae, Leptoceridae, Naucoridae, Baetidae. 11855

11856 USA: NEVADA: Clark Co. Warm Springs, Moapa, Cardy Lamb Spring, N 36.725610 W 114.728853 552 m 21-22 October 2016 C. R. Nelson # 11856 & class 93 Wypt034cardylamb Riley Nelson, Robert Johnson, Jared Meek, Becca Clement, Teagan Ellsworth, Yelena Pacheco, Robert Erickson. Added Dennis Shiozawa's class: Dennis Shiozawa, Cameron, Jackson, Jessica Pukahi, Josh, and Mikaela. Painted sunrise in watercolor. time lapse palms and stars start midnight.

Saw (photos) Jed Wheeler in the morning with folks from Logandale doing an Eagle Scout project at the newly made campground. caddis, Odontoceridae at UV light; soft shell turtle, bullfrog, Pompilidae stung Yelena, Aeshnidae at light, 11856

11857 USA: NEVADA: Clark Co. Warm Springs, North Fork Muddy River, N 36.723644 W 114.718548 542 m 22-Oct-2016 C. R. Nelson # 11857 & class 93 Wypt032northfork Riley Nelson, Robert Johnson, Jared Meek, Becca Clement, Teagan Ellsworth, Yelena Pacheco, Robert Erickson. Added Dennis Shiozawa's class: Dennis Shiozawa, Cameron, Jackson, Jessica Pukahi, Josh, and Mikaela.

joined by family of young maintenance man, Robert Shakespeare, wif and kids Zane and Chase & baby in arms. Naucoridae *Ambrysus mormon* and *Limnocoris moapensis*, Elmidae *Stenelmis*, Hydropsychidae, Corydalidae, Leptohyphidae, Leptoceridae, Calopterygidae *Hetaerina americana*, Pompilidae, Vespidae, Libellulidae, Gomphidae, Crambidae *Petrophila*. 11857

11858 USA: NEVADA: Clark Co. Warm Springs, main stem Muddy River, N 36.715516 W 114.711461 532 m 22-Oct-2016 C. R. Nelson # 11858 & class 93 Wypt033muddybelow Riley Nelson, Robert Johnson, Jared Meek, Becca Clement, Teagan Ellsworth, Yelena Pacheco, Robert Erickson. Added Dennis Shiozawa's class: Dennis Shiozawa, Cameron, Jackson, Jessica Pukahi, Josh, and Mikaela. Corydalidae, Hydropsychidae, photos: Calopterygidae *Hetaerina americana*, Leptohyphidae, Leptoceridae, Naucoridae *Ambrysus Limnocoris*, Elmidae *Microcyloopus*, photos: Coenagrionidae *Argia* purple and Gomphidae *Erpetogomphus*. Photos: Asilidae *Metapogon*? 11858

11859 USA: UTAH: Sevier Co. Sevier River at Big Rock Candy Mountain, Hwy 89, N 36.715516 W 114.711461 532 m 22-Oct-2016 C. R. Nelson # 11859 & class 93 Wypt035sevierbigrock Riley Nelson, Robert Johnson, Jared Meek, Becca Clement, Teagan Ellsworth, Yelena Pacheco, Robert Erickson. Added Dennis Shiozawa's class: Dennis Shiozawa, Cameron, Jackson, Jessica Pukahi, Josh, and Mikaela. photos: * Perlidae *Acroneuria abnormis* nymphs, abundant!, Gomphidae, Athericidae (originally thought Tipulidae), Heptageniidae, photos: Gomphidae *Ophiogomphus severus*. 11859

11860 USA: UTAH: Utah Co., Squaw Peak Road, overlook, N 40.301473 W 111.625882 2011 m 27-Oct-2016 C. R. Nelson # 11860 93 Wypt036squawpeakover Photos: Evo Devo seminar speaker Sean B. Carroll, portrait and scenery 11860

11861 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 29-Oct-2016 C. R. Nelson # 11861 93 Photos: caterpillars and pupae, on books, far from any obvious food (5 - 10 m), about 1.5 cm in length.

31 October 2016: photos: Aphididae flying, many this Fall.

1 November 2016: Simuliidae. 11861

11862 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB, N 40.245293 W

111.649165 1407 m 04-Nov-2016 C. R. Nelson # 11862 93 Google Earth Microscope work with Diura: D2 - D13

5 November 2016: D1 D14-27

head first of specimen then tail.

14 Nov 2016: D28-D30

18 Nov 2016: D31-D33

22 Nov 2016: D34 D35 456 foreleg female, 447-448 from microvial. DONI! 11862

11863 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W

111.64922 1495 m 8 - 21 November 2016 C. R. Nelson # 11863 93 Tuesday 8 Nov 2016: 3:00am or so, dull pain high in kidney area, discomfort but not sharp pain at first.

Substantial but "tolerable" pain until Friday.

Friday 11 November 2016: Considerable pain off and on all day, scheduled appointment with Physicians Assistant Lisa Hall in Dr. Kenneth Crumps office at 3:30pm. At 3:00pm pain at home such that we went to appointment early. Given a pain shot and sent to the CT imaging office at Utah Valley Hospital also prescriptions for dilation of ureter. Tamsulosin, and oxycodone for pain. 10- 325 mg tablet and Promethazine 25 mg tablet for nausea, used some until 14 November 2016. CT scan showed 5 mm stone high in left ureter, easily read by me, except ghost of calcification of aorta was confusing. Relief from pain. Drank much water and juice to flush stone. Considerable bouts of pain over the weekend.

Wednesday 16 November 2016. Visit Dr. Targhee Morris, urologist in Spanish Fork at 11:40am. Diagnosis of 5 mm stone. Ordered a second CT scan in Provo at same

clinic/hospital, later in day 6:00pm. Less pain, last oxycodone taken 2:30am on 18 November 2016. Final dilator taken 19 November 2016 at 7:30pm. Straining urine since 11 November 2016, pain not noticeable not sure if even hurts from 18-21 November 2016.

Worked actively outdoors Saturday 19 November 2016. No real pain and no visible blood in urine ever. Passed hard black stone with side bumps at 7:21 am on 21 November 2016.

9:10 am follow up with Dr. Morris. iPhone photos of stone taken. Stone given to lab, no return, calcium based stone. 11863

11864 USA: UTAH: Salt Lake Co. Salt Lake City, Natural History Museum of Utah, N

40.76227 W 111.82377 1507 m 12-Nov-2016 C. R. Nelson # 11864 93 Five year anniversary of the new building. Photos: Sarah George (director) talking, wall of biodiversity,

Pterodactyl tracks, Ceratopsian wall, Utahceratops gettyi, window and valley and Oquirrh Mountains. Anthropocene. 11864

11865 USA: UTAH: Salt Lake Co. Draper, Living Planet Aquarium, N 40.532184 W 111.893966 1349 m 25-Nov-2016 C. R. Nelson # 11865 & family 93 Riley, Kaye, Jason, Brandy, Artemis, Astrid, Andrea Jordan, Amy, Wolfgang, and Leah. Photos: people, family. Scleopages formosus asian arowana, Pangasius hypophthalmus, giant gourami Osphronemus goramy, chinese hillstream loach Beaufortia kweichowensis, sea anemone Metridium farcimen, japanese king crab Macrocheira kaempferi, Pacific hagfish Eptatretus stoutii, Ctenophora comb jelly, Chrsaora sp. jellyfish, Chestnut billed toucan, blue and gold macaw, yellow rumped cacique, Curcubitaceae Psiguria sp., freshwater stingray, red tailed catfish Phractocephalus hemiliopterus, pirarucu, green anaconda Eunectes murinus, side necked turtle, electric eel Electrophorus electricus, gentoo penguin, wood duck, river otter, humpbacked chub Gila cypha, razorback sucker Xyrauchen teanus, bonytail chub? Gila elegans, Colorado pikeminnow Ptychocheilus lucius, white sturgeon Acipenser transmontanus, damsel fish and sea anemone, longnose hawfish, spiny lobster, zebra mantis shrimp, Lysiowquillina maculata, barberpole shrimp, common cuttlefish Sepia officinalis, chambered nautilus Nautilus pompilius, gray shark, nurse shark Glyptostoma cirratum, zebra shark Stegostoma fasciatum. 11865

11866 USA: UTAH: Utah Co., Orem City Center Park, N 40.298611 W 111.688687 1466 m 26-Nov-2016 C. R. Nelson # 11866 & family 93 Wypt037orempark Riley, Kaye, Jason, Brandy, Artemis, Astrid, Todd, Amy, Wolfgang, and Leah. PHotos: playing in the park, flying drone. 11866

11867 USA: UTAH: Salt Lake Co. Salt Lake City, Christopher/Nelson home, 973 East 800 South, N 40.752293 W 111.862991 1325 m 27-Nov-2016 C. R. Nelson # 11867 & family 93 Google Earth Photos: Nelson group. Riley, Kaye, Jason, Brandy, Artemis, Astrid. Todd, Amy, Wolfgang, Leah Smith. Jordan Christopher and Andrea Nelson and Zim the cat and Ziggy the dog. 11867

11868 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 28-Nov-2016 C. R. Nelson # 11868 93 photos: European starling 11868

11869 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 30-Nov-2016 C. R. Nelson # 11869 93 photos: elm seed bug, Lygaeidae: Arocatus melanocephalus. 11869

11870 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 04-Dec-2016 C. R. Nelson # 11870 93 photos: California quail, *Plecostomus winking*, group Pearce/Nelson's 11870

11871 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.6 miles south of Vivian Park and Hwy 189, N 40.34771 W 111.54800 1667 m 10-Dec-2016 C. R. Nelson # 11871 93 *Skwala americana*, *Hesperoperla pacifica*, *Zapada?*, *Rhyacophila*. 11871

11872 USA: UTAH: Box Elder Co. Bear River Migratory Bird Refuge, 15 miles west of Brigham City, N 41.431908 W 112.291783 1294 m 15-Dec-2016 C. R. Nelson # 11872 93 Wypt039brbramp Sighted and counted birds starting at Visitor Center near freeway then on access highway and auto route loop on dikes. GPS at viewing ramp at SE corner of auto tour. Canada goose 110, tundra swan 16, gadwall 6, mallard 62, shoveler 2, pintail 2, redhead 1, lesser scaup 2, bufflehead 2, common goldeneye 2, red breasted merganser 10, ring necked pheasant 3, pied billed grebe 12, eared grebe 1, western grebe 1, great blue heron 1, harrier 10, bald eagle 4, red tailed hawk 1, rough legged hawk 4, coot 7, ring billed gull 818, california gull 1, rock pigeon 10, kestrel 2, loggerhead shrike 1, magpie 3, raven 16, horned lark 365, marsh wren 2, pipit 2, red winged blackbird 28, western meadowlark 6. Total 1540. 11872

11873 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 18-Dec-2016 C. R. Nelson # 11873 93 Photos: sunrise in Rock Canyon, nearly the solstice so I took the picture with a clear day. If skies clear on the solstice 21 December 2016 (3:44 am) I'll take another of this farthest south point. Sun rose at 9:02am first photos taken at 9:04 am time off one hour on camera Nikon D620. Reads 10:04, should read 9:04am. Probably off since daylight standard time started again on Sunday 6 November 2016. Winter solstice 18 Dec 2016, angle from website timeanddate.com Sunrise 121 deg (measured at home was 128 deg, mountains explain difference. Sunset 239 deg. Summer solstice 20 June 2016, sunrise 58 deg, sunset 302 deg. 11873

11874 USA: UTAH: Utah Co., Utah Lake, Provo Airport Dike Road, N 40.230935 W 111.735943 1371 m 21-Dec-2016 C. R. Nelson # 11874 93 Wypt042airportdike photos: scenery. apparent setting spot of sun at 218 deg. photos: white crowned sparrow, harrier. Also ring necked pheasant, flicker, robin. 11874

11875 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Dec-2016 C. R. Nelson # 11875 93 Photos: evening sun through the aspens. Paintings aspens and snow; aspens and snow 2, simple. 11875

11876 USA: UTAH: Salt Lake Co. Draper, Living Planet Aquarium, N 40.532184 W 111.893966 1349 m 29-Dec-2016 C. R. Nelson # 11876 & family 93 Riley, Kaye, Amy, Wolfgang, and Leah. Jake and Alison Parker family. Student Russell Anderson and family. Saw Daniel Parker family & Friskes. Met student sleep doctor from Biodiversity 2001, Corey Leonard from Kennedy Center. photos: people and snakes, triggerfish, raccoon butterfly fish, anemone, northern ronquil *Ronquilus jordani*, grunt sculpin, decorator crab *Chorilia longipes*, fish, *Pisaster ochraceus* sea star, quillback rockfish, chambered nautilus *Nautilus pompilius*, common cuttlefish *Sepia officinalis*, sailfin snapper, shortfin turkeyfish, stingray, giant clam *Tridacna squamosa* or *gigas*, blue tang, laced moray eel, blackspot pufferfish, spiny lobster, sea urchin, *Homarus americanus*, white spotted bamboo shark, spadefish, gray reef shark, blunt nose unicornfish, blue spine unicornfish, zebra shark, singray, Hilaire's side necked turtle, matamora, ladybird beetle, black pacu, chestnut mandibled toucan, *Dendrobates tinctorius* poison dart frog, giant deep sea isopod *Bathynomus gigantea*, binturong, clouded leopard, fireworks hillstream loach, chinese hillstream loach, glass catfish *Kryptopterus vitreolus*. Iphone additions: nautilus, cuttlefish, garden eels, sailfin snapper, short finned turkeyfish, deep sea isopod, plumose anemone *Metridium farcimen*, spider crab, hagfish, moon jellyfish, glass catfish, hillstream loaches, bamboo shrimp. 11876

11877 USA: FLORIDA: Miami-Dade Co. Everglades National Park, approach to Royal Palms area road, N 25.404831 W 80.611540 0 m 02-Jan-2017 C. R. Nelson # 11877 & J. K. Nelson 93 Wypt045anhinga photos: alligator, Kaye's first, anhinga, moulting white ibis. Also stopped and got 5 free coconuts and 2 sprouting ones for \$15.00 at Robert is Here fruitstand in Homestead/Florida City, west of Homestead. I didn't change the date/time on my Nikon D610 or Fuji XP during this whole Florida trip. 11877

11879 USA: FLORIDA: Miami-Dade Co. Everglades National Park, Nike Missile Base Road, N 25.368763 W 80.685615 10 m 02-Jan-2017 C. R. Nelson # 11879 & J. K. Nelson 93 Wypt049nikeend, end of Nike Road kestrel 11879

11878 USA: FLORIDA: Miami-Dade Co. Everglades National Park, Royal Palms area, Anhinga Trail, N 25.382514 W 80.609394 0 m 02-Jan-2017 C. R. Nelson # 11878 & J. K. Nelson 93 Wypt047royalpalm photos: many birds, alligators. Photos: black vultures at Wypt046vulture1. N 25.384561 W 80.611032 elev. 2m. 11878

11880 USA: FLORIDA: Miami-Dade Co. Everglades National Park, Paurotis Pond, N 25.282470 W 80.799846 0 m 02-Jan-2017 C. R. Nelson # 11880 & J. K. Nelson 93 Wypt050paurotispond roseate spoonbills, wood stork 11880

11881 USA: FLORIDA: Monroe Co. Everglades National Park, Flamingo Bay, marina, N 25.142867 W 80.923123 0 m 02-Jan-2017 C. R. Nelson # 11881 & J. K. Nelson 93 Wypt053flamingomarina Photos: American crocodile and manatee.
Wypt051flamingoamphitheater N 25.137576 W 80.938070 elev. 0 m photos: osprey with fish prey. Wypt 052ecopond Flamingo Bay Campground area N 25.139140 W 80.937659 elev. 2 m. bad mosquitos. 11881

11882 USA: FLORIDA: Monroe Co. Key Largo, John Pennekamp Coral Reef State Park, N 25.118388 W 80.402649 0 m 03-Jan-2017 C. R. Nelson # 11882 & J. K. Nelson 93 Wypt054pennekampboatout, leaving marina photos: mangrove creek,
Wypt056bowlingalleykeylargo (boat channel dug to get out to reefs) N 25.097779 W 80.403803 elev. 0 m, showed at 14 m on phone GPS).
Photos underwater with Fuji XP10 on beach, time and date wrong. Photos: great egret, belted kingfisher, osprey.
Buoys and birds on dugout channel to open ocean, double crested cormorant, royal tern. 11882

11883 USA: FLORIDA: Monroe Co. Atlantic Ocean, Molasses Reef, 6 miles east of Key Largo, boat out of John Pennekamp Coral Reef State Park, in Florida Keys National Marine Sanctuary, N 25.008984 W 80.376298 0 m 03-Jan-2017 C. R. Nelson # 11883 & J. K. Nelson 93 Wypt055molassesreef Glass bottom boat tour, many photos,
green sea turtles, barracuda, southern stingray, blue tang, horse-eye jack, jack with angled line, yellowtail snapper, key chub, sergeant major, Cnidaria sea fans, sea whips, sea plume, hard corals; magnificent frigate bird 11883

11884 USA: FLORIDA: Monroe Co. Key Largo, police station park, Murray Nelson Park N 25.121306 W 80.418485 0 m 03-Jan-2017 C. R. Nelson # 11884 & J. K. Nelson 93 Wypt062keylargomurraynelson Photos: sunset, spoke with two old men about best seafood for the price in town. They suggested Fish House and The Catch. Very good, \$25 a plate. We had key lime shrimp and scallops and broiled wahoo, swordfish, and cobia. Finished with key lime pie. First old man left in his dinghy, later in my sunset photos as he got to his boat, yacht, anchored offshore. Second, with one leg told me all his medical problems since age 17. He is about 60 years old. Photos: mangrove fruits 11884

11885 USA: FLORIDA: Miami-Dade Co. Everglades National Park, Shark Valley, Tram Trail Loop and tower, N 25.761530 W 80.766375 6 m 04-Jan-2017 C. R. Nelson # 11885 & J. K. Nelson 93 Wypt061sharkvalleyentrance Wypt059sharkvisitorcenter N 25.756985 W 80.765091 elev. 0 m, bus (tram) loading area. Wypt058sharktower N 25.656059 W 80.766283 elev. 27 m, top of tower at end of the Tram Trail. Wypt060sunset (at entrance Hwy 41) N 25.761577 W 80.766399 elev. 4 m. Tram ride to tower, many birds: white ibis,

limpkin, glossy ibis, turkey vulture, black vulture, wood stork, roseate spoonbill at tower, osprey, snail kite, kestrel, purple gallinule, double crested cormorant, anhinga, great blue heron, little blue heron, green heron, black crowned night heron, tricolored heron, snowy egret, orange gar at tower pond, alligators, turtles, Clarias catfish, palm warblers, crow, Gyrinidae: Dineutes, Tilapia. 11885

11886 USA: FLORIDA: Miami-Dade Co. Everglades, Tamiami Trail, Hwy 41, Miccasukee Cultural Area, N 25.777741 W 80.781351 7 m 04-Jan-2017 C. R. Nelson # 11886 & J. K. Nelson 93 Wypt057micco Airboat ride north of Hwy 41, Tippy's Outpost airboat, 30 minute ride, nearly exactly, not fantastic. few birds, osprey, great egret, ibis 11886

11887 USA: FLORIDA: Monroe Co. Florida Keys, Hwy 1, Marathon N 24.714374 W 81.092861 0 m 05-Jan-2017 C. R. Nelson # 11887 & J. K. Nelson 93 Wypt063marathonkeyfisheries Photos: bay and buildings of Key Fisheries, at lunch at Key Fisheries we had hogfish sandwich, conch fritters, shrimp, and "fish". Told of this spot by ranger at Long Key State Park photos small school of shiny white fish babies. 11887

11888 USA: FLORIDA: Monroe Co. Key West, Fort Zachary Taylor Historic State Park, beach, N 24.547275 W 81.812204 0 m 05-Jan-2017 C. R. Nelson # 11888 & J. K. Nelson 93 Wypt064keywestzachary Photos: southern tip ocean, Underwater with Fuji XP10, time and date wrong. Arches National Park RV at Key West; cruise ship passed nearby. Photos: sea slugs: spotted sea hare, Aplysia dactylomela; conch; parrotfish; Bermuda chub. Kaye and Riley self-portraits & swimming. Vireo, magnificent frigate bird, laughing gulls, sergeant major, coral, sea plumes, crab, algae and colonial animals. 11888

11889 USA: FLORIDA: Monroe Co. Big Pine Key, Long Beach Road, N 24.641129 W 81.339721 6 m 05-Jan-2017 C. R. Nelson # 11889 & J. K. Nelson 93 Wypt065longbeach Photos: sunset Ceratopogonidae, biting hard at dusk. Only time felt on whole trip (but mosquitos at Eco Pond in Everglades) 11889

11890 USA: FLORIDA: Monroe Co. Scout Key, Hwy 1, southwest end of bridge, N 24.649167 W 81.316879 0 m 05-Jan-2017 C. R. Nelson # 11890 & J. K. Nelson 93 Wypt066sscout, south scout Photos: sunset with electrical wires 11890

11891 USA: FLORIDA: Monroe Co. Scout Key, Hwy 1, northeast end near Bahia Honda channel, N 24.655419 W 81.298290 1 m 05-Jan-2017 C. R. Nelson # 11891 & J. K. Nelson 93 Wypt067nscout, north scout Photos: sunset with coconut palms. Stopped for quick dinner at Mcdonalds in Marathon, then home to Homestead, Floridian Motel. 11891

11892 USA: FLORIDA: Miami-Dade Co. Biscayne National Park, visitor center boardwalk, N 24.655419 W 81.298290 1 m 06-Jan-2017 C. R. Nelson # 11892 & J. K. Nelson 93

Wypt068biscaynenatpark Photos: Turkey Point Nuclear Power Plant & boats. photos: striped mullet, french grunt?, needlefish, barracuda, red mangrove, black mangrove, yellow crowned night heron, western? sanpiper, cormorant, laughing gull, brown pelican, green heron, royal tern. More photos: Cuban brown anole, morning glory, sea grapes Beach Naupaka *Scaevola taccada* (invasive) beauty from Tahiti. Sunflower?, small tree snail. 11892

11893 USA: FLORIDA: Miami-Dade Co. Everglades National Park, Royal Palms area, Anhinga Trail and Gumbo Limbo Trail, N 25.381991 W 80.609302 1 m 06-Jan-2017 C. R. Nelson # 11893 & J. K. Nelson 93 Wypt069royalpalm Wypt070royalpalm N 25.381969 W 80.609297 elev. 0 m. Photos: Gumbo Limbo Trail: black vulture, tree snails, gumbo limbo tree *Bursera simaruba*, bromeliads, epiphytes, strangler fig *Ficus aurea*, papaya, *Heliconius charitonia*, mouse ear fungus. Anhinga Trail: photos: morning glory & fly, anhinga one eating sunfish warmouth?, pale nymphalid butterfly *Anartia jatrophe* white peacock, Mayan cichlid, Florida gar, turtle, bromeliads, orchids, cormorant, purple gallinule, alligator, 14 today, pickerelweed *Pontaderia cordata*. 11893

11894 USA: FLORIDA: Miami-Dade Co. Homestead, Robert Is Here fruitstand, 19200 SW 344 Street, N 25.44743 W 80.50178 2 m 06-Jan-2017 C. R. Nelson # 11894 & J. K. Nelson 93 iPhone GPS Robert Moehling was pleasant and talkative! He gave me coconuts to take home on plane. I bought two sprouting ones for a total of \$15 on 2 January 2017. On 6 January we had guanabana and coconut milkshakes. Superb fruit stand. Large sprout died and I cut it longitudinally as a display specimen on 6 March 2017, the other, that I picked up under its mother tree is doing fine. 11894

11895 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 15-Jan-2017 C. R. Nelson # 11895 94 photos: wild turkeys 11895

11896 USA: UTAH: Utah Co., Provo River, Provo, 2230 North Bridge, Riverside Park BYU, N 40.264904 W 111.663405 1410 m 21-Jan-2017 C. R. Nelson # 11896 & class 94 Wypt 009provopavil Air temp: 7 deg C, Water temp 4 deg C. Flow: 1.1m/sec. Many First 100s. Bio 100: Riley Nelson, Makani Fisher, Andrea McRae, Cassidy Vela, Jared Meek; students: Gabriel de Guzman, Bryan Landru, Alec Porter, Kenneth Tague, Parker Hendricks, Hamilton Bretherton, Kayla Hunter, Parker Strang, Kamaron Woods, Angela Day, Colman Gibbs, Chris Han, Hannah Ward, Thomas Helms, Brittany Erbe, Dallas Williamson, Derrikk Sun, Lawrence Tuttle, Jaron Pruett, Tiago McDown, Hannah Stadler, Matt Christian, Brian Stolp, Tyson Naumann, Kristen Yose, Lydia Masters, Michael Kim, Clarissa Howard, Sam Boswell, Adam Fletcher, Amanda Driskill, Esther Petersen, Alex Woerner.

Bio 220: Riley Nelson, Rachael Hadden, Natalie Saxton, Parker Nielson, Malia Peck, Tanner Hafen, Susan Davidson, Paola Burci-Gonzalez, Kaelamae Topham, Taylor Bly, Brennan

Jenkins, Rachel Mumford (Ratchew Muddler, not in class), Laura Mumford, Robert Cutler, Brandon Young, and Riley Peterson. We reserved BYU Riverside park with Janae Pickard of Central Scheduling. Snowing hard when started at 10:00am, stopped part of time, snowing again at end at 2:00pm. Makani found a toy bow tie bowtie that looks like something sponge bob would wear. Taxa seen: Hydropsychidae, Limnephilidae, Leptoceridae, Rhyacophilidae, Baetidae, Simuliidae, Chironomidae, Annelida, Oligochaeta Lumbricus?, Hirudinea yellow, Hirudinea black, Platyhelminthes, fish sculpin *Cottus bairdi*, Brachycentridae?, Acari, snails: Potamopyrgus, Physa, Fluminea; pea clam Sphaeriidae: Pisidium; Porifera sponge, no stoneflies, no dragonflies, no beetles. Birds seen: robin, magpie, dipper, mallard duck, cedar waxwing, collared dove. 11896

11896.5 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB, N 40.245293 W 111.649165 1407 m 27-Jan-2017 C. R. Nelson # 11896.5 94 Microscope session with Diura from Europe. D36 Diura nanseni: 457-458 labels & specimens .63 .63 10 mm; Male: 459 head 2 2 1mm; 460 head 2 2 1mm; 461 head scale bar 2 2 1mm; 462 epiproct (paraprocts) 2 3.2 500um; 463 epiproct (paraprocts) light 2 3.2 500 um; 464 epiproct (paraprocts) scale bar 2 3.2 500 um; DONE; Female: 465 head 2 1.6 1 mm; 466 head scale 2 1.6 1 mm; 467 subgen 2 2 1 mm; 468 subgen scale 2 2 1 mm; Sponge, sp. 1 Spring Creek Springville (by Makani) 469 sponge spicules 2 3.2 500 um; 470 spicules scale 2 3.2 500 um; 471 spicules 2 6.3 200 um; 472 sponge scale 2 6.3 200 um; Sponge Provo River PR 473 2 3.2 500 um; 474 2 3.2 500 um; 475 scale 2 3.2 500 um scale; 476 gemmules 2 3.2 500 um scale. 11896.5

11897 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB, N 40.245293 W 111.649165 1407 m 27-Jan-2017 C. R. Nelson # 11897 94 Microscope session with Diura. Number Subject lens Magnification Burned scale bar D37 Diura bicaudata 1f: 481 labels no scale burned .63 .63 10 mm; 482 labels scale burned .63 .63 10 mm; 477 labels scale burned .63 .63 10 mm; 478 labels scale burned .63 .63 10 mm; 479 labels scale burned .63 .63 10 mm; 480 labels scale burned .63 .63 10 mm; 483 f head 2 1.25 1mm; 484 f subgen 2 2 1 mm; 31 January 2017: D38 Diura bicaudata 1 m 1 f tail, skin: 485 label tif .63 .63 10 mm; same: 486 label jpg .63 .63 10 mm; 487 label tiled .63 .63 10 mm; 488 male head 2 1.25 1 mm; 491 male head 2 1.6 1 mm; 492 male tail 2 2.5 500 um; 493 male tail 2 4 500 mm; 494 female tail 2 2 1 mm.

11897

11898 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 06-Feb-2017 C. R. Nelson # 11898 94 Lygaeidae elm seed bug,

Arocatus melanocephalus.

1 February 2017: ruby crowned kinglet. 11898

11899 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 10-Feb-2017 C. R. Nelson # 11899 94 Chrysopidae, Hemerobiidae 11899

11900 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.6 miles south of Vivian Park & Hwy 189, N 40.34771 W 111.54800 1667 m 10-Feb-2017 C. R. Nelson # 11900 94 Collector: Jared Meek for C. R. Nelson display at talk on Discovery and Exploration for Utah Science Teachers Association, meet at Provo Marriott Convention Center. CRN not present when collected. 11900

11901 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 15-Feb-2017 C. R. Nelson # 11901 94 Tephritidae galls on *Ericameria nauseosa* plants in yard that I transplanted from the Wheeler cabin years ago. Parasitoids emerged end of May 2017. 11901

11902 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 20-Feb-2017 C. R. Nelson # 11902 & Gordon Oborn 94 Snow melted, road to cabin clear to the cabin. Fixed runoff gouges in side channel so it doesn't wear down to the buried culinary water pipe, and higher, cut the road at the tanks. Sketch: cabin looking west from front yard. 11902

11903 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 20-Feb-2017 C. R. Nelson # 11903 94 Photos: sunset on Y Mountain and Mount Nebo; also photos of Gordon Oborn at his house after our trip to the cabin. 11903

11904 USA: UTAH: Utah Co., Provo, Parker home, 500 East 4300 North, N 40.290494 W 111.649940 1436 m 21-Feb-2017 C. R. Nelson # 11904 94 wypt074parkers with Alison, Lucy, and Jake Parker. morning: photos: transforming pupae of queen butterflies *Danaus gilippus* and Gulf Fritillary *Agraulis vanillae*, adults emerged 1:00 pm photos taken m & f in evening. *A. vanillae* emerged and photographed emergence series 23 February 2017, then stretched nice and photographed on 26 February 2017..

From: USA: ARIZONA: Maricopa Co., Gilbert, East Thunderheart Trail, Claire Mills home, sister of Alison Parker. N 33.28638 W 111.707925 elev. 402 m, 1 February 2017, Claire Mills, shipped to Alison, arrived in Provo 17 February 2017, caterpillars on *Passiflora* sp. and *Asclepias* sp. in suburban yard. 11904

11905 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 24-Feb-2017 25-Feb-2017 C. R. Nelson # 11905 & others, see field

notes 94 with Kaye. Stayed night in cabin with John Bennion's Wilderness Writing class. 25 February 2017: morning walk to gully, tanks, and waterfall. All water repairs of last Monday holding. Photos: water & ice with iPhone. Noon walk: photos of Glass Cliffs. Kaye talking about her dad. Meat on a stick. 11905

11906 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Feb-2017 C. R. Nelson # 11906 94 27 February 2017: C. R. Nelson passport photos. photos: backyard birds, late afternoon: lesser goldfinch m & f; rufous sided towhee, scrub jay, house finch m & f, dark eyed junco, California quail, black capped chickadee, robin, ruby crowned kinglet. 11906

11907 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Feb-2017 C. R. Nelson # 11907 94 photos: young sharp shinned hawk with California quail it caught at my feeder and window. 11907

11908 USA: UTAH: Wasatch Co. Provo River, 1.5 miles south of Jordanelle Dam, N 40.575592 W 111.428780 1765 m 04-Mar-2017 C. R. Nelson # 11908 & others, see field notes 94 Wypt075belowjordanelle Sampling for Jared Meek's Provo River restoration project. 50 paddle samples with many helpers. Photos: winter Chironomidae on snow, people, scenery. 11908

11909 USA: UTAH: Wasatch Co. Jordanelle Dam Overlook, Hwy 32, N 40.575592 W 111.428780 1765 m 04-Mar-2017 C. R. Nelson # 11909 & Jackson and Alex Birrell. 94 Wypt076jordanelleview photos: Collembola on snow, scenery, panorama. 11909

11910 USA: UTAH: Wasatch Co. Provo River, north of River Road Bridge, recreation parking area, N 40.557440 W 111.433792 1741 m 04-Mar-2017 C. R. Nelson # 11910 & others, see field notes 94 Wypt077riverroad Sampling for Jared Meek's Provo River restoration project. 50 paddle samples with many helpers. Photos: people and scenery 11910

11911 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 13-Mar-2017 C. R. Nelson # 11911 94 14 March 2017: passport photos of Riley. photos: Stella the cat's left canine and part of jawbone that she evidently kicked out. This story moves forward. I'm typing now on 25 June 2017, Stella is still alive but very feeble. Her left cheek bone is swollen and soft tumors are in her mouth on the top left. She has infection inside, but still follows me around and wants pets. She scratches trees to sharpen her claws. Should I put her "out of her misery"? Not yet, she still eats some and enjoys life. 11911

11912 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 17-Mar-2017 18-Mar-2017 C. R. Nelson # 11912 & others, see field notes 94 Nelson lab sleepover. Talk on the porch, Nertz at night. People: 11913 plus

Samantha Roan and Hannah Meek. *Alucita hexadactyla*, *Boisea trivittata*, *Coreidae*
Leptoglossus. 11912

11913 USA: UTAH: Utah Co., Glass Cliffs, Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, on ridge west of cabin, N 39.95555 W 111.27277 1948 m 18-Mar-2017 C. R. Nelson # 11913 & others, see field notes 94 iPhone Nelson lab sleepover. Paintings of sunset. People: Riley Nelson, Kaye Nelson, Samantha Smith, Becca Clement, Le'o Fotu, Teagan Ellsworth, Desert Mulford, Jeff Andrus, Jared Meek, and Taylor Bly. photos: meat on a stick - ground beef, bacon, cotton string, zucchini, and red peppers. 11913

11914 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 21-Mar-2017 C. R. Nelson # 11914 94 skull of parrotfish, *Scarus* sp. bought and ate raw from Asian Market in Provo near corner of Center Street and 500 West. Probably from Indonesia.

28 March 2017: leopard slug, *Limax maximus*. 11914

11915 USA: UTAH: Utah Co., Provo, BYU, room 2004 Life Science Building, N xx W xx xx m 05-Apr-2017 C. R. Nelson # 11915 94 photos: Mark Belk and Animal Diversity class demonstrating cranial kinesis in snakes. 11915

11916 USA: UTAH: Utah Co., Provo, former Parker home, 1744 West 50 North, N 40.235297 W 111.689906 1449 m 06-Apr-2017 C. R. Nelson # 11916 94 photo: Parker home. 11916

11917 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 06-Apr-2017 C. R. Nelson # 11917 94 video: fire in downstairs stove. 11917

11918 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 08-Apr-2017 C. R. Nelson # 11918 94 photos: house finches.

9 April 2017: photos: house finch, snow on maple flowers.

iPhone: Stella the cat, healed finger to share in a text to family showing scars, rhubarb plant from Jerry Mann from last year. 11918

11919 USA: UTAH: Utah Co., Provo, BYU, Nelson office, 2119 LSB, N 40.245293 W 111.649165 1407 m 10-Apr-2017 C. R. Nelson # 11919 94 Google Earth Photos: Andrew, Heather, and Henry Perazzo near 2112 LSB. 11919

11920 USA: UTAH: Utah Co., Utah Lake, airport dike, north end of fence turnout, N 40.224815 W 111.730407 1368 m 10-Apr-2017 C. R. Nelson # 11920 94 Wypt078provodike Photos: sunset & moonrise, people. Sun and moon at 180 degrees, published times: 7:39 pm moonrise and 8:00 pm sunset. Actually 7:42 pm sunset and 8:16

pm moonrise. Watercolor of sunset. Nikon camera changed to Daylight Savings Time after these shots. Riley & Kaye Nelson, Jared & Hannah Meek, Amy, Wolf, and Leah Smith, Jackson & Alex Birrell, and John & Karla Bennion. Sphingidae coming to currant bush, *Ribes aurea*. Red winged blackbirds on territories in full color. Chorus frogs calling *Pseudacris triseriatus*. Canada geese, pelicans, mallards. 11920

11921 USA: UTAH: Utah Co., Provo, Grandview Hill, Grandview 14th LDS Ward, N 40.249099 W 111.690454 1412 m 15-Apr-2017 C. R. Nelson # 11921 & J. K. Nelson 94 Google Earth Photos: after funeral of Paul Frank Ashton. People. 11921

11922 USA: UTAH: Utah Co., Provo, Provo Cemetery, N 40.224454 W 111.646221 1386 m 15-Apr-2017 C. R. Nelson # 11922 & J. K. Nelson 94 Google Earth Photos: grave of Paul Frank Ashton. People. 11922

11923 USA: UTAH: Utah Co., Orem, Smith home, 75 North 850 West, N 40.298721 W 111.716298, 1445 m 15-Apr-2017 C. R. Nelson # 11923 & family 94 Google Earth ALN Smith and A. J. Nelson, C. R. Nelson not present, but took photos 17-18 April 2017. Inocelliidae, *Negna* sp. 11923

11924 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 08-Apr-2017 C. R. Nelson # 11924 94 x ray photos of broken left foot. Injured 10 April 2017 in Biology 100 class. photos: Hemerobiidae, *Hemerobius* sp. 11924

11925 USA: UTAH: Utah Co., Provo, BYU, room 222 Martin Building, N 40.246928 W 111.6491070 1421 m 24-Apr-2017 C. R. Nelson # 11925 94 photos: steps where I tripped and broke my foot, with Nick Baird from BYU Risk Management. 11925

11926 USA: UTAH: Kane Co., Kanab, BLM office, N 37.04359 W 112.51298 1516 m 24-Apr-2017 C. R. Nelson # 11926 & family 94 iphone photos: family with Harry Barber, supervisor of Kanab BLM Field Office.

Riley Nelson, Kaye Nelson, Andrea Nelson, Amy Smith, Wolf Smith, Leah Smith, and Harry Barber. East side of town. 11926

11927 USA: ARIZONA: Coconino Co. Kaibab Plateau, Jacob Lake, N 36.699718 W 112.213786 2496 m 27-Apr-2017 C. R. Nelson # 11927 & family 94 wypt251firetowerjacobs lake near this gps reading, at highway crossroads. Riley Nelson, Kaye Nelson, Andrea Nelson, Amy Smith, Wolf Smith, and Leah Smith. 11927

11928 USA: ARIZONA: Coconino Co. Colorado River, Marble Canyon, Navajo Bridge, Hwy 89A, N 36.817990 W 111.631684 1070 m 27-Apr-2017 C. R. Nelson # 11928 & family 94 Wypt 079navajo Riley Nelson, Kaye Nelson, Andrea Nelson, Amy Smith, Wolf Smith, and Leah Smith. photos: California condors, one on nest,

photos: scenery

white throated swifts, violet green swallows, lesser scaup. 11928

11929 USA: ARIZONA: Coconino Co. Flagstaff, Lucky Lane, N 35.195769 W 111.618050
2092 m 28-Apr-2017 C. R. Nelson # 11929 & family 94 Wypt 080flagstaff Gave cash to a
one-eyed traveling musician from Philadelphia headed to Florida. He carried a coronet.
Super 8 Motel. Riley Nelson, Kaye Nelson, Andrea Nelson, Amy Smith, Wolf Smith, and
Leah Smith. 11929

11930 USA: ARIZONA: Maricopa Co. Phoenix, Desert Botanical Garden, N 33.46199 W
111.94622 428 m 28-Apr-2017 C. R. Nelson # 11930 & family 94 154botany Riley Nelson,
Kaye Nelson, Andrea Nelson, Amy Smith, Wolf Smith, and Leah Smith. Jason, Brandy,
Artemis, and Astrid Nelson. photos: gardens and birds, people.

Riley in a wheelchair because he broke his foot in Biology 100 class. 11930

11932 USA: UTAH: Kane Co., Zion National Park, Checkerboard Mesa, N 37.22753 W
112.879395 1722 m 01-May-2017 C. R. Nelson # 11932 & J. K. Nelson 94 iphone photos:
people and scenery, Wolfgang on slickrock, Leah in sand with stick, smelling ponderosa
pine.

Riley Nelson, Kaye Nelson, Andrea Nelson, Amy Smith, Wolf Smith, and Leah Smith.
11932

11931 USA: ARIZONA: Maricopa Co. Phoenix, Nelson home, 2520 West Columbine Drive,
N 33.599019 W 112.113716 376 m 28-Apr-2017 30-Apr-2017 C. R. Nelson # 11931 & J. K.
Nelson 94 Wypt 133nelsoncolumbine Brandy and Jason's house.

Riley Nelson, Kaye Nelson, Andrea Nelson, Amy Smith, Wolf Smith, and Leah Smith. Jason,
Brandy, Artemis, and Astrid Nelson.

29 April 2017 Artemis and Kaye's birthday party. Photos: Pterophoridae (photographed a
few days later in Utah.) 11931

11933 USA: UTAH: Kane Co., Zion National Park, Canyon View Trailhead, Hwy 14, N
37.214778 W 112.93905 1554 m 01-May-2017 C. R. Nelson # 11933 & J. K. Nelson 94
Kaye's iphone

Riley Nelson, Kaye Nelson, Andrea Nelson, Amy Smith, Wolf Smith, and Leah Smith.
photos: desert bighorn sheep 11933

11934 USA: UTAH: Kane Co., Zion National Park, Zion Tunnel, Hwy 14, N 37.214778 W
112.93905 1554 m 01-May-2017 C. R. Nelson # 11934 & J. K. Nelson 94 Kaye's iphone

Riley Nelson, Kaye Nelson, Andrea Nelson, Amy Smith, Wolf Smith, and Leah Smith.
photos: Wolfgang in awe of the tunnel 11934

11935 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 03-May-2017 C. R. Nelson # 11935 94 photos: Buprestidae, coppery.
photos taken on 4 May 2017

7 May 2017: Phoridae, 1 female. 11935

11936 USA: UTAH: Utah Co., Provo, BYU, Nelson office, N 40.245158 W 111.648464 1400
m 11-May-2017 C. R. Nelson # 11936 94 Wypt 142nelsonoffice moved "Invertebrate ID
archive from CTL 2015 home 2" from Harddrive, "My Book photo work flow 2013" to M-drive
in "Nelson lab" using same name. 16.37G at origin at destination using USB 2, started
3:00 pm and finished 5:00 pm.

Wypt 142nelsonoffice taken 23 August 2017 11936

11937 USA: UTAH: Utah Co., Provo, BYU, Nelson office, 2119 LSB, N 40.245323 W
111.648794 1400 m 17-May-2017 C. R. Nelson # 11937 94 Wypt 083nelsonoffice photos:
new snow falling on Y Mountain

same spot as: Wypt 142nelsonoffice taken 23 August 2017 11937

11938 USA: UTAH: Utah Co., Provo, Provo River, 2230 North Bridge, N 40.26408 W
111.66390 1389 m 19-May-2017 C. R. Nelson # 11938 & class 94 photos and video:
Provo River in flood. 11938

11939 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB, N 40.245293 W
111.649165 1407 m 25-May-2017 C. R. Nelson # 11939 94 Microphotography session of
Diura using "D" numbers of 4 November 2016 series through January 2017.

Head up to determine right.

D35 D. knowltoni right paraproct to 546

D36 D. nanseni Sweden right paraproct start 547-550

D38 D. bicaudata start 551-555

D1 washingtoniana 556-558

D2 Mongo 560 - 566

D5 mongo short 567 - 569

D8 mongo one male of two is cleaner 570 - 573

D9 mongo long wings 574 - 578

D10 mongo 579 - 581

D11 mongo long wing 582 - 602, scale bar off for all the wing shots use the bar given in 603 for all!

D12 605 - 609

D15 look but no photos like D8 D9

D17 short winged but pillow ridge see photos 611 - 613

D28 long winged narrow, point, and pillow ridge! 614 - 616. 11939

11940 USA: UTAH: Box Elder Co. Mantua Cemetery, N 41.497628 W 111.950878 1586 m 29-May-2017 C. R. Nelson # 11940 & J. K. Nelson 92 Google Earth photos: Nelson relatives on Memorial Day. With Rick and Lana Nelson. 11940

11941 USA: UTAH: Box Elder Co. Brigham City, Nelson home, 211 North 300 West, N 41.515722 W 112.020919 1333 m 29-May-2017 C. R. Nelson # 11941 & J. K. Nelson 94 Google Earth Photos: people.

With Rick and Lana Nelson. 11941

11942 USA: UTAH: Box Elder Co. Bear River Migratory Bird Refuge, 15 miles west of Brigham City, N 41.431908 W 112.291783 1294 m 29-May-2017 C. R. Nelson # 11942 & J. K. Nelson 94 Wypt 039brbramp Photos: people.

With Rick and Lana Nelson. Photos: birds, counted from Visitor Center on I - 15 to the refuge auto tour loop and back to I - 15. 53 species seen in lists attached to field book. 11942

11943 USA: UTAH: Utah Co., Diamond Fork River, 0.5 miles north of Hwy 6, N 40.033605 W 111.496664 1512 m 01-Jun-2017 C. R. Nelson # 11943 94 *Pteronarcys californica* 1 m 1 f, *Isoperla fulva*, Trichoptera, Cicadas 11943

11944 USA: UTAH: Utah Co., Diamond Fork River, jct Dry Canyon, trailhead, N 40.079446 W 111.363549 1666 m 02-Jun-2017 C. R. Nelson # 11944 & others, see field notes 94 With Jackson and Jeremy Birrell, Jared Meek, Mailet & McKenna Adams. photos: *Pteronarcys californica*, *Pteronarcella badia*. *Isoperla fulva*, Photos: *Isogenoides zionensis*, Cicadidae cicadas, red Salticidae. Also saw an antlerless moose at the pond off Diamond Fork channel, north of the Hwy 6 turnoff 11944

11945 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 02-Jun-2017 C. R. Nelson # 11945 94 Measure 120 feet needed for 1 1/4 inch hose to run from lower dam to horizontal water tank.

With Jackson and Jeremy Birrell, and Jared Meek. My foot still a bit gimpy. 11945

11946 USA: UTAH: Utah Co., Diamond Fork River, 3.3 miles north of Hwy 6, N 40.055772 W 111.458930 1552 m 06-Jun-2017 C. R. Nelson # 11946 & family 94 Wypt

085diamondbelowdiamond With Wolf, Leah, and Amy, of Pteronarcys & cicadas. photos: Pteronarcys californica about 20 individuals, Pteronarcella badia hundreds. Isoperla fulva a few. Photos: Cicadidae cicadas. 11946

11947 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.953330 W 111.264486 1822 m 06-Jun-2017 C. R. Nelson # 11947 94 Wypt 086soldiercreeknodam photos: beaver dams blown out by spring floods. 11947

11948 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 06-Jun-2017 C. R. Nelson # 11948 94 ran mercury vapor light for an hour after dusk until 10:15 pm few insects, 58 deg F. Geometridae, Chironomidae, photos: Sphingidae 1 and Corixidae 3 Corisella sp. 11948

11949 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 10-Jun-2017 C. R. Nelson # 11949 94 J. K. & C. R. Nelson, W. W. Smith, and Brett J. Wheeler.

replaced 100 feet of water line 1 1/4 inch poly pipe from lower dam to horizontal tank. First I cleaned out upper dam to fill tall 8000 gallon tank then lower dam. Good flow. Brett helped lay and secure the hose. Planted about 100 holes of sunflowers. Wolf likes the four wheeler. saw: Cyrtopogon, common; Machimus. 11949

11950 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB, N 40.245293 W 111.649165 1407 m 13-Jun-2017 C. R. Nelson # 11950 94 Photo session in laboratory of night snake, Hypsiglena chlorophaea deserticola, from: USA: UTAH: Utah Co. Slate Canyon, eastern edge Provo, (date within last few weeks), get GPS from Makani, June 2017, M. L. Fisher. C. R. Nelson not present when collected. 11950

11951 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 17-Jun-2017 C. R. Nelson # 11951 & J. K. Nelson 94 worked with family and friends to reoil the logs of the cabin. Big job done. reddish Great Basin rattlesnake came up on the lawn near the baby crib. I carried it down by the gate and released it. Several in the crowd thought I was crazy for not killing it.

UV light 16 June 2017: Tipulidae, Cerambycidae, Ephemeroptera. 11951

11952 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 19-Jun-2017 C. R. Nelson # 11952 94 Three penstemons from the property. Detailed GPS readings for each:

1, Wypt 087bluepenstemon N 39.955900 W 111.272592 elev. 1952 m. Noth slope leading to Glass Cliffs in pinyon juniper forest with rather thick humus on Green River Shale.

Penstemon watsonii A. Gray det. Mikel Stevens, 20 June 2017. 2, Wypt 088redpenstemon N 39.958537 W 111.267882 elev. 1875 m. main gulley of Wheeler Sawmill Canyon on bare

Green River Shale near *Quercus gambelii*, *Penstemon eatonii* A. Gray, det. Mikel Stevens, 20 June 2017. 3, Wypt 089purplepenstemon, N 39.954515 W 111.267708, elev. 1824 m near gate on Hwy 6, disturbed Green River Shale, probably from seed mix to revegetate area about 10 years ago, in with weeds, yellow sweetclover, *Tragopogon*, mullien, and *Carduus nutans*. *Penstemon subglaber* Rydberg det. Mikel Stevens, 20 June 2017, consider also if *P. strictus* or *compactus*. Also saw *Penstemon palmeri* near *Penstemon* #3. See 11952.5 on back in book. 11952

11952.5 USA: UTAH: Davis Co. Syracuse, 7-11 store N 41.089595 W 112.044624 1319 m 21-Jun-2017 C. R. Nelson # 11952.5 94 Wypt 090tiger moth With Riley Nelson, Shawn M. Clark, Jared Meek, Ethan Russell Anderson. tiger moth at store front. 11952.5

11953 USA: UTAH: Davis Co. Antelope Island State Park, causeway, N 41.066953 W 112.229946 1283 m 21-Jun-2017 C. R. Nelson # 11953 & others, see field notes 94 Wypt 092marina With Riley Nelson, Shawn M. Clark, Jared Meek, Ethan Russell Anderson. early evening photos: scenery, floating islands in the calm. birds: 6 miles from I-15: starling 65, collared dove 10, mourning dove 1, pelican 6, ring billed gull 66, rock dove 1, white faced ibis 8, western kingbird 1, house finch 1, ring necked pheasant, avocet 128, cliff swallow 26, barn swallow 4, brewers blackbird 1, eared grebes 1055, california gull 107, willet 37, meadowlark 1, chukar 3, burrowing owl 2, raven 1, magpie 1, great blue heron 1, causeway: Franklin gull, northern harrier. Garr Ranch: robin, killdeer, yellow headed blackbird, gadwall, shrike. 11953

11954 USA: UTAH: Davis Co. Antelope Island State Park, Bridger Bay Campground, N 41.040058 W 112.262087 1287 m 21-Jun-2017 C. R. Nelson # 11954 & others, see field notes 94 Wypt 092marina With Riley Nelson, Shawn M. Clark, Jared Meek, Ethan Russell Anderson. morning: *Promachus albifacies*, *Stichopogon salinus*. Photos at home: 23 June 2017: *Myrmeleontidae* male. Lunch at visitor center 11954

11955 USA: UTAH: Davis Co. Antelope Island State Park, Marina, outside west breakwater, N 41.061303 W 112.244067 1283 m 21-Jun-2017 C. R. Nelson # 11955 & others, see field notes 94 Google Earth With Riley Nelson, Shawn M. Clark, Jared Meek, Ethan Russell Anderson. photos and video of *Ephydridae* brine flies. Photos: *Chrysomelidae Erynephala puncticollis* (Say). Photos: pronghorn. 11955

11956 USA: UTAH: Davis Co. Antelope Island State Park, Fielding Garr Ranch house, N 40.925420 W 112.167987 1296 m 21-Jun-2017 C. R. Nelson # 11956 & others, see field notes 94 Wypt 111garranch With Riley Nelson, Shawn M. Clark, Jared Meek, Ethan Russell Anderson. See 11956.5 on back of page in field notebook. western kingbird, barn swallow, bird oasis closed. Photos: *Promachus albifacies* with prey, no voucher it flew off. Photos at

home 23 June 2017: Sesiidae, 2 small moths that look like wasps. Yellow headed blackbird, robin, killdeer, ring necked pheasant. 11956

11956.5 USA: UTAH: Davis Co. Antelope Island State Park, Buffalo Point, N 41.033447 W 112.264267 1458 m 21-Jun-2017 C. R. Nelson # 11956.5 & others, see field notes 94
iphone With Riley Nelson, Shawn M. Clark, Jared & Hannah Meek, Ethan Russell Anderson.
See 11956.5 on back of page in field notebook.

Photos: sunset, people, Jared Meek jumping. 11956.5

11957 USA: UTAH: Davis Co. Antelope Island State Park, White Rock Bay, Camp 17, N 41.028082 W 112.244418 1307 m 22-Jun-2017 C. R. Nelson # 11957 & others, see field notes 94 Google Earth With Riley Nelson, Shawn M. Clark, Jared & Hannah Meek, Ethan Russell Anderson. photos: scenery, moth mullien *Verbascum blattaria*. 11957

11958 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 24-Jun-2017 C. R. Nelson # 11958 94 mowed lawns, watered everything, sunflower sprouts up. Photos: Chrysomelidae 2-3 species on narrow leafed cottonwood, *Populus angustifolia* sprouts, one large flea beetle and 1-2 blue with red pronotum. Photos: Buprestidae *Acmaeodera*, Asilidae *Neoitamus* female, escaped, box elder bugs *Boisea trivittata* cannibalizing dead cohorts and eating a dead cicada. Photos: Cicadidae cicada, later at home 27 June 2017, Efferia female with tipulid. Photos: *Limenitis weidemeyerii* Weidemeyer's Admiral. 11958

11959 USA: UTAH: Wahington Co. St. George? N xx W xx xx m 22-24 June 2017 C. R. Nelson # 11959 94 collected by Makani Fisher, C. R. Nelson not present then, photograph taken at home, 27 June 2017. Photos: earwig, Labiidae *Labia minor*, medium sized. 11959

11960 USA: UTAH: Utah Co., Provo, BYU, south hill garden pond, N 40.245224 W 111.651027 1400 m 24-Jun-2017 C. R. Nelson # 11960 & class 94 Wypt 124byusouthhill
First day of Entomology class. Malaise trap from 10:45 am to 3:00 pm. Few specimens, given to David Kingsford. 11960

11961 USA: UTAH: Utah Co., Diamond Fork River, 3 miles north of Three Forks trailhead, N 40.124310 W 111.337631 1800 m 28-Jun-2017 C. R. Nelson # 11961 & class 94 Wypt 093upperdiamond Arrival 2:25 pm, Departure 3:55 pm.

Jessica Lockhart, Mekinzie Meeks, Brianna Meyers, David Kingsford, Sam Rice, Mickenzie Mathews, Riley Nelson. One hour drive to campus. Pteronarcyidae *Pteronarcys californica* 1 f, *Pteronarcella badia* many to students, *Isoperla fulva* few, Stratiomyidae, Cicadidae, Photos: mormon racer, Hydropsychidae, rocky mountain sculpin, aphididae, immature boxelder bugs and stink bugs, Buprestidae *Acmaeodera diffusa* Barr, Geometridae. 11961

11962 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 28-Jun-2017 C. R. Nelson # 11962 94 Photos: Carabidae, large, common in sprinkler valve box. 11962

11963 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 29-Jun-2017 C. R. Nelson # 11963 94 Chrysomelidae, *Scelolyperus lecontei* (Crotch) on *Apocynum*. Therevidae *Pherocera* on pipe near tanks. Many swallowtails still. 11963

11964 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 30-Jun-2017 03-Jul-2017 C. R. Nelson # 11964 & family 94 Photos with family 11964

11965 USA: UTAH: Juab Co. Hwy 6, turnoff to Silver City, south of Eureka, N 39.916717 W 112.141316 1840 m 02-Jul-2017 C. R. Nelson # 11965 & family 94 Wypt 094silver photos: movie set of commercial for board game "Conflict" directed by A. Todd Smith. 11965

11966 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 03-Jul-2017 05-Jul-2017 C. R. Nelson # 11966 & J. K. Nelson 94 J. K. and C. R. Nelson family. 3 July 2017: *Mentzelia*, insects at mercury vapor light: Photos: Asilidae 2 spp. of *Machimus*, Scarabaeidae *Phyllophaga decemlineata* (Wolfgang Smith liked playing with them), Limoniidae, Noctuidae small moth, Hydropsychidae or Brachycentridae, Chrysopidae. 4 July 2017: day photos *Dicropaltum mesae*. At light: photos: Large Caddis Limnephilidae?, *Machimus*, Berothidae *Lomamyia texana*, Leptogaster male, Cerambycidae brown. 11966

11967 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 08-Jul-2017 C. R. Nelson # 11967 94 Photos: red caterpillar on apple - codling moth? The codling moth (*Cydia pomonella*) is a member of the Lepidopteran family Tortricidae. Photos: Braconidae emerged about 25 July 2017 from pupa of this codling moth that I was rearing. Photos: Clubionidae? spider small. dark cephalothorax, fast runner. Photos: Culicidae: *Culiseta inornata*. 11967

11968 USA: UTAH: Wasatch Co. Cascade Springs, Alpine Loop area, N 40.458733 W 111.551812 1916 m 08-Jul-2017 C. R. Nelson # 11968 & family 94 Photos upper springs, with family Photos: Nymphalidae Comma, anglewing. Photos: Buprestidae 11968

11969 USA: UTAH: Utah Co., Provo, Parker home, 500 East 4300 North, N 40.290494 W 111.649940 1436 m 10-Jul-2017 C. R. Nelson # 11969 94 Collected by Jake and Alison Parker, C. R. Nelson not present when collected, but photographed later. Photos: Lucanidae, *Pseudolucanus mazama*. 11969

11970 USA: UTAH: Salt Lake Co. Sandy, Lone Peak Park, near 9800 South 700 East, N 40.566996 W 111.874867 1382 m 10-Jul-2017 C. R. Nelson # 11970 & others, see field notes 94 Collected by Douglas Sakaguchi, C. R. Nelson not present when collected, but kept for later. The 5 males and 5 females escaped in my office. Emerging from wood chip mulch on concrete near playground.

I wanted to try to rear some in compost/wood chip mulch for fun but they all escaped on 14 July 2017! Doug also collected some here on 23 July 2014. Lucanidae, Pseudolucanus mazama. 11970

11971 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.6 miles south of Vivian Park & Hwy 189, N 40.347533 W 111.547804 1661 m 11-Jul-2017 C. R. Nelson # 11971 & class 94 Wypt 096southfork Riley Nelson, Doug Sakaguchi (bringing stag beetles from 11970), Sam Rice, Mickenzie Mathews, Mekinzie Meeks, David Kingsford, Jessica Lockhart. No Brianna, sick.

Wypt 097beaver pond: N 40.347935 W 111.550626, elev. 1650 m. First 100s at picnic tables. then walked to beaver pond downstream: Perlidae, Coenagrionidae, Ephemerellidae, Culicidae, Chrysopidae, Cucujidae larvae under bark, Limenitis wiedemeyerii, Heptageniidae Rhithrogena?, Epeorus, Baetidae, Photos: Silphidae, Silpha. 11971

11972 USA: UTAH: Utah Co., Goshen Warm Springs, north pond, N 39.959482 W 111.855553 1375 m 12-Jul-2017 C. R. Nelson # 11972 & class 94 Wypt 098goshen Black lighting using mercury vapor lamp and generator and four UV light traps. Riley Nelson, Makani Fisher, Jared Meek (picked up in Santaquin after filming LDS movies all day), Sam Rice, Mickenzie Mathews, Mekinzie Meeks, David Kingsford, Jessica Lockhart, and Brianna Meyers. Whole class and more!

Wypt 097beaver pond: N 40.347935 W 111.550626, elev. 1650 m. photos: people. Hydroptilidae, Hydrophilidae, Myrmeleontidae, Scarabaeidae, Heteroceridae. Photos: house centipedes Scutigera. Sphingidae, Noctuidae, Erebidae Cisseps, Lycomorpha, much more. Good night! 11972

11973 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 13-Jul-2017 C. R. Nelson # 11973 & student 94 with E. Russell Anderson. Photos: Scenopinidae, Asilidae Heteropogon, Mutillidae Dasymutilla orange thorax and abdomen. Machimus. 11973

11974 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 14-Jul-2017 C. R. Nelson # 11974 95 Photos: Polyxenida millipedes, Collembola. Both in rotten acorns damaged by Curculionidae. 11974

11975 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 14-Jul-2017 15-Jul-2017 C. R. Nelson # 11975 & J. K. Nelson 95 Ran UV lights, many photos! Photos: Cerambycidae, *Prionus californicus*; Cerambycidae, tube tail; Cerambycidae, medium dark, short antennae; Hydropsychidae; Tortricidae, white & brown "bird dropping"; Corixidae; Erebidae, Arctiinae? drab medium gray (*Hypoprepia inculta*?); Scarabaeidae, medium then *Diploptaxis*, then *Polyphylla* 2 spp. *obsoleta*? *decemlineata*; Chironomidae 2 spp.; Tiphiidae? brown night flyer; Pyralidae, snout and orange tip, other; Cercopidae, large brown & black; Arctiinae, black, white lines; Pterophoridae, white; Tipulidae, *Lunatipula*? No. *Yamatotipula*? No. *Eremotipula diversa* or *lyrifera* det J. K. Gelhaus 16 July 2017 from photo; Arctiinae, white with black spots; Arctiinae, golden with white spots; Geometridae, large gray and second pale green; Arctiinae, *Lithosini* *Cisthene*! interrupted band gray; Asilidae *Machimus*; Arctiinae? white with brown & black; Limnephilidae, *Clistoronia*; Sphingidae, large pink & eyespot; Arctiinae, drab medium brown; Arctiinae?, or Noctuidae? *Schinia*?; Limnephilidae, *Hesperophylax*; Cleridae?, large brown; Miridae *Coquillettia*?; Arctiinae? drab beige. Day: photos: Mutillidae, golden head. Photos: egg and caterpillar of two tailed swallowtail on chokecherry. I watched the female lay it. I didn't know the host plant for this species before now. 11975

11976 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 16-Jul-2017 C. R. Nelson # 11976 95 photos: spider with spiderlings and egg mass feeding on Tipulidae, *Tipula* (*Lunatipula*) *bisetosa* Doane, det J. K. Gelhaus, 16 July 2016, from photo. 11976

11977 USA: UTAH: Utah Co., Provo, BYU, south hillside near Grant Building, N 40.244943 W 111.652142 1408 m 18-Jul-2017 C. R. Nelson # 11977 & class 95 Under large cottonwood trees, near base: cottonwood leaves and mulch for berlese funnel extraction. Soil quite dry. Part of sample from near Grant Building (gps) other part from near outbuilding by upper pond.

Riley Nelson, Jessica Lockhart, Mickenzie Mathews, Mekinzie Meeks, Sam Rice, David Kingsford, Brianna Meyers in lab on 19 July 2017. Collembola; Diplura, Campodeidae; Protura! but lost specimen in lab, found by Sam Rice; Acari; Diplopoda; Chilopoda; Curculionidae. 11977

11978 USA: WYOMING: Natrona Co. Martins Cove Historic Site, Hwy 220, Devils Gate, N 42.439107 W 107.259174 1848 m 20-Jul-2017 C. R. Nelson # 11978 & J. K. Nelson 95 Wypt 100viewtomartinscove Photos: visitor center. Photos: overlook 11978

11979 USA: WYOMING: Natrona Co. Independence Rock, Hwy 220, N 42.494096 W 107.132922 1831 m 20-Jul-2017 C. R. Nelson # 11979 & J. K. Nelson 95 Wypt 101independence Climbed to top of rock. Photos: people, scenery. Photos: cottontail rabbit. 11979

11980 USA: NEBRASKA: Sioux Co. Harrison and Hwy 29 south to Agate, N 42.661086 W 103.892585 1498 m 21-Jul-2017 C. R. Nelson # 11980 & J. K. Nelson 95 Wypt 102harrison Photos: scenery short grass prairie. Photos of prairie on return to Harrison from Agate as well. 11980

11981 USA: NEBRASKA: Sioux Co. Agate Fossil Beds National Monument, Fossil Hills Trail, N 42.422271 W 103.763632 1345 m 21-Jul-2017 C. R. Nelson # 11981 & J. K. Nelson 95 Wypt 103agateniobrara Visitor Center: Wypt 104agatevc N 42.425564 W 103.733883 elev. 1341 m. photos of display of *Daemonelix*. Photos: *Calopteryx maculata*; horned lizard *Phrynosoma hernandesi*. (*P. bauri* in 2015). Photos: quarry of fossil mammals, abundant bone. 11981

11982 USA: NEBRASKA: Sioux Co. Agate Fossil Beds National Monument, *Daemonelix* Trail, N 42.425618 W 103.787860 1347 m 21-Jul-2017 C. R. Nelson # 11982 & J. K. Nelson 95 Wypt 104daemonelix Riley walked 1 mile round trip to *Daemonelix* burrow fossils. Photos: scenery and *Daemonelix* burrow fossils. 11982

11983 USA: SOUTH DAKOTA: Custer Co. Wind Cave National Monument, in cave and nearby meadows, N 43.555032 W 103.476681 1253 m 21-Jul-2017 C. R. Nelson # 11983 & J. K. Nelson 95 Wypt 106windcaveend gps at end of tour. Prairie photos (bison & prairie dogs) back on highway. Photos: cave features, boxwork; bison, prairie dogs 11983

11984 USA: SOUTH DAKOTA: Pennington Co. Mount Rushmore National Monument, Hwy 244, 2 miles west of Keystone N 43.877003 W 103.455936 1605 m 21-Jul-2017 22-Jul-2017 C. R. Nelson # 11984 & J. K. Nelson 95 Google Earth top of amphitheater photos: sculpture and people, from Grand View Plaza (Wypt 107baserushmore N 43.878510 W 103.457730 elev. 1605 m) and various view areas closer to the base. One with a small raised platform was especially nice (Wypt 108rushmoreclose N 43.878427 W 103.457876 elev. 1607 m). Photos: evening program. Photos: sculpture in morning light from Grandview Plaza and the platform. Ponderosa pines smell lovely at a distance and especially nice with your nose poked deep in the bark. 11984

11985 USA: SOUTH DAKOTA: Lawrence Co. Roughlock Falls, tributary of Spearfish Creek, N 44.350223 W 103.942726 1559 m 22-Jul-2017 C. R. Nelson # 11985 & J. K. Nelson 95

Wypt 109roughlock Photos: scenery. Photos: plants, fish, and bumblebees, Bombus Apidae 11985

11986 USA: WYOMING: Crook Co. Hwy 24, ridge south of turnoff to Devils Tower National Monument, N 44.5602111 W 104.686711 1321 m 22-Jul-2017 C. R. Nelson # 11986 & J. K. Nelson 95 Wypt 110devilstowerrview Photos: scenery, first higher on pass view of Devils Tower then Wypt 111devilstowerlow N 44.577507 W 104.696575 elev. 1246 m, second lower and closer. Photos at both. 11986

11987 USA: WYOMING: Crook Co. Devils Tower National Monument, prairie dog town near entrance, N 44.585851 W 104.707845 1182 m 22-Jul-2017 C. R. Nelson # 11987 & J. K. Nelson 95 Google Earth Photos: mammals, prairie dogs. 11987

11988 USA: WYOMING: Crook Co. Devils Tower National Monument, Tower Trail, N 44.592545 W 104.717895 1315 m 22-Jul-2017 C. R. Nelson # 11988 & J. K. Nelson 95 iphone photo Photos: scenery at various places on this trail around the Tower Trail. Water color painting from west side of Tower. 11988

11989 USA: NORTH DAKOTA: Bowman Co. Hwy 85 at state line, 15 miles south of Bowman N 45.9454554 W 103.391039 869 m 22-Jul-2017 C. R. Nelson # 11989 & J. K. Nelson 95 iphone photo, Google Earth Photos: Kaye and Riley at North Dakota state line sign 11989

11990 USA: NORTH DAKOTA: Stark Co. Belfield, Cowboy Inn N 46.89048 W 103.19307 803 m 22-Jul-2017 C. R. Nelson # 11990 & J. K. Nelson 95 iphone Photos: sunset with cut out of Iwo Jima flag raising of 23 February 1945. 11990

11991 USA: NORTH DAKOTA: Billings Co. Theodore Roosevelt National Park, Painted Canyon Overlook, Hwy 94, N 46.895332 W 103.382930 848 m 23-Jul-2017 C. R. Nelson # 11991 & J. K. Nelson 95 Wypt 112paintedvc, visitor center Photos: sunset 11991

11992 USA: NORTH DAKOTA: Billings Co. Theodore Roosevelt National Park, Thirty mile scenic loop drive, N 46.925466 W 103.388896 868 m 23-Jul-2017 C. R. Nelson # 11992 & J. K. Nelson 95 Wypt 113buckhill Photos: scenery. Took several photographs around the loop, settled for centering on Buck Hill. Second gps reading: Wypt 114buckhill2 N 46.926103 W 103.388465 elev. 864 m (photo with Kaye). Also took many photos at the main visitor center. Photos: prairie dogs 11992

11993 USA: MONTANA: Prairie Co. Yellowstone River at Fallon, N 46.855731 W 105.117659 655 m 23-Jul-2017 C. R. Nelson # 11993 & J. K. Nelson 95 Google Earth Photos: big river. 11993

11994 USA: MONTANA: Prairie Co. Yellowstone River at Terry, N 46.804934 W 105.295955 678 m 23-Jul-2017 C. R. Nelson # 11994 & J. K. Nelson 95 Wypt 116terryyellow Photos: big

river. Need to read more about Evelyn Cameron, photographer and historian of Terry, Montana. 11994

11995 USA: MONTANA: Bighorn Co. Little Bighorn Battlefield National Monument, N 45.570309 W 107.427390 1004 m 23-Jul-2017 C. R. Nelson # 11995 & J. K. Nelson 95 Wypt 117laststandhill Photos: Last Stand area, road to end of park. Different management schemes of grass and shrub land. Photos: Indian point of view, prairie, horses. Photos: horses 11995

11996 USA: MONTANA: Carbon Co. Rock Creek Vista, Hwy 212, southwest of Red Lodge, N 45.045473 W 109.407740 2807 m 24-Jul-2017 C. R. Nelson # 11996 & J. K. Nelson 95 Wypt 118rockcreekoverlook Photos: panorama with Nikon. Photos: blue/purple penstemon; notched petal white, chipmunk; Lupines blue; 11996

11997 USA: MONTANA: Carbon Co. Beartooth Pass, Hwy 212, Line Lake Trailhead, N 45.006266 W 109.405660 3078 m 24-Jul-2017 C. R. Nelson # 11997 & J. K. Nelson 95 Wypt 119beartoothpasstrailhead Talked with backpacking fisherman returning from several days on Line Lake, which he said is 2-3 miles away and loaded with 20 inch Yellowstone cutthroat trout. Line Lake is barely but completely in Montana. Photos: red algae on snow, white crowned sparrow, blue penstemons. 11997

11998 USA: MONTANA: Carbon Co. Beartooth Pass, Hwy 212, view to Granite Peak area?, N 44.975193 W 109.435041 3319 m 24-Jul-2017 C. R. Nelson # 11998 & J. K. Nelson 95 Wypt 120beartoothpass Photos: Kaye in snow, view to peaks to north and west? Kaye saw a mountain goat between here and 11997 11998

11999 USA: WYOMING: Park Co. Beartooth Pass, Hwy 212, view to a spiky peak near massif, N 44.971429 W 109.442668 3259 m 24-Jul-2017 C. R. Nelson # 11999 & J. K. Nelson 95 Wypt 121spikypeak Photos: peak and scenery. Spiky peak is to the right of a massif, larger set or ridge of peaks. 11999

12000 USA: WYOMING: Park Co. Beartooth Pass, Hwy 212, summit sign, N 44.969226 W 109.472836 3335 m 24-Jul-2017 C. R. Nelson # 12000 & J. K. Nelson 95 Wypt 122summitsign summit sign road. Wypt 123summitbeartoothpass N 44.969020 W 109.471594 elev. 3334 m. nearer to sign, use this on photos. 12000

12001 USA: WYOMING: Park Co. Hwy 212, view to Pilot Peak, N 44.929746 W 109.709945 2215 m 24-Jul-2017 C. R. Nelson # 12001 & J. K. Nelson 95 Wypt 124pilotpeak Photos: Pilot Peak 12001

12002 USA: WYOMING: Park Co. Yellowstone National Park, Lamar River Valley, N 44.907665 W 110.251761 2038 m 24-Jul-2017 C. R. Nelson # 12002 & J. K. Nelson 95 Wypt 125lamarbasin Photos: bison, buffalo herd in distance. 12002

12003 USA: WYOMING: Park Co. Yellowstone National Park, Dunraven Pass, N 44.779170 W 110.457922 2677 m 24-Jul-2017 C. R. Nelson # 12003 & J. K. Nelson 95 Wypt 126dunravenpass Photos: yellow flowers, Asteraceae. 12003

12004 USA: WYOMING: Park Co. Yellowstone National Park, brink of Upper Falls of the Yellowstone River, N 44.712955 W 110.499784 2340 m 24-Jul-2017 C. R. Nelson # 12004 & J. K. Nelson 95 Wypt 127upperfalls Photos: scenery and Kaye fixing lunch. Photos: stoneflies, including *Pteronarcys californica* in mist of falls. 12004

12005 USA: WYOMING: Teton Co. Grand Teton National Park, Teton Point turnout, N 43.718009 W 110.660348 2066 m 24-Jul-2017 C. R. Nelson # 12005 & J. K. Nelson 95 Wypt 128tetonpoint Photos: time lapse and panoramas of the Tetons. 12005

12006 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 26-Jul-2017 C. R. Nelson # 12006 & J. K. Nelson 95 Photos: green caterpillars on sweet corn ear from Day's Market. *Helicoverpa zea*? 12006

12007 USA: UTAH: Utah Co., Provo, BYU, south hillside near Grant Building, N 40.245010 W 111.652068 1410 m 26-Jul-2017 C. R. Nelson # 12007 & class 95 Google Earth Photos: Diplura: Campodeidae. Also on 28 July 2017, sifted first, more material. 12007

12008 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 28-Jul-2017 29-Jul-2017 C. R. Nelson # 12008 & J. K. Nelson & Wolfie Smith and class 95 arrived at noon, rain in morning in Provo.

Photos: people. Riley Nelson, Kaye Nelson, Wolfgang Smith, Jessica Lockhart, Mekinzie Meeks, David Kingsford, Rachel Kingsford, Brianna Meyers, Mickenzie Mathews. 28 July: Diogmites! saw about 10. Photos: *Cuterebra*, shot in morning, then escaped. *Efferia*. Photos: *Machimus*, one with large *Tipula*. *Megaphorus*. *Vespidae*. Photos: *Sesiidae* very large wasp mimic. *Coenagrionidae*, *Hemiptera*, *Trichoptera* at waterfall, *Saldidae*, Photos: *Aphididae* & ants on *Populus angustifolia*. Photos: sawfly pupa? Photos: *Aphididae* on *Phragmites australis*. Photos: swallowtail, old damaged *Papilio multicaudata*. 29 July: Photos: *Geometridae* green with red; *Meloidae* on *Grindelia squarrosa*; *Erebidae* *Lithosini* *Hyproprepia inculta*. *Diogmites angustipennis* (caught and released) with prey *Megaphorus*. 12008

12009 USA: UTAH: Washington Co. Leeds Creek, 2 miles west of Leeds, N 37.265571 W 113.368784 1223 m 03-Aug-2017 04-Aug-2017 C. R. Nelson # 12009 & class 95 Evening thunderstorm.

Riley Nelson, Makani Fisher (came up from Tucson), Jessica Lockhart, David Kingsford, Brianna Meyers, Sam Rice.

4 August: Makani left at 9:00 am. Corydalidae larvae, Pompilidae Hemipepsis. Moths, Mutillidae, Sphingidae, No Cisthene! Scarabaeidae including Xyloryctes, Isoperla nymphs, scorpions with UV flashlights. Canyon wren, nighthawk, broad tailed hummingbird. 12009

12010 USA: UTAH: Washington Co. Leeds, town park and Peine family home, N 37.237815 W 113.358266 1071 m 04-Aug-2017 C. R. Nelson # 12010 & class 95 Wypt 130leedspeine Riley Nelson, Jessica Lockhart, David Kingsford, Brianna Meyers, Sam Rice.

The Peine family was preparing for a trip to hunt bison in the Bookcliffs. Thysanura, Embiidina 12010

12011 USA: UTAH: Washington Co. Washington Boilers, N 37.137212 W 113.513583 871 m 04-Aug-2017 C. R. Nelson # 12011 & class 95 Wypt 131boilers Riley Nelson, Jessica Lockhart, David Kingsford, Brianna Meyers, Sam Rice.

dragonflies, pink cichlids, tambaqui 12011

12012 USA: UTAH: Washington Co. Santa Clara River near junction Virgin River, park at bridge, N 37.074017 W 113.582902 774 m 04-Aug-2017 C. R. Nelson # 12012 & class 95 Wypt 132santaclarabridge 104 degrees F, hot.

Riley Nelson, Jessica Lockhart, David Kingsford, Brianna Meyers, Sam Rice.

dragonflies, pygmy blue butterflies. 12012

12013 USA: UTAH: Kane Co., Zion National Park, hoodoos near Checkerboard Mesa, N 37.227646 W 112.887089 1713 m 04-Aug-2017 C. R. Nelson # 12013 & class 95 Wypt 133hoodoos Photos: hoodoos (rock columns), smelling ponderosa pine trees.

Riley Nelson, Jessica Lockhart, David Kingsford walked to hoodoos. Brianna Meyers and Sam Rice rested in the van.

blue gray gnatcatchers 12013

12014 USA: UTAH: Kane Co., Mount Carmel Junction, Hwys 9 and 89, N 37.223333 W 112.681158 1574 m 04-Aug-2017 05-Aug-2017 C. R. Nelson # 12014 & class 95 Wypt 144mountcarmeljct Photos: hoodoos (rock columns), smelling ponderosa pine trees.

Riley Nelson, Jessica Lockhart, David Kingsford walked to hoodoos. Brianna Meyers and Sam Rice rested in the van.

dead Prionus californicus, Polyphylla, Xyloryctes scarab, No Dynastes, No Vella ant lions.

12014

12015 USA: UTAH: Kane Co., Coral Pink Sand Dunes, Ponderosa Grove Campground, Church blowout area, N 37.087452 W 112.669782 1908 m 04-Aug-2017 05-Aug-2017 C. R. Nelson # 12015 & class 95 Wypt 134coralpinkchurch Riley Nelson, Jessica Lockhart, David

Kingsford, Brianna Meyers, and Sam Rice.

Called Church blowout because it is a sand hollow blowout where I've held church in the past. I often speak with students about religious things here. It looks north to the steps of the Grand Staircase.

4 August: talk of caring for creation, learning, and evolution. Scorpions with UV lights at night.

5 August: Staircase painting. 12015

12016 USA: UTAH: Kane Co., Coral Pink Sand Dunes, Ponderosa Grove BLM Campground, N 37.088753 W 112.672557 1907 m 04-Aug-2017 05-Aug-2017 C. R. Nelson # 12016 & class 95 Wypt 135ponderosagrove Riley Nelson, Jessica Lockhart, David Kingsford, Brianna Meyers, and Sam Rice. A bit rainy and cold. Photos: scenery.

Tall yellow and short white *Oenothera*. Photos: *Castilleja*, *Tradescantia*, *Machimus* at light. 12016

12017 USA: UTAH: Kane Co., roadside Hwy 89, between roads to Coral Pink Sand Dunes, N 37.117044 W 112.628845 1865 m 05-Aug-2017 C. R. Nelson # 12017 & class 95 Wypt 136castillejachromosa Riley Nelson, Jessica Lockhart, David Kingsford, Brianna Meyers, and Sam Rice. Photos: indian paintbrush, extra thick bloom on a single plant. Still blooming beautifully on 23 August 2017 when Kaye and I passed by on the way to Phoenix. Phenomenal color! 12017

12018 USA: UTAH: Kane Co., Peekaboo Canyon Trailhead, off Hwy 89 between roads to Coral Pink Sand Dunes, N 37.154505 W 112.573622 1735 m 05-Aug-2017 C. R. Nelson # 12018 & class 95 Google earth Riley Nelson, Jessica Lockhart, David Kingsford, Brianna Meyers, and Sam Rice.

Considered walking to this slot canyon, but trail unclear and distance too far for today. Met an older couple (my age) from Dusseldorf, Germany. They gave me German instructions (I took a photo) on how to get to Red ____ Slot Canyon near Orderville. first street past Virgin River bridge on right, headed north. No collecting at this stop today. Some other time.

12018

12019 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 07-Aug-2017 C. R. Nelson # 12019 95 Photos: Tachinidae, *Trichopoda pennipes*, parasite of squash bug *Anasa tristis*.

8 August 2017, tarantula at Amanda Wixom's house across the street, 4536 North 475 East. 12019

12020 USA: UTAH: Summit Co. Uinta Mountains, Wall Lake, outlet stream, Provo River, N 40.693861 W 110.963270 3075 m 10-Aug-2017 C. R. Nelson # 12020 & others, see field

notes 95 Wypt 137walllakecliff Photos: scenery & people. At home I wrote: The inlet to the lake is on the northwest edge, coming from Clyde Lake. (on 12 Sep 2017 I checked Google Earth. This is not true. The inlet to the lake was on the southwest edge and any connection to Clyde Lake is unclear.) The outlet is to the southeast and runs into Trial Lake (true). Hiking especially with John S. Bennion, and also Jeff Nichols, Wid Tolman, Mel Luthy, and Mike Bowns. All of the High Priests Group of the Edgemont 10th Ward. My field notes listed this as Wasatch County, I changed them to read Summit County on 12 Sep 2017 after consulting Google Earth. Check the specimens to make sure the permanent label does not read Wasatch Co.!

Photos: Chloroperlidae, *Suwallia pallidula* and *Sweltsa coloradensis*; Nemouridae, *Malenka californica* and *Podmosta delicatula*; Diptera, Psilidae? 12020

12021 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 12-Aug-2017 C. R. Nelson # 12021 & J. K. Nelson 95 Too cloudy to see Perseid meteor shower. UV light on house porch. Arctiinae, lichen moths *Cisthene* 6-8 specimens. Other tiger moth. Photos: Noctuidae *Catocala*; Saturniidae, pandora's moth, *Coloradia* sp.. Berothidae, *Lomamyia texana*; Limnephilidae, shiny brown; another tall caddis. 12021

12022 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 16-Aug-2017 C. R. Nelson # 12022 95 also, 15 August 2017: Photos: going away party for Sam Smith and Becca Clement. Attending: Riley & Kaye Nelson, John Bennion, Samantha Smith, Rebecca Clement, Chelsea & Makani Fisher, Mailet & Kenny & McKenna Adams, Hannah & Jared Meek, Hannah Bonner, and Jackson Birrell. *Drosophilidae*, *Drosophila melanogaster*, wild type. 12022

12023 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 17-Aug-2017 C. R. Nelson # 12023 95 Testing camera for eclipse photos. Sun 28-300mm zoom lens, at 300 mm. With polarizing filter - best exposure ISO 100, 1/60 f11. Best focus with pointer at center of infinity symbol. From focus series - floored, left, center, right (5 of 50 m), from DSC_1775. Redo without polarizing filter: ISO 100 1/60 f11, floored left, center right. Redo with filter ISO 100 1/60 f11 without TiFfen, CirC PolariZer(capital is pointer on letter of filter for testing best polarized look) TiF best but not by much. So conclusion: ISO 100 1/60 f11 TiF of filter matched with dot on lens and then with focus centered on infinity symbol. photos: Honeycomb; 12023

12024 USA: UTAH: Utah Co., American Fork Canyon, Hwy 92, Mutual Dell Campground, N 40.446701 W 111.643150 1988 m 18-Aug-2017 19-Aug-2017 C. R. Nelson # 12024 & J. K.

Nelson & W. W. Smith 95 Wypt 138mutualdell Edgemont 10th Ward Campout; photos people and Wolfgang Winston Smith. 12024

12025 USA: IDAHO: Bannock Co. Pocatello, Parker home, 3071 Trevor Street, N 42.91658 W 112.40703 1513 m 19-Aug-2017 C. R. Nelson # 12025 & J. K. Nelson 95 iPhone Photos: Abby Stoddard with Jane & Millie Parker's praying mantis; group. At home of Tamara and Daniel Parker. Riley & Kaye Nelson; Tamara, Daniel, Jane, Millie, (Brett was already asleep); Pam & Tom Friske; Maegan, Nick, Abby, Parker, Allie, and Emily Stoddard. 12025

12026 USA: IDAHO: Bonneville Co. Ammon, Parker home, N 43.478009 W 111.931867 1442 m 19-Aug-2017 21-Aug-2017 C. R. Nelson # 12026 & J. K. Nelson 95 Wypt 139ammonparker Trip to see total eclipse of the sun on 21 August 2017, stayed two nights. Rested here after the eclipse on 21 August 2017 then drove to Pocatello. 12026

12027 USA: IDAHO: Madison Co. Rexburg, LDS Church N 43.818321 W 111.803248 1482 m 21-Aug-2017 C. R. Nelson # 12027 & J. K. Nelson 95 Wypt 140rexburgchurch Eclipse viewing. Rexburg Married Student Second Stake, Mariah Building, met Jim Potts who entered building (we did not, perhaps he was a bishop or custodian). Watched with Lonnie & Karlene Eliason of Salt Lake City. Photos: beginning, totality, to end of eclipse. Awesome.

After it started we measured temp. from Lonnie's car then my thermometer.

10:30am 68F

11:06 65

11:10 65

11:15 65

11:20 65

11:30 65

Totality put me in awe and I fumbled with lenses. Didn't get the best shots of totality because it was so magnificent.

11:44 18C

11:50 18

12:00 18

12:05 24

12:10 24

12:15 24

12:20 25

12:28 25

12:30 26

12:35 26

12:40 26

12:42 27

12:44 27

12:45 27

12:48 27

12:50 27

12:55 27

12:57:50 moon gone, 27C 12027

12028 USA: IDAHO: Bannock Co. Pocatello, Stoddard home, 1366 Camelback View Drive, N 42.900959 W 112.396877 1589 m 22-Aug-2017 C. R. Nelson # 12028 & J. K. Nelson 95 Wypt 141stoddard Stayed at Stoddard home (Maegan n√@e Parker) starting at 10:00 pm or so after 3.5 hours of bumper to bumper traffic from the eclipse between Idaho Falls and Pocatello about 55 miles. Riley & Kaye Nelson; Nick, Maegan, Abby, Parker, Allison, and Emily Stoddard. Photos: Mantis religiosus 12028

12029 USA: UTAH: Beaver Co. Beaver, I-15 exit 109, N 38.249559 W 112.652855 1781 m 23-Aug-2017 C. R. Nelson # 12029 & J. K. Nelson & W. W. Smith 95 Wypt 143beaver Saturniidae, Coloradia sp. pandoras moth 12029

12030 USA: UTAH: Kane Co., Mount Carmel Junction, Hwy 89 and Hwy 9 N 37.223333 W 112.681158 1574 m 23-Aug-2017 C. R. Nelson # 12030 & J. K. Nelson & W. W. Smith 95 Wypt 144mount carmel jct (at high jct.) Stayed at Golden Hills Motel, \$77. Also Wypt 145mtcarmel2 N 37.224299 W 112.680209 elev. 1569 m. at Golden Hills Motel, 2 spots about 200 ft apart. Scarabaeidae, more than 32 many m and f, Dynastes granti; Xyloryctes jamaicensis 1 f; Polyphylla decemlineata; Myrmeleontidae Vella; Arctiidae white with black lines, glassy wing, Crambidia yellow head; Libellulidae Tramea brown; saw large Lasiocampidae. 12030

12031 USA: ARIZONA: Coconino Co. Kaibab Plateau, Hwy 89A, Grand Staircase View area, N 36.830337 W 112.254491 2069 m 24-Aug-2017 C. R. Nelson # 12031 & J. K. Nelson & W. W. Smith 95 Wypt 146staircaseview photos: scenery underexposed, whoops. 12031

12032 USA: ARIZONA: Coconino Co. Glen Canyon National Recreation Area, Lee's Ferry, Balanced Rock, N 36.838308 W 111.633405 1048 m 24-Aug-2017 C. R. Nelson # 12032 & J. K. Nelson & W. W. Smith 95 Wypt 147Leesferryrocks (I called it Glyptodon rock) photos: rocks on way to boat ramp and on way back from boat ramp, also low mat forming

composite like form Lytle Ranch. Wypt 149 balancedrock N 36.841774 W 111.631892 elev. 1048 m. 12032

12033 USA: ARIZONA: Coconino Co. Glen Canyon National Recreation Area, Lee's Ferry, Paria beach, N 36.856577 W 111.602827 927 m 24-Aug-2017 C. R. Nelson # 12033 & J. K. Nelson & W. W. Smith 95 Wypt 148pariacolorado photos: beach below junction of Paria River and Colorado River, scenery of two colors of river, people: Kaye & Wolfgang. Baptized my new Chaco sandals. Photos: desert spiny desert. 12033

12034 USA: ARIZONA: Coconino Co. Colorado River, Hwy 89A, Navajo Bridge, N 36.817296 W 111.630323 1080 m 24-Aug-2017 C. R. Nelson # 12034 & J. K. Nelson & W. W. Smith 95 Wypt 150navajobridge photos: scenery river, Wolf, & Kaye, sandbar in river that looked like a manta ray to Wolf. No condors today. 12034

12035 USA: ARIZONA: Yavapai Co. Sunset Point Rest Area, I-17, N 34.185645 W 112.134956 1021 m 24-Aug-2017 C. R. Nelson # 12035 & J. K. Nelson & W. W. Smith 95 Wypt 151sunsetpoint photos: rain, verga over hot desert. saw lichen moth *Cisthene tenuifascia*, escaped 12035

12036 USA: ARIZONA: Maricopa Co. Phoenix, Nelson home, 2520 West Columbine Drive, N 33.599019 W 112.113716 376 m 24-Aug-2017 27-Aug-2017 C. R. Nelson # 12036 & J. K. Nelson & W. W. Smith 95 Wypt 133nelsoncolumbine With Brandy, Jason, Artemis, and Astrid Nelson. Trip for Astrid's third birthday. 25 August 2017: photos people 12036

12037 USA: ARIZONA: Maricopa Co. Phoenix, Desert Botanical Garden, N 33.46199 W 111.94622 428 m 26-Aug-2017 C. R. Nelson # 12037 & family 95 154botany Riley Nelson, Kaye Nelson, Wolf Smith; Jason, Brandy, Artemis, and Astrid Nelson. photos: people 12037

12038 USA: UTAH: Kane Co., Mount Carmel Junction, Hwy 89 and Hwy 9 N 37.223333 W 112.681158 1574 m 27-Aug-2017 28-Aug-2017 C. R. Nelson # 12038 & J. K. Nelson & W. W. Smith 95 Wypt 144mount carmel jct (at high jct.) Stayed at Golden Hills Motel, \$77. See back of page for 12039 Scarabaeidae - *Dynastes granti* few, several dead. *Myrmeleontidae* Vella; *Erebidae* glassy wing, big soft tan?. Crinoid stars in Cretaceous rock. 12038

12039 USA: UTAH: Kane Co., Zion National Park, Hwy 9, just east of short tunnel, N 37.216759 W 112.920114 1603 m 28-Aug-2017 C. R. Nelson # 12039 & J. K. Nelson & W. W. Smith 95 Wypt 152zionshorttunnel Photos: desert bighorn sheep 12039

12040 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 28-Aug-2017 C. R. Nelson # 12040 & Scott Ashton & Cooper Ashton 95 Tank Hollow Fire threatens cabin, started by lightning on 11 August 2017. Photos: fire crews

trimming brush around house. Photos of fire, including at head of Wheeler Sawmill Canyon, from on top of our property. 12040

12041 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 29-Aug-2017 C. R. Nelson # 12041 & J. K. Nelson 95 checked on fire, seems stable and calm. Photos: panoramas on top. 12041

12042 USA: UTAH: Salt Lake Co. Draper, Living Planet Aquarium, N 40.532184 W 111.893966 1349 m 31-Aug-2017 C. R. Nelson # 12042 & others, see field notes 95 Biology Department meeting for BYU, with Biology faculty. Photos: angelfish, yellow fish, lion fish. 12042

12043 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 01-Sep-2017 02-Sep-2017 C. R. Nelson # 12043 & J. K. Nelson 95 ran UV light, a few tiger moths came in, gave to Makani Fisher. 12043

12044 USA: UTAH: Utah Co., Provo, BYU, Nelson office, 2119 LSB, N 40.245323 W 111.648794 1400 m 05-Sep-2017 C. R. Nelson # 12044 95 Wypt 083nelsonoffice former teaching assistants: Photo: Mariel & Dallin Packard and 8 month old son with Lydia Breksa and Todd Workman. 12044

12045 USA: UTAH: Box Elder Co. Inspiration Point, Willard Mountain, N 41.391064 W 111.986196 2868 m 09-Sep-2017 C. R. Nelson # 12045 & J. K. Nelson 95 Wypt 153willardmountain photos: scenery. You can drive to the top of Inspiration Point which is also known as Willard Mountain. This is confusing because the highest nearby peak is Willard Peak which I call Baldy because my dad did. Names and nomenclature. 12045

12046 USA: UTAH: Box Elder Co. Southwest flank of Willard Peak (Mount Baldy), N 41.378371 W 111.975282 2887 m 09-Sep-2017 C. R. Nelson # 12046 & J. K. Nelson 95 Wypt 154southflankbaldy Ate lunch. Photos: time lapse cloud over the peak, Kaye. Time lapse about 12:05 to 12:30 pm. Willard Peak (Baldy) is listed as being in Weber County. It seems on maps to form the border of Weber and Box Elder Counties. So if I'm on the more westerly side, I'll say I'm in Box Elder County. And I'm a B. E. boy. Photos: mountain goats on western flank below Skyline Trail.

Chrysomelidae *Galeruca rudis* (det. S. M. Clark 11 September 2017) on senescent lupines, *Lupinus sericeus* det. R. L. Johnson 11 September 2017. 12046

12047 USA: UTAH: Weber/Box Elder Co. Willard Peak, Mount Baldy, summit area, maps: 2976 m (9764 ft), N 41.382804 W 111.974540 2973 m 09-Sep-2017 C. R. Nelson # 12047 & J. K. Nelson 95 Wypt 155baldysummitwillardpeak Photos: scenery, panoramas. Kaye & Riley on top, alone. Wypt 155 at USGS marker. Light rain forced us off the top, minor scrambling on good sharp Tintic (Brigham) Quartzite. The crack in the top is on the

northwestern side. Relived being here with my father, Winston P. Nelson, when I was about 10 years old. About 1966. Longer story recorded elsewhere. 12047

12048 USA: UTAH: Box Elder Co. Willard Basin, western slope on Inspiration Point Road (on way down), N 41.392370 W 111.984736 2806 m 09-Sep-2017 C. R. Nelson # 12048 & J. K. Nelson 95 Wypt 156willardbasinwest Photos & specimens: lichen on conifer (probably Douglas fir, *Pseudotsuga menziesii*, but perhaps engelmann spruce or subalpine fir.) 12048

12049 USA: UTAH: Box Elder Co. Willard Basin, western slope on Inspiration Point Road (on way down), stop 2, N 41.394535 W 111.980846 2634 m 09-Sep-2017 C. R. Nelson # 12049 & J. K. Nelson 95 Wypt 157willardbasin2 Views of Baldy photographed by Kaye, viewing across pond at southern head of Willard Basin. 12049

12050 USA: UTAH: Box Elder Co. Willard Basin, spring near Willard Basin Campground, N 41.391503 W 111.976267 2658 m 09-Sep-2017 C. R. Nelson # 12050 & J. K. Nelson 95 Google Earth Filled water bottles, all water coming out of roadside pipe. No collecting right here for aquatic insects. Does this spring feed from the basin head pond? Water tasted metallic. 12050

12051 USA: UTAH: Box Elder Co. Willard Basin, eastern slope on Willard Peak Road below Willard Basin Campground, N 41.399308 W 111.971113 2620 m 09-Sep-2017 C. R. Nelson # 12051 & J. K. Nelson 95 iPhone Photos: mountain laurel *Sorbus scopulina* growing right next to elderberry (red berries) *Sambucus racemosa* for comparison. Saw second elderberry species with purple berries and white dusting at slightly lower elevations nearby *Sambucus glauca* = *cerulea*? 12051

12052 USA: UTAH: Box Elder Co. Perry Reservoir, Willard Peak Road, 6 miles south of Mantua, N 41.428255 W 111.966176 2329 m 09-Sep-2017 C. R. Nelson # 12052 & J. K. Nelson 95 Wypt 158perryreservoir Photos: scenery, pond, and Kaye. Pond very full, more algae than 2014. No giant water bugs, Belostomatidae Lethocerus. Saw: *Anax junius*, *Aeshna* or near, *Sympetrum*, Gerridae, garter snake, one dead with a full belly (Kaye found it), Five mallard ducklings, still need flight feathers but big. Caterpillar: *Erebidae*? to give to Makani. 11 September 2017, Makani says it is the salt marsh caterpillar. 12052

12053 USA: UTAH: Utah Co., Provo River, BYU River Park, 300 West 2230 North, N 40.265044 W 111.663715 1410 m 16-Sep-2017 C. R. Nelson # 12053 & class 95 Wypt 159provopark Took around 25 First 100 samples at the riffle near the pavilion and 10 samples at the walking bridge riffle downstream. 10:00am to noon. Average of 10 talweg velocities 0.95 m/sec at pavilion riffle and 0.76 m/sec at bridge riffle; air temperature 20degC, water temperature 15degC. Riley Nelson, Jared Meek TA, Jackson Birrell TA, James

ONeal friend from Edgemont 10th Ward. 37 students from Bio 100, 41 people in group photo. Many photos of scenery, people, and life. Students present (as of Google doc list on 19 Sep 2017): Christian Dahneke, Francesca Guynn, Hayden Atchley, McKenna Hawkins, Sarah Felt, David Stoddard, Savannah Peterson, Theo Lee, Ali Costley, Gabrielle Michie, Jane Stirling, Amber Oldroyd, Heather Winger, Travis Rindlisbacher, Wade Leavitt, Garian Tippetts (list as of morning 19 Sep 2017). Baetis dominant, then Hydropsyche, good diversity in samples. Simuliidae, flatworms, snails, Brachycentridae, Leptoceridae, Perlodidae Isoperla and maybe Skwala, Oligochaeta, Hirudinea large black, Isopoda, Gerridae, and more. 12053

12054 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 16-Sep-2017 C. R. Nelson # 12054 & J. K. Nelson 95 Tank Hollow Fire seems to be out. Road in front of sawmill property is newly paved and finished. Kaye and Riley buried about 50 feet of exposed white PVC water pipe between spring road and gulley of Wheeler Sawmill Canyon. About 15 of 100 planted sunflower hills survived and bloomed, most eaten by deer. Rabbitbrush in full bloom. Sphecidae, Lygaeidae, rattlesnake 20 inches or so with many rattles, garter snake, sagebrush lizards. 12054

12055 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 18-Sep-2017 C. R. Nelson # 12055 95 Gastropoda, slugs. small (25 mm or so) light colored with faint stripes above. This species common in Utah since at least when I was a child. Best guess on identification: Arion sp. maybe in the fuscus species complex. I'm calling it Arion subfuscus based on an internet key to the invasive slugs of California UC Davis ANR 8336 by McDonnell, Paine, and Gormally. 2009. 12055

12052.5 USA: UTAH: Utah Co., Provo, BYU, 321 Maeser Building, N 40.245388 W 111.653465 1419 m 12-Sep-2017 C. R. Nelson # 12052.5 95 Google Earth Started four colonies of vestigial winged Drosophila melanogaster in Biology 100 class with colony and food from Carolina Biological Supply. 4 unsexed flies in 4 bottles. All worked. Larvae in all and 1 pupa in one on 20 September 2017. 12052.5

12056 USA: UTAH: Utah Co., Provo, BYU, Bean Museum parking lot, N 40.253563 W 111.647252 1438 m 20-Sep-2017 C. R. Nelson # 12056 96 photos: Mantidae, Tenodera sinensis. Chinese mantis. more photos on BYU south hillside, 22 Sep 2017. 12056

12057 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 22-Sep-2017 23-Sep-2017 C. R. Nelson # 12057 & J. K. Nelson 96 Rainy night: hamburger dinner, pancake breakfast, clear morning, put in the winter ceiling, put away hoses. With Andrea Nelson, Jordan Christopher, Wolfgang and Leah Smith. scrub jay, raven, sagebrush lizard, my sunflowers are blooming 12057

12058 USA: UTAH: Utah Co., Provo, BYU, Nelson office, 2119 Life Sciences Building, N 40.245293 W 111.649165 1407 m 25-Sep-2017 C. R. Nelson # 12058 96 Google Earth photo: healed finger bitten by pirahna CRN 7163, 2 November 2000 12058

12059 USA: UTAH: Utah Co., Provo, BYU, Nelson lab, 4118 Life Sciences Building, N 40.24517 W 111.64909 1404 m 26-Sep-2017 C. R. Nelson # 12059 96 iPhone photo photos: Drosophila melanogaster larva, pupae, and adult, through glass of milk bottle. Vestigial wing. 12059

12060 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 27-Sep-2017 C. R. Nelson # 12060 & R. S. Hansen 96 Walked with Robert around cabin then up Wheeler Sawmill Canyon to the waterfall, back south to our high ridge then over to Glass Cliffs and back down our road to the cabin. Winterized water system in house. 12060

12061 USA: MASSACHUSETTS: Middlesex Co. Concord, North Bridge, N 42.469136 W 71.350777 35 m 29-Sep-2017 C. R. Nelson # 12061 & J. K. Nelson 96 Photos: scenery, statues 12061

12062 USA: MASSACHUSETTS: Middlesex Co. Walden Pond, Thoreau's cabin, N 42.442112 W 71.342112 58 m 29-Sep-2017 C. R. Nelson # 12062 & J. K. Nelson 96 wypt 161thoreauscabin Photos: scenery.
"Go confidently in the direction of your dreams." restated quote from Walden, given to me by Kaye after we had visited Walden Pond. It happened to surface to her serendipitously. From a Dove's Chocolate candy wrapper. 12062

12063 USA: MASSACHUSETTS: Middlesex Co. Walden Pond, Thoreau's Cove, N 42.441305 W 71.342412 48 m 29-Sep-2017 C. R. Nelson # 12063 & J. K. Nelson 96 wypt 162thoreauscove Photos: scenery.
12063

12064 USA: MASSACHUSETTS: Plymouth Co. Plymouth, rock, 1620 N 41.959151 W 70.662942 6 m 29-Sep-2017 C. R. Nelson # 12064 & J. K. Nelson 96 wypt 163plymouth Photos: historic Plymouth Rock, 1620 "landing" of pilgrims.
12064

12065 USA: MASSACHUSETTS: Barnstable Co. Cape Cod, Eastham, turn to Coast Guard Beach, N 41.838487 W 69.968619 6 m 30-Sep-2017 C. R. Nelson # 12065 & J. K. Nelson 96 wypt 164turkey Photos: scenery Photos: turkeys 12065

12066 USA: MASSACHUSETTS: Barnstable Co. Cape Cod, Coast Guard Beach, Eastham, N 41.849542 W 69.947792 3 m 30-Sep-2017 C. R. Nelson # 12066 & J. K. Nelson 96 Wypt

165coastguardbeach Photos: scenery & people part of horseshoe crab, sea shells, pebbles. 12066

12067 USA: MASSACHUSETTS: Barnstable Co. Cape Cod, Race Point, N 42.080974 W 70.218898 10 m 30-Sep-2017 C. R. Nelson # 12067 & J. K. Nelson 96 Wypt 166racepoint pebbles. 12067

12068 USA: MASSACHUSETTS: Barnstable Co. Cape Cod, Province Lands Visitors Center, N 42.073762 W 70.205431 25 m 30-Sep-2017 C. R. Nelson # 12068 & J. K. Nelson 96 Wypt 167provinceviscenter Photos: scenery. Wrote field notes in the wind from an observation deck. 12068

12069 USA: MASSACHUSETTS: Barnstable Co. Cape Cod National Seashore, Herring Cove Beach, N 42.046586 W 70.219179 0 m 30-Sep-2017 C. R. Nelson # 12069 & J. K. Nelson 96 Wypt 168herring Photos: scenery. Many fine pebbles here. Odd snail shells, no wave action, on the lee side, away from open ocean. Stopped briefly in forest at Beech Forest area before going to Herring Cove Beach. 12069

12070 USA: MASSACHUSETTS: Barnstable Co. Cape Cod National Seashore, Longnook Beach, N 42.022787 W 70.039450 4 m 30-Sep-2017 C. R. Nelson # 12070 & J. K. Nelson 96 Wypt 169longnook Photos: scenery and people. many sea shells 12070

12071 USA: RHODE ISLAND: Washington Co. Wyoming, Wyoming dam, N 41.515802 W 71.702845 34 m 01-Oct-2017 C. R. Nelson # 12071 & J. K. Nelson 96 Wypt 171wyomingrhodeisland Photos: scenery at fishing area, red Virginia creeper leaflet. We also collected an oak leaf at a rest area on I-95 north east of Wyoming.

Camera info: Set Nikon D610 camera with correct Eastern Time. All photos prior in Massachusetts are two hours earlier than local time (forgot to change at airport). many sea shells 12071

12072 USA: CONNECTICUT: New London Co. Mystic, Mystic Seaport, N 41.359886 W 71.963664 17 m 01-Oct-2017 C. R. Nelson # 12072 & J. K. Nelson 96 Wypt 172mysticseaport photos: ships, fittings, and scenery. Charles W. Morgan whaling ship. 12072

12073 USA: CONNECTICUT: New Haven Co. New Haven, Yale University, Peabody Museum of Natural History, N 41.316051 W 72.820793 17 m 01-Oct-2017 C. R. Nelson # 12073 & J. K. Nelson 96 Wypt 173peabodyyale 12073

12074 USA: CONNECTICUT: New Haven Co. Branford, Rodeway Inn N 41.294273 W 72.762319 32 m 01-Oct-2017 C. R. Nelson # 12074 & J. K. Nelson 96 Wypt 174branfordconn Visited owner of Medlyn Farms in Guilford. His farm is under governmental prerssure. He suggested eating at Guilford Mooring a the town docks. It was a good choice. Jay Medlyn, owner, was quoted on his plight when I searched the internet. Photos: yew cones 12074

12075 USA: CONNECTICUT: Hartford Co. Farmington, LDS temple, N 41.737731 W 72.843786 64 m 02-Oct-2017 C. R. Nelson # 12075 & J. K. Nelson 96 Wypt 175hartfordtemple 12075

12076 USA: MASSACHUSETTS: Hampshire Co. Mount Holyoke Range, Mount Holyoke summit, 942 feet, N 42.300161 W 72.587754 275 m 02-Oct-2017 C. R. Nelson # 12076 & J. K. Nelson 96 Wypt 176mountholyokesummit photos: scenery 12076

12077 USA: VERMONT: Windsor Co. Joseph Smith birthplace, Sharon and South Royalton, Whitewater Brook, N 43.824970 W 72.469082 346 m 02-Oct-2017 C. R. Nelson # 12077 & J. K. Nelson 96 Wypt 177solomonmack photos: scenery and sun. Stream near Solomon Mack house. Photos: Joseph Smith Monument. Photos: Pteronarcys biloba, Perlidae Agnetina, Peltoperlidae Tallaperla maria. Trees 12077

12078 USA: VERMONT: Windsor Co. Quechee, Hwy 4, Quality Inn, N 43.638116 W 72.402693 201 m 03-Oct-2017 C. R. Nelson # 12078 & J. K. Nelson 96 Wypt 179quecheemotel Photos: reds of maple trees in the morning fog. 12078

12078.5 USA: VERMONT: Windsor Co. Quechee, Quechee Gorge, N 43.637173 W 72.408367 206 m 03-Oct-2017 C. R. Nelson # 12078.5 & J. K. Nelson 96 Wypt 180quecheegorge Photos: scenery blue jay, red bellied? woodpecker, robin 12078.5

12079 USA: VERMONT: Windsor Co. Quechee, uplands, Sugarbush Farms Maple Farm, N 43.664684 W 72.467568 345 m 03-Oct-2017 C. R. Nelson # 12079 & J. K. Nelson 96 Wypt 181sugarbushfarm Photos: scenery, sugar maple trees, and tapping for syrup sugar maple trees 12079

12080 USA: VERMONT: Windsor Co. Taftsville Covered Bridge N 43.630702 W 72.468261 202 m 03-Oct-2017 C. R. Nelson # 12080 & J. K. Nelson 96 Wypt 182taftsville Photos: covered bridge 12080

12081 USA: NEW HAMPSHIRE: Grafton Co. White Mountain National Forest, Hubbard Brook Experimental Forest, Hubbard Brook, N 43.940248 W 71.704999 244 m 03-Oct-2017 C. R. Nelson # 12081 & J. K. Nelson 96 Wypt 183hubbardbrook Photos: brook scenery. Met with Scott Bailey of USFS Collected: Pteronarcys biloba, Perlidae Acroneuria,

Peltoperlidae Tallaperla maria, Rhyacophilidae Rhyacophila, Hydropsychidae
Hydropsyche, Philopotamidae (thought maybe Psychomyiidae at first) Dolophilodes.
Photos: Megaloptera: Corydalidae: Nigronia sp. YES, new for Hubbard Brook.
Hippoboscidae, Tipula, Sweltsa, Heptagenia, Eurylophella. 12081

12082 USA: NEW HAMPSHIRE: Grafton Co. White Mountain National Forest, Hubbard
Brook Experimental Forest, Norris Brook, tributary of Hubbard Brook, N 43.942748 W
71.701371 238 m 03-Oct-2017 C. R. Nelson # 12082 & J. K. Nelson 96 Wypt
184norrisbrook Photos: scenery. Peltoperlidae: Tallaperla maria nymphs 12082

12083 USA: NEW HAMPSHIRE: Grafton Co. White Mountain National Forest, Graham
Wangan Ground Scenic Overlook, Hwy 112, 19 air miles west of Conway, N 44.023521 W
71.491761 860 m 03-Oct-2017 C. R. Nelson # 12083 & J. K. Nelson 96 Wypt
185grahamwangangroundsscenicoverlook Photos: scenery, mountains and distance.
12083

12084 USA: NEW HAMPSHIRE: Carroll Co. White Mountain National Forest, Swift River,
Rocky Gorge, Hwy 112, 8 air miles west of Conway, N 44.004562 W 71.278249 362 m 03-
Oct-2017 C. R. Nelson # 12084 & J. K. Nelson 96 Wypt 186rockygorge Photos: scenery,
leaves on water, "cottony" water because of long camera exposure. 12084

12085 USA: NEW HAMPSHIRE: Coos Co. White Mountain National Forest, pond, Hwy 16, 1
mile south of Wildcat Mountain Ski Area, N 44.256616 W 71.252243 630 m 03-Oct-2017
C. R. Nelson # 12085 & J. K. Nelson 96 Wypt 187moose Photos: moose cow with large calf.
12085

12086 USA: NEW HAMPSHIRE: Coos Co. White Mountain National Forest, Mount
Washington, base, Hwy 16, start of toll road to top, N 44.288284 W 71.227131 478 m 04-
Oct-2017 C. R. Nelson # 12086 & J. K. Nelson 96 Wypt 188basewashington Photos: bright
red maple tree, ate picnic at tee in parking lot after trip to top. photos: begin
end 12086

12087 USA: NEW HAMPSHIRE: Coos Co. White Mountain National Forest, Mount
Washington, summit, 6289 feet, N 44.270460 W 71.303265, 1920 m 04-Oct-2017 C. R.
Nelson # 12087 & J. K. Nelson 96 Wypt 189summitwashington Photos: scenery and people.
time lapse of clouds, distance to ocean is about 75 miles (Google Earth). Summit of Mount
Washington is equal to elevation of the top of the Y on Y Mountain Provo. 12087

12088 USA: NEW HAMPSHIRE: Coos Co. White Mountain National Forest, Mount
Washington, descent, stop 1, (down from top), N 44.278412 W 71.293310, 1738 m 04-Oct-
2017 C. R. Nelson # 12088 & J. K. Nelson 96 Wypt 190stopone Photos: alpine tundra
Photos: alpine tundra 12088

12089 USA: NEW HAMPSHIRE: Coos Co. White Mountain National Forest, Mount Washington, descent, stop 2, (down from top), N 44.278412 W 71.293310, 1593 m 04-Oct-2017 C. R. Nelson # 12089 & J. K. Nelson 96 Wypt 191stoptwo Photos: Photos: 12089

12090 USA: NEW HAMPSHIRE: Coos Co. White Mountain National Forest, Mount Washington, descent, stop 3, (down from top), N 44.282314 W 71.276920, 1465 m 04-Oct-2017 C. R. Nelson # 12090 & J. K. Nelson 96 Wypt 191stopthreedirtroad Photos: Photos: lichens 12090

12091 USA: NEW HAMPSHIRE: Coos Co. White Mountain National Forest, Mount Washington, descent, stop 4, (down from top), N 44.293702 W 71.276795, 1165 m 04-Oct-2017 C. R. Nelson # 12091 & J. K. Nelson 96 Wypt 193stopfourconifers Photos: Photos: tree layers on mountain 12091

12092 USA: NEW HAMPSHIRE: Coos Co. White Mountain National Forest, Mount Washington, descent, stop 5, (down from top), stream N 44.283131 W 71.260735, 921 m 04-Oct-2017 C. R. Nelson # 12092 & J. K. Nelson 96 Wypt 194stopfivewater Photos: Photos: Leuctridae Leuctra sp., Nemouridae Amphinemura sp. 12092

12093 USA: NEW HAMPSHIRE: Coos Co. White Mountain National Forest, Mount Washington, descent, stop 6, (down from top), N 44.284156 W 71.235078, 564 m 04-Oct-2017 C. R. Nelson # 12093 & J. K. Nelson 96 Wypt 195stopsixreds Photos: Photos: plant layers 12093

12094 USA: NEW HAMPSHIRE: Coos Co. White Mountain National Forest, Mount Washington, descent, stop 7, (down from top), N 44.288169 W 71.227010, 474 m 04-Oct-2017 C. R. Nelson # 12094 & J. K. Nelson 96 Wypt 195stopsevenbase Photos: lunch.

End spot near CRN12086 Photos: red tree, 12094

12095 USA: MAINE: Penobscot Co. Millinocket, N 45.629555 W 68.662858, 121 m 04-Oct-2017 05-Oct-2017 C. R. Nelson # 12095 & J. K. Nelson 96 Google Earth Motel 12095

12096 USA: MAINE: Penobscot Co. Mount Katahdin area, Baxter State Park, Togue Pond Visitor Center, N 45.822949 W 68.886689, 181 m 05-Oct-2017 C. R. Nelson # 12096 & J. K. Nelson 96 Wypt 197katahdinvc Photos: Mount Katahdin in distance over Upper Togue Pond. Wypt 203toguepondviscenter N 45.822678 W 68.885540 elev. 185 m. afternoon photos: same, also Lower Togue Pond 12096

12097 USA: MAINE: Penobscot Co. Mount Katahdin area, Baxter State Park, Katahdin Stream, Hunt Trail, N 45.895653 W 68.982340, 487 m 05-Oct-2017 C. R. Nelson # 12097 & J. K. Nelson 96 Wypt 198katahdinstreamfallsdown end of our hike at large birch, went no

higher, nice day, easy trail, but we stopped because we needed to go down to elsewhere.
12097

12098 USA: MAINE: Penobscot Co. Mount Katahdin area, Baxter State Park, Katahdin Stream Falls, N 45.895653 W 68.982340, 487 m 05-Oct-2017 C. R. Nelson # 12098 & J. K. Nelson 96 Wypt 198katahdinstreamfallsdown Photos: scenery, camera: "cotton candy" slow exposure water. On way down top of falls. 12098

12099 USA: MAINE: Penobscot Co. Mount Katahdin area, Baxter State Park, Nesowadnehunk Stream, Little Niagara Falls, N 45.872317 W 69.039378, 339 m 05-Oct-2017 C. R. Nelson # 12099 & J. K. Nelson 96 Wypt 201littleniagara Photos: scenery, falls, slow shutter speed, people: ladies from Chicago. 12099

12100 USA: MAINE: Penobscot Co. Mount Katahdin area, Baxter State Park, Nesowadnehunk Stream, Big Niagara Falls, N 45.869299 W 69.037315, 322 m 05-Oct-2017 C. R. Nelson # 12100 & J. K. Nelson 96 Wypt 202bigniagara Photos: scenery, people.
12100

12101 USA: MAINE: Hancock Co. Trenton, Gateway Lunt's Lobster Pound, N 44.432428 W 68.368837, 8 m 05-Oct-2017 C. R. Nelson # 12101 & J. K. Nelson 96 Google Earth Photos: eating lobster 12101

12102 USA: MAINE: Hancock Co. Bar Harbor, Hwy 3, Belle Isle Motel, N 44.434374 W 68.316679, 52 m 06-Oct-2017 C. R. Nelson # 12102 & J. K. Nelson 96 Wypt 204belleislemotel 12102

12103 USA: MAINE: Hancock Co. Mount Desert Island, Acadia National Park, Cadillac Mountain, N 44.352145 W 68.223914, 464 m 06-Oct-2017 C. R. Nelson # 12103 & J. K. Nelson 96 Wypt 205cadillac 12103

12104 USA: MAINE: Hancock Co. Mount Desert Island, Acadia National Park, Sand Beach, N 44.352145 W 68.223914, 464 m 06-Oct-2017 C. R. Nelson # 12104 & J. K. Nelson 96 Wypt 206sandbeach 12104

12105 USA: MAINE: Hancock Co. Mount Desert Island, Acadia National Park, Great Head, N 44.326075 W 68.178973, 10 m 06-Oct-2017 C. R. Nelson # 12105 & J. K. Nelson 96 Wypt 207firstpointgreathead Photos: many at 207, few at rappel attachments, fewer at Great Head.

Wypt 208rappelpoint N 44.327439 W 68.175116 elev. 28 m, middle. Wypt 209greathead N 44.328540 W 68.174628 elev. 55 m, sign labeled Great Head. 12105

12106 USA: MAINE: Hancock Co. Mount Desert Island, Acadia National Park, Thunder Hole, N 44.319910 W 68.189147, 6 m 06-Oct-2017 C. R. Nelson # 12106 & J. K. Nelson 96 Wypt 210thunderhole Photos: scenery, rocky coast at mid-tide. painting. lunch. 12106

12107 USA: MAINE: Hancock Co. Mount Desert Island, Acadia National Park, Otter Cove, N 44.317408 W 68.199486, 16 m 06-Oct-2017 C. R. Nelson # 12107 & J. K. Nelson 96 Wypt 211ottercove Photos: 12107

12108 USA: MAINE: Hancock Co. Mount Desert Island, Acadia National Park, Sea Wall, N 44.242308 W 68.298712, 3 m 06-Oct-2017 C. R. Nelson # 12108 & J. K. Nelson 96 Wypt 212seawall Photos: scenery 12108

12109 USA: MAINE: Hancock Co. Mount Desert Island, Acadia National Park, Bass Lighthouse, N 44.221940 W 68.33663, 1 m 06-Oct-2017 C. R. Nelson # 12109 & J. K. Nelson 96 Wypt 213basslightsunset Photos: sunset, people: some rude. 12109

12110 USA: MAINE: Hancock Co. Mount Desert Island, Acadia National Park, Cadillac Mountain, N 44.352145 W 68.223914, 464 m 07-Oct-2017 C. R. Nelson # 12110 & J. K. Nelson 96 Wypt 205cadillac Photos: sunrise, published time 6:36 am. Check camera. 12110

12111 USA: MAINE: Sagadahoc Co. Montsweag Flea Market, N 43.962365 W 69.724826, 55 m 07-Oct-2017 C. R. Nelson # 12111 & J. K. Nelson 96 Wypt 214montsweag Photos: flea market, bought a lumberjack pike, iron point for \$5.00. Kaye bought an ornamental anchor. Saw bald eagle on pond just south of flea market. 12111

12112 USA: MASSACHUSETTS: Essex Co. Gloucester, Good Harbor Beach, N 42.617151 W 70.632458, 9 m 07-Oct-2017 C. R. Nelson # 12112 & J. K. Nelson 96 Wypt 215goodharborbeach Photos: magnificent sunset. 12112

12113 USA: MASSACHUSETTS: Essex Co. Gloucester, The Captains Lodge Motel, 237 Eastern, N 42.629668 W 70.637470, 21 m 07-Oct-2017 08-Oct-2017 C. R. Nelson # 12113 & J. K. Nelson 96 Wypt 216gloucestermotel Photos: motel front. 12113

12114 USA: MASSACHUSETTS: Suffolk Co. Boston, dry dock, N 42.373338 W 71.056510, 5 m 08-Oct-2017 C. R. Nelson # 12114 & J. K. Nelson 96 Wypt 218ussconstitution Photos: Old Ironsides, USS Constitution and Destroyer USS Cassin Young 12114

12115 USA: MASSACHUSETTS: Suffolk Co. Boston, Copps Hill burying ground, N 42.367268 W 71.056098, 8 m 08-Oct-2017 C. R. Nelson # 12115 & J. K. Nelson 96 Wypt 217coppshill Photos: 1700s graveyard 12115

12116 USA: MASSACHUSETTS: Suffolk Co. Boston, Logan Airport, N 42.366586 W 71.016519, 4 m 09-Oct-2017 C. R. Nelson # 12116 & J. K. Nelson 96 Google Earth Photos: rain on windows, broken 737 cockpit door. We were delayed for most of the day, 11 times, due to plane problems. Kaye settled with Delta Airlines later for our inconvenience. 12116

12117 CANADA: Ontario: airline flight near Great Lakes N xx W xx, xx m 09-Oct-2017 C. R. Nelson # 12117 & J. K. Nelson 96 Photos: 1. Lake Erie and Lake St. Clair. N 43.26685 W 82.19740, elev. of jet 33,362 feet. iPhone.
2. Lake Michigan. N 43.20235 W 86.22083 elev. jet 33,234 feet. 12117

12118 USA: UTAH: Utah Co., Provo Canyon, gravel pit near mouth, N 40.322430 W 111.647104, 1480 m 09-Oct-2017 C. R. Nelson # 12118 96 Wypt 221lowprovocanyon Photos: Mount Timpanogos fall leaves. 12118

12119 USA: UTAH: Utah Co., Provo Canyon, Squaw Peak Road, lower parking, N 40.323347 W 111.632667, 1613 m 10-Oct-2017 C. R. Nelson # 12119 96 Wypt 220lowsquawpeak Photos: Mount Timpanogos fall leaves. 12119

12120 USA: UTAH: Utah Co., Provo, University Boulevard north of Riverwoods, N 40.29028 W 111.65838, 1451 m 10-Oct-2017 C. R. Nelson # 12120 96 iPhone Photos, iphone: Mount Timpanogos fall leaves. 12120

12121 USA: UTAH: Utah Co., Provo, Brigham Young University, LSB Fifth floor, northeast corner N 40.245296 W 111.648907, 1418 m 10-Oct-2017 C. R. Nelson # 12121 96 Wypt 223LSBnecorner, north east corner stairs Photos, iphone: Mount Timpanogos fall leaves. 12121

12122 USA: UTAH: Utah Co., Squaw Peak Trail, jct Little Rock Canyon, N 40.289860 W 111.613063, 2220 m 15-Oct-2017 C. R. Nelson # 12122 & J. K. Nelson 96 Wypt 224littlerock Photos: Fall scenes 12122

12123 USA: UTAH: Utah Co., Squaw Peak Trail, Hope Campground turnoff, ridge to the east, N 40.305469 W 111.618598, 2042 m 15-Oct-2017 C. R. Nelson # 12123 & J. K. Nelson 96 Wypt 225hope Photos: Fall scenery. Saw about 8 mountain goats on Cascade Mountain. 12123

12124 USA: UTAH: Utah Co., Squaw Peak Trail, Orem Squaw Peak Overlook, N 40.301975 W 111.626256, 2037 m 15-Oct-2017 C. R. Nelson # 12124 & J. K. Nelson 96 Wypt 226squawoverlook Photos: sunset, Utah and Salt Lake Valleys, smoke from fires around Santa Rosa, California. 12124

12125 USA: UTAH: Utah Co., Provo, Brigham Young University, Maeser Building front steps, N 40.245344 W 111.653606, 1419 m 19-Oct-2017 C. R. Nelson # 12125 96 Google Earth Photos: class arranged by height on steps. Including a waving animation. 12125

12126 USA: UTAH: Utah Co., Squaw Peak Trail, Hope Campground, N 40.303156 W 111.616448, 2023 m 28-Oct-2017 C. R. Nelson # 12126 96 Wypt 228hopecamp Photos: leaf covered roads diverging. 12126

12127 USA: UTAH: Utah Co., Squaw Peak Trail, Hope Campground turnoff, ridge to the east, N 40.305448 W 111.618457, 2025 m 28-Oct-2017 C. R. Nelson # 12127 96 Wypt 229timpfromhope drawings and photos: Mount Timpanogos.

Same as CRN12123, Wypt 225hope Saw about 6 mountain goats on Cascade Mountain. 12127

12128 USA: UTAH: Utah Co., Provo Canyon, Hwy 189, Vivian Park, N 40.355553 W 111.572432, 1578 m 28-Oct-2017 C. R. Nelson # 12128 96 Wypt 230vivianpark Photos and video: cottonwood leaves on pond, trees on ridge. 12128

12129 USA: UTAH: Utah Co., Spring Creek, Springville, Utah Division of Natural Resources office, N 40.182158 W 111.611423, 1371 m 03-Nov-2017 C. R. Nelson # 12129 & others, see field notes 96 Wypt 231springcreek Photos: scenery and people. Site commonly visited to collect Sisyridae, spongillaflyies.

Riley Nelson, Shawn Clark, Jared Meek, Jackson Birrell, Makani Fisher, Teagan Mulford, and Jeff Andrus. 12129

12130 USA: UTAH: Grand Co. 1 mile north of Crescent Junction, N 38.955538 W 109.829763, 1523 m 03-Nov-2017 C. R. Nelson # 12130 & others, see field notes 96 Wypt 232crescentjunction Photos: scenery.

Riley Nelson, Shawn Clark, Jared Meek, Jackson Birrell, Makani Fisher, Teagan Mulford, and Jeff Andrus. Photos: prairie dog. 12130

12131 USA: COLORADO: Mesa Co. 4 miles west of Palisade, 7 miles east of Grand Junction, Hwy 70 N 39.109133 W 108.423425, 1462 m 03-Nov-2017 C. R. Nelson # 12131 & others, see field notes 96 iPhone photo GPS Photos: scenery, mega rock face

Riley Nelson, Shawn Clark, Jared Meek, Jackson Birrell, Makani Fisher, Teagan Mulford, and Jeff Andrus. 12131

12132 USA: COLORADO: Garfield Co. Hwy I-70, 3 miles east of Rifle N 39.530992 W 107.721108, 1640 m 03-Nov-2017 C. R. Nelson # 12132 & others, see field notes 96 iPhone photo GPS Photos: full moon rising

Riley Nelson, Shawn Clark, Jared Meek, Jackson Birrell, Makani Fisher, Teagan Mulford, and Jeff Andrus. 12132

12133 USA: COLORADO: Denver Co. Denver, 3524 Osceola Street, N 39.766380 W 105.038163, 1652 m 03-Nov-2017 08-Nov-2017 C. R. Nelson # 12133 & others, see field notes 96 Wypt 234denver3524OsceolaSt rented house for stay at meetings of Entomological Society of America.

Riley Nelson, Shawn Clark, Jared Meek, Jackson Birrell, Makani Fisher, Teagan Mulford, and Jeff Andrus. 12133

12134 USA: COLORADO: Denver Co. Denver, Colorado Convention Center N 39.743325 W 104.995408, 1593 m 04-Nov-2017 08-Nov-2017 C. R. Nelson # 12134 & others, see field notes 96 iPhone photo GPS Meetings of Entomological Society of America.

Riley Nelson, Shawn Clark, Jared Meek, Jackson Birrell, Makani Fisher, Teagan Mulford, and Jeff Andrus.

4 November 2017

Photos: Barbara Hayford and John Morse

7 November 2017

Photos: Riley Nelson with Rolando Rivera Pomar of La Plata, Argentina.

photo of blue bear statue on Convention Center front. 12134

12135 USA: COLORADO: Jefferson Co. Westminster, Butterfly Pavilion, Hwy 36 N 39.887182 W 105.066838, 1616 m 06-Nov-2017 C. R. Nelson # 12135 & others, see field notes 96 Wypt 233westminster Riley Nelson, Jared Meek, Jackson Birrell, Makani Fisher, Teagan Mulford, and Jeff Andrus.

Photos: Heliconius 2-3 spp., Idea, walkingstick, Nephila, centipede, Monarch, Caligo, Morpho, cracker. 12135

12136 USA: UTAH: Salt Lake Co. Salt Lake City, Christopher/Nelson home, 973 East 800 South, N 40.752293 W 111.862991 1325 m 11-Nov-2017 C. R. Nelson # 12136 & family 97 Google Earth photos: newly painted fence. 12136

12137 USA: UTAH: Utah Co., Provo, BYU, south hillside near Grant Building, N 40.245010 W 111.652068 1410 m 15-Nov-2017 C. R. Nelson # 12137 97 Google Earth photos: mule deer 12137

12138 USA: UTAH: Utah Co., Orem, Animal Ark pet store N 40.296064 W 111.696852 1452 m 15-Nov-2017 C. R. Nelson # 12138 97 Google Earth photos: mating tortoises. 12138

12139 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 20-Nov-2017 C. R. Nelson # 12139 97 Photos: Riley's new haircut, the halo. 12139

12140 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 24-Nov-2017 C. R. Nelson # 12140 & J. K. Nelson 97 Photos: family, including group with Todd's drone. Photos: Chrysomelidae *Galeruca rarer* species than *rudis*?; Coreidae *Leptoglossus occidentalis*. 12140

12141 USA: UTAH: Utah Co., Spring Creek, Springville, Hwy 89, Main Street, Utah Division of Natural Resources office, N 40.18242 W 111.61243, 1370 m 25-Nov-2017 C. R. Nelson # 12141 97 Wypt 519springcreek Photos, microscope: sponge, *Ephydatia fluviatilis*, spicules, gemmules; Sisyridae - *Climacia californica*, young larvae. 12141

12142 USA: UTAH: Salt Lake Co. Salt Lake City, Temple Square, N 40.77012 W 111.89293, 1318 m 25-Nov-2017 C. R. Nelson # 12142 97 iPhone photo GPS Photos: people and scenery. Photo: Hannah and Christian Dahneke & family from Biology 100, Seth Penrose, Jacquelyn Penrose, Christian Dahneke, Hannah Dahneke, Blake Hamblin, Rulon Dahneke and in front mother Michelle Dahneke. Also met Parker family: Jake, Alison, Tate, Lucy, Miles, Calvin, and Penelope.

Traveling with: Riley, Kaye, Amy, Andrea, Wolf, Leah and other Parker family: David, Jera. Nick, Maegan, Abby, Parker, Emily, and Allie Stoddard. 12142

12143 USA: UTAH: Utah Co., Provo, Brigham Young University, Nelson Laboratory, 4118 LSB, N 40.24517 W 111.64909, 1404 m 01-Dec-2017 C. R. Nelson # 12143 97 iPhone photo GPS Sciaridae, from soil in colonies of larvae of *Dynastes granti* from a year or so ago and this fall. 12143

12144 USA: UTAH: Salt Lake Co. Draper, 12627 Relation Street, Penny & Tracy Smith house, N 40.52194 W 111.84648, 1395 m 16-Dec-2017 C. R. Nelson # 12144 97 iPhone photo GPS Photos: USU friends Christmas Party, group and portraits: Tracy Smith, Penny Smith, Cynthia Parrish, Blair Parrish, Hank Pond, Rexanne Pond, Kaye Nelson, and Riley Nelson (his photo by Kaye). 12144

12145 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 17-Dec-2017 C. R. Nelson # 12145 97 Photos: Downy woodpecker, turkey. 12145

12146 USA: UTAH: Utah Co., Wasatch Mountains, Squaw Peak foot trail, first meadow, N 40.27945 W 111.61665 2204 m 19-Dec-2017 C. R. Nelson # 12146 & others, see field notes 97 Wypt 236firstmeadow Photos: People. Riley Nelson, Jackson & Alex Birrell, and Jared Meek. started with Anne Bennion, she turned back in Rock Canyon for another

appointment.

Also took pictures on trail below to Rock Canyon. Saw Mecoptera: Boreidae: *Boreus coloradensis* in Rock Canyon above green gate to below Squaw Peak canyon trail. 12146

12147 USA: UTAH: Utah Co., Wasatch Mountains, front rim north of Squaw Peak, N 40.279486 W 111.622647 2205 m 19-Dec-2017 C. R. Nelson # 12147 & others, see field notes 97 Google Earth Photos: People, group shot, and Scenery. Riley Nelson, Jackson & Alex Birrell, and Jared Meek. in grove of curl leaf mountain mahogany, *Cercocarpus ledifolia*. 12147

12148 USA: UTAH: Utah Co., Wasatch Mountains, east of Provo Rock Canyon, Rock Creek below left hand turnoff to Squaw Peak, N 40.26767 W 111.60586 1834 m 19-Dec-2017 C. R. Nelson # 12148 & others, see field notes 97 Wypt 238capnia Riley Nelson, Jackson & Alex Birrell, and Jared Meek. saw insects in liquid creek just above frozen zone: *Capnia*, *Zapada*, *Hesperoperla*, flatworms, and *Epeorus*. 12148

12149 USA: UTAH: Salt Lake Co. Draper, Living Planet Aquarium, N 40.53191 W 111.89422 1346 m 20-Dec-2017 C. R. Nelson # 12149 & others, see field notes 97 Wypt 239aquarium Riley Nelson, Jackson & Alex Birrell, and Jared Meek. Photos: stingray pool, totara porcupinefish, stingray, archer fish *Toxotes jaculatrix*, *Anableps anableps*, *Lota lota* burbot, river otters, hagfish, Japanese spider or king crab, family, wood ducks, barred tiger salamanders *Ambystoma mavortium*, least chub, jellyfish, wrasse, humpnose unicornfish, gray shark, black tipped reef shark, Lucy & Hadley Smith, stingray, nurse shark, loggerhead sea turtle, skate/shark. 12149

12150 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 20-Dec-2017 C. R. Nelson # 12150 97 Photos: Kaye and Wolfgang putting on Santa Claus hats. 12150

12151 USA: UTAH: Kane Co., Grand Staircase - Escalante National Park, Toadstools near Hwy 89, N 37.10844 W 111.87099 1382 m 21-Dec-2017 C. R. Nelson # 12151 & J. K. Nelson 97 Photos: people and scenery. 12151

12152 USA: ARIZONA: Coconino Co. Page, Tapatios Restaurant, N 36.917248 W 111.457024 1312 m 21-Dec-2017 C. R. Nelson # 12152 & J. K. Nelson 97 Wypt 241pagerodeway Photos: restaurant food. near restaurant (100 m) at our motel. 12152

12153 USA: ARIZONA: Coconino Co. Colorado River, Horseshoe Bend, south of Page, N 36.879758 W 111.510424 1289 m 22-Dec-2017 C. R. Nelson # 12153 & J. K. Nelson 97 Wypt 242horseshoe Photos: scenery and panoramas, self-portraits including shadow shots. 12153

12154 USA: ARIZONA: Coconino Co. Sunset Crater Volcano National Monument, north of Flagstaff, Lava Flow Trail, N 35.363157 W 111.518466 2129 m 22-Dec-2017 C. R. Nelson # 12154 & J. K. Nelson 97 Google Earth (of visitor center) No Photos. Looked at cinder cones and lava fields. 12154

12155 USA: ARIZONA: Coconino Co. Wupatki National Monument, Wukoki Pueblo Ruins, N 35.530905 W 111.329461 1407 m 22-Dec-2017 C. R. Nelson # 12155 & J. K. Nelson 97 Google Earth Photos: ruins of Ancestral Pueblan village. 12155

12156 USA: ARIZONA: Coconino Co. Wupatki National Monument, Wupatki Pueblo Ruins, N 35.521772 W 111.372627 1484 m 22-Dec-2017 C. R. Nelson # 12156 & J. K. Nelson 97 Wypt 243wupatkipueblo Photos: ruins of Ancestral Pueblan village. portraits, sage thrasher, robin. 12156

12157 USA: ARIZONA: Coconino Co. Wupatki National Monument, The Citadel and Nalakihi Pueblo Ruins, N 35.565899 W 111.471795 1670 m 22-Dec-2017 C. R. Nelson # 12157 & J. K. Nelson 97 Wypt 244citadel Photos: ruins of Ancestral Pueblan village and our portraits. Also drive by visit to Lomaki Ruins and Box Canyon dwellings. 12157

12158 USA: ARIZONA: Yavapai Co. Montezuma Castle National Monument, N 34.611799 W 111.841942 967 m 22-Dec-2017 C. R. Nelson # 12158 & J. K. Nelson 97 Wypt 245montezuma Photos: ruins of Ancestral Pueblan village and our portraits. Some with sycamore trees. 12158

12159 USA: ARIZONA: Maricopa Co. Phoenix, Montessori School in Sunnyslope, N 33.569927 W 112.052361 403 m 22-Dec-2017 C. R. Nelson # 12159 & J. K. Nelson 97 Google Earth Photos and video: Artemis Nelson's school Christmas Bazaar. Riley, Kaye, Jason, Brandy, Artemis, and Astrid. 12159

12160 USA: ARIZONA: Maricopa Co. Phoenix, Cave Creek Park, near 25th Avenue & Cactus Street, Cholla Street playground, N 33.590402 W 112.113330 387 m 23-Dec-2017 C. R. Nelson # 12160 & J. R. Nelson 97 Google Earth Photos: Artemis and Astrid at playground, Haplo the dog. 12160

12161 USA: ARIZONA: Maricopa Co. Phoenix, Nelson home, 2520 West Columbine Street, N 33.599019 W 112.113777 389 m 22-Dec-2017 29-Dec-2017 C. R. Nelson # 12161 & family 97 Wypt 246nelsoncolumbine 22 Dec: Jason, Brandy, Artemis, Astrid, Kaye, Riley. 23 Dec, add: Andrea Nelson and Jordan Christopher. 25 Dec.: add: Todd, Amy, Wolfgang, and Leah Smith.

26 Dec.: made a bird feeder and watched birds: Gila woodpecker, house sparrow (one pied coloration), house finch, verdin, Aberts towhee, mockingbird, rock dove, white wing dove,

Eurasian collared dove, female hummingbird then male black chinned hummingbird, starling, mourning dove, inca dove. 12161

12162 USA: ARIZONA: Maricopa Co. Phoenix, Lookout Mountain, east side flat shoulder halfway up, N 33.625110 W 112.046432 543 m 26-Dec-2017 C. R. Nelson # 12162 97 Wypt 247lookouteastshoulder Photos: scenery, two paintings to the north, panoramas. 12162

12163 USA: ARIZONA: Maricopa Co. Phoenix, North Mountain Park, Mountain View Park, N 33.581916 W 112.075232 457 m 27-Dec-2017 C. R. Nelson # 12163 & family 97 Wypt 248nphoenmntnpreserve Photos: scenery and people.

Walked a loop trail on west side of mountain. Astrid liked gathering rocks, big ones, for her to build a castle. Amy and Wolf Smith started with us but Wolf wasn't feeling well.

Riley Nelson, Kaye Nelson (using new trekking poles), Jason Nelson, Brandy Nelson, Artemis Nelson, Astrid Nelson, Todd Smith, and Leah Smith. Photos: small black cactus with fishhook spines, Mammillaria grahamii det CR Nelson 31 Dec 2017. I painted a reddish barrel cactus. Photos: cactus wren, acorn woodpecker. Saw other vertebrates: jackrabbit, ground squirrel, black tailed gnatcatcher, cactus wren, acorn woodpecker, quail gambels?, and a lizard maybe Urosaurus. Saw cochineal scale insects on cholla. 12163

12164 USA: UTAH: Utah Co., Utah Lake, Provo Airport Road, N 40.224612 W 111.730128 1368 m, 01-Jan-2018 C. R. Nelson # 12164 & J. K. Nelson 97 Wypt 250airportdike Photos: supermoon rise, scenery 12164

12165 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 02-Jan-2018 C. R. Nelson # 12165 97 Photos: supermoonset, scenery, photos from Oaks driveway one lot west. Photos: Dermestidae, adult, photos with microscopes on 18 January 2018. 12165

12166 USA: UTAH: Utah Co., Provo, Brigham Young University, Nelson Laboratory, 4118 LSB, N 40.24517 W 111.64909, 1404 m 02-Jan-2018 6 January 20018 C. R. Nelson # 12166 97 iPhone photo GPS Photos: Scatopsidae, microscope camera on 3 January 2018, Rhegmoclemina sp.? 6 Jan 2018: photos Scatopsidae Rhegmoclemina sp? and Sciaridae Corynoptera sp.

6 - 12 January 2018: more flies attracted to light in lab: Sciaridae Corynoptera sp, Scatopsidae Rhegmoclemina sp., Carnidae? 1 specimen pinned. 12166

12167 USA: UTAH: Utah Co., Provo, Brigham Young University, Nelson Laboratory, 4118 LSB, N 40.24517 W 111.64909, 1404 m 09-Jan-2018 6 January 20018 C. R. Nelson # 12167

& M. L. Fisher 97 Photos session: moths emerged of *Cisthene angelus*, from eggs collected on: Get data from Makani. What is the lichen species? 12167

12168 USA: UTAH: Utah Co., Provo, Rock Canyon, N xx W xx, x m 11-Jan-2018 C. R. Nelson # 12168 & M. L. Fisher 97 Photos: in Nelson lab on 12 January by C. R. Nelson. CRN NOT PRESENT WHEN COLLECTED, Fall armyworm caterpillar covered in fungus. 12168

12169 USA: UTAH: Utah Co., Provo River, Provo, 2230 North Bridge and 300 West, Riverside Park BYU, N 40.265163 W 111.663720 1423 m 13-Jan-2018 C. R. Nelson # 12169 & class 97 Wypt 251 provoriver Riffle near pavilion. First 100 samples. Photos: group shot by . Candida by Chessie Guynn. Velocities: recorded over 10m stretch recorded by Ethan Hyde, depth 25 cm: talweg: 8, 7, 7, 6.32, 6.73, 6.6, 6.27, 6.15, 6.93, 6.28, 6.80, average: 6.7345 = 6.7.

Nearer left bank in 5-7 cm of water: 7.9, 8.04, 8.11, 8.42, 7.91, 8.16, 8.22, 8.99, 8.37, 8.36, average 8.258. Forgot temperatures with class in morning 10:00 am to noon. Returned at 3:15pm air: 12 deg C, water 5 deg C.

People present: Riley Nelson, Alyssa Manwaring TA, Chessie Guynn TA, Austin Morris TA, Lauren Harvey, Kent Hooper, Will Dunkel, Ethan Hyde, Charles Hamblin, Anna Harvis, Julie Smith, Jacob Loveland, Max Jessop, Jed Shum, Matt Lyon, Joseph Lyman, Sarah Pulham, Whitney Carlson, Courtney Day, Ryan Neilson, Tyler Christiansen, Steven Smith, Christan Bain, Michelle Greenwood, Blake Harsh, Ben Kitzmiller, Jayson Wild, Filipe Castro, Mikayla Crystal, Kyle Cuvetier, Austin Stradling. Saw: *Baetis*, *Skwala americana*, *Asellus aquaticus*, *Hydropsychidae*, *Annelida Oligochaeta*, *Hirudinea* leeches 2 spp., *Chironomidae*, *Limnephilidae* *Hesperophylax*, New Zealand mudsnail, *Gammarus lacustris*, 12169

12170 USA: UTAH: Utah Co., Utah Lake, American Fork Boat Harbor, N 40.340873 W 111.801917 1376 m 14-Jan-2018 C. R. Nelson # 12170 & J. K. Nelson 97 Wypt 252 boatharbor photos: lake and mountains. Sunset on Sunday. photos: bird brown creeper on trunks of narrow leaved cottonwood trees. 12170

12171 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 17-Jan-2018 C. R. Nelson # 12171 97 Photos: 19 January 2018, morning glow on Mount Timpanogos. photos: wood, apple from yard, norway maple from yard, wild cherry from yard, Grand fir from Christmas tree from Home Depot. 12171

12172 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 20-Jan-2018 22-Jan-2018 C. R. Nelson # 12172 97 photos: birds: house finch, black capped chickadee, dark eyed junco, California quail, rufous sided towhee, scrub jay, magpie, stellers jay, collared dove. photos: Bougainvillea, Hibiscus on iphone, Guida the cat 12172

12173 USA: UTAH: Utah Co., Provo, Brigham Young University, Nelson Laboratory, 4118 LSB, N 40.24517 W 111.64909, 1404 m 22-Jan-2018 C. R. Nelson # 12173 97 Started four colonies of *Drosophila* with vestigial wings to track populations in Biology 100 class. 12173

12174 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 31-Jan-2018 C. R. Nelson # 12174 97 3-5 am.
Photos: moon, clouds, valley, church from 10-15m downhill from my property line on street. Photos: Squaw Peak with hikers' lights, photos taken from back porch. 12174

12175 USA: UTAH: Utah Co., American Fork River, Site 1, 0.5 miles east of canyon mouth, N 40.433172 W 111.738563 1573 m 03-Feb-2018 C. R. Nelson # 12175 97 Wypt 254afsiteone Photos: scenery and people. Riley Nelson, Paul Frandsen, Christine Frandsen, Havey Frandsen, Teagan Mulford CA, Emily Mullis world, Lindsey Olsen CA, Avery Olsen VA, and Chris Castro NJ. Chloroperlidae *Sweltsa*, Baetidae, Perlodidae *Skwala americana*, Hydropsychidae *Arctopsyche*?, *Parapsyche*?, and *Hydropsyche*. Tipulidae *Hexatoma*, Perlidae *Hesperoperla pacifica*, Nemouridae *Zapada*, Taeniopterygidae *Taenionema*, Ephemerellidae *Drunella*, Heptageniidae *Rhithrogena*, Epeorus. Dixidae. 12175

12176 USA: UTAH: Utah Co., American Fork River, Site 2, Hanging Rock, below Sawmill Picnic Area, N 40.447230 W 111.683289 1801 m 03-Feb-2018 C. R. Nelson # 12176 97 Wypt 255hangingrocksite2 Photos: Pictographs, scenery and people. Riley Nelson, Paul Frandsen, Christine Frandsen, Havey Frandsen, Teagan Mulford CA, Emily Mullis world, Lindsey Olsen CA, Avery Olsen VA, and Chris Castro NJ. We also drove past Site 3 above South Fork Guard Station and continued to Pine Hollow Trailhead for a few people/scenery pictures. Done at 11:30am. Hydropysychidae retreats *Arctopsyche*?, Perlodidae *Isoperla*, *Skwala americana*, Perlidae *Hesperoperla pacifica*, Chloroperlidae *Sweltsa*, Capniidae *Capnia nana* adults, *Capnia gracilaria* adults, *Utacapnia*? adult, nymph. Tipulidae *Hexatoma*, Baetidae, Ameletidae *Ameletus*, Taeniopterygidae *Taenionema*, Nemouridae *Zapada*, Simuliidae. 12176

12177 USA: FLORIDA: Miami-Dade Co. Miami Airport, N 25.795072 W 80.278171 5 m 15-Feb-2018 C. R. Nelson # 12177 97 Wypt 256miami Photos: airport, painting of terminal Photos: catbirds, common grackles 12177

12178 ARGENTINA: Buenos Aires Province: Buenos Aires, S 34.623455 W 58.389954 30 m 16-Feb-2018 C. R. Nelson # 12178 97 Wypt 257buenosairessomewhere Photos: buildings from bus. 12178

12179 ARGENTINA: Buenos Aires Province: Buenos Aires, S 34.591222 W 58.377431 6 m
16-Feb-2018 C. R. Nelson # 12179 97 Wypt 258downtown Photos: buildings from bus.
12179

12180 ARGENTINA: Buenos Aires Province: Buenos Aires, Aeroparque Airport S 34.556196
W 58.413369 45 m 16-Feb-2018 C. R. Nelson # 12180 97 Wypt
259aeroparqueairport Photos: Rio de La Plata 12180

12181 ARGENTINA: Chubut Province: airline flight, 25 minutes northeast of Esquel Airport,
S 41.757730 W 69.276743 10742 m in flight 16-Feb-2018 C. R. Nelson # 12181 97 Wypt
259aeroparqueairport Photos: scenery, Volcan Lanin and other snowy peaks. 12181

12182 ARGENTINA: Chubut Province: airline flight, view of winding stream, 10 minutes
northeast of Esquel Airport, S 42.504963 W 70.477762 4022 m on desert 16-Feb-2018 C.
R. Nelson # 12182 97 Wypt 261windingstream Photos: scenery 12182

12183 ARGENTINA: Chubut Province: airline flight, view to peaks of the Andes Mountains,
from 5 minutes northeast of Esquel Airport, S 42.747499 W 70.811217 2459 m on desert
16-Feb-2018 C. R. Nelson # 12183 97 Wypt 262andesviewfrom 5minNEof Esquel Photos:
views of mountains. 12183

12184 ARGENTINA: Chubut Province: Esquel Airport, S 42.907349 W 71.145329 813 m
16-Feb-2018 C. R. Nelson # 12184 97 Wypt 263esquelairport, 11:01am Photos: area at
landing time 12184

12185 ARGENTINA: Chubut Province: Esquel Hotel Angelina, S 42.914569 W 71.325499
566 m 16-Feb-2018 C. R. Nelson # 12185 & others, see field notes 97 Shower in the
afternoon, then headed south. Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel
Bea, and Ronald Kuhnlein. 12185

12186 ARGENTINA: Chubut Province: Hwy 40, 81 km south of Jose de San Martin, S
44.770919 W 70.194020 556 m 16-Feb-2018 C. R. Nelson # 12186 & others, see field
notes 97 Wypt 265guanaco, 6:23pm Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq,
Daniel Bea, and Ronald Kuhnlein. Photos: guanaco running 12186

12187 ARGENTINA: Santa Cruz Province: Perito Moreno City, Hwy 40, S 44.770919 W
70.194020?? 556 m 17-Feb-2018 C. R. Nelson # 12187 & others, see field notes 97 Wypt
266hotelperitomoreno, 6:23am? probably 7:32 or later Overnight at hotel. Riley Nelson,
Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. Photo at breakfast
12187

12188 ARGENTINA: Santa Cruz Province: Hwy 40, 6 km south of Estancia la Paloma, S
46.930209 W 70.709774 695 m 17-Feb-2018 C. R. Nelson # 12188 & others, see field

notes 97 Wypt 267 7:43 am roadside photos? Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. Photos: guanaco 12188

12189 ARGENTINA: Santa Cruz Province: Hwy 40, 6 km south of Estancia Casa de Piedra, S 47.061754 W 70.817376 681 m 17-Feb-2018 C. R. Nelson # 12189 & others, see field notes 97 Wypt 269rhea, 7:58am Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. Photos: lesser rhea 12189

12190 ARGENTINA: Santa Cruz Province: Hwy 40, turnoff to Cueva de las Manos National Monument, S 47.188662 W 70.839373 706 m 17-Feb-2018 C. R. Nelson # 12190 & others, see field notes 97 Wypt 271fouratturncuevas, 8:14am? Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. Photos: four guanaco at turnoff to Cuevas de las Manos; spiny bunch grass dead in the center of the bunch. 12190

12191 ARGENTINA: Santa Cruz Province: Cueva de las Manos National Monument, pictographs S 47.154561 W 70.651939 502 m 17-Feb-2018 C. R. Nelson # 12191 & others, see field notes 97 Wypt 272cuevasdelosmanos 9:16am Photos: scenery, hundreds of blown hand outlines up to 12,000 years old (guide said) along with pictures of guanaco and lizards with broken tails. Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. 12191

12192 ARGENTINA: Santa Cruz Province: RP 97 off Hwy 40, 10 km south of Cueva de las Manos National Monument, S 47.231683 W 70.720913 804 m 17-Feb-2018 C. R. Nelson # 12192 & others, see field notes 97 Wypt 273goodguanaco 10:32am Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. Photos: good close pictures of guanaco 12192

12193 ARGENTINA: Santa Cruz Province: RP 97 off Hwy 40, 23 km south of Cueva de las Manos National Monument, S 47.334336 W 70.780525 857 m 17-Feb-2018 C. R. Nelson # 12193 & others, see field notes 97 Wypt 274rhea 10:47am Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. Photos: rhea 12193

12194 ARGENTINA: Santa Cruz Province: Hwy 40, 41 km south of Bajo Caracoles, S 47.800739 W 70.820643 765 m 17-Feb-2018 C. R. Nelson # 12194 & others, see field notes 97 Wypt 275twobabies 11:32 am Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. Photos: two baby guanacos 12194

12195 ARGENTINA: Santa Cruz Province: Hwy 40, 43 km south of Bajo Caracoles, S 47.831459 W 70.821058 767 m 17-Feb-2018 C. R. Nelson # 12195 & others, see field notes 97 Wypt 276second Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. Photos: more guanacos 12195

12196 ARGENTINA: Santa Cruz Province: Hwy 40, 77 km south of Bajo Caracoles, S 48.121194 W 71.108043 603 m 17-Feb-2018 C. R. Nelson # 12196 & others, see field notes 97 Wypt 277armadillopelulo 11:57 am Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. Photos: hairy armadillo, armadillo pelulo 12196

12197 ARGENTINA: Santa Cruz Province: Hwy 40, Lake Viedma, 11 km north of Rio La Leona bridge, S 49.732664 W 71.956840 260 m 17-Feb-2018 C. R. Nelson # 12197 & others, see field notes 97 Wypt 278lagoviedma 3:51 pm View of Lago Viedma. Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. 12197

12198 ARGENTINA: Santa Cruz Province: El Calafate, Albergue Mochilero Hostel S 50.335182 W 72.267005 188 m 18-Feb-2018 C. R. Nelson # 12198 & others, see field notes 97 Wypt 279calafate 4:13 am? 5:13 am?? cramped hostel room because a music festival is in town with Luis Fonsi, who is famous this year for the song "Despacito." Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. 12198

12199 ARGENTINA: Santa Cruz Province: Lago Argentino departure dock to cross lake to Perito Moreno Glacier, Puente Bajo las Sombras, S 50.473485 W 72.994641 194 m 18-Feb-2018 C. R. Nelson # 12199 & others, see field notes 97 Wypt 280morenoboat 5:49 am? 6:49 am?? got on boat. dock at road. Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. 12199

12200 ARGENTINA: Santa Cruz Province: Lago Argentino, boat ride parallel to face of Perito Moreno Glacier to get to hiking spot on left bank, S 50.482387 W 73.014569 193 m 18-Feb-2018 C. R. Nelson # 12200 & others, see field notes 97 Wypt 281boatmoreno 8:34am on lake Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. 12200

12201 ARGENTINA: Santa Cruz Province: Lago Argentino, Perito Moreno Glacier, boat dock on left bank, start of hiking to Dome Camp, S 50.489855 W 73.044615 197 m 18-Feb-2018 C. R. Nelson # 12201 & others, see field notes 97 Wypt 282 glacier dock 8:44am on little dock after crossing Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. 12201

12202 ARGENTINA: Santa Cruz Province: Perito Moreno Glacier, front edge of ice near left bank dock, on trail to Dome Camp, S 50.490681 W 73.054803 217 m 18-Feb-2018 C. R. Nelson # 12202 & others, see field notes 97 Wypt 283glacieredge 9:40 am Photos: leading edge of glacier. Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. 12202

12203 ARGENTINA: Santa Cruz Province: Perito Moreno Glacier, Dome Camp, south bank, 2 miles west of boat dock, S 50.494682 W 73.074153 359 m 18-Feb-2018 20-Feb-2018 C. R. Nelson # 12203 & others, see field notes 97 Wypt 284 glacierdomecamp 10:37 am Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. Photos dead fly; Lepidoptera: Geometridae check photos for which day. Live large Tipulidae on ice both male and female, spotted wings, Limoniinae in forest, saw many. 12203

12204 ARGENTINA: Santa Cruz Province: Perito Moreno Glacier, left bank access upstream of Dome Camp, then veered downstream on glacier, Day 1, S 50.495816 W 73.080805 344 m 18-Feb-2018 C. R. Nelson # 12204 & others, see field notes 97 Wypt 285 andiperla 12:59pm As we came off the ice I set up an aquarium and arena to photograph the Andiperla adult and especially nymphs using my Nikon D610. Carrying my camera out on the ice was very cumbersome and not too productive. It was hard to video the stoneflies with the viewfinder in the bright sun. Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. Photos: Gripopterygidae Andiperla stonefly nymphs and adult. Also Antarctoperla sp. adult, Chironomidae adult and larvae (recorded on page for 12203). Later in day I walked alone down to the waterfall to photograph parakeets and to look for the condors that Pablo saw as we walked in to Dome Camp. 12204

12205 ARGENTINA: Santa Cruz Province: Perito Moreno Glacier, left bank access upstream of Dome Camp, then veered upstream on glacier, Day 2, S 50.499393 W 73.083909 350 m 19-Feb-2018 C. R. Nelson # 12205 & others, see field notes 97 Wypt 286daytwoupys 1:02pm Pictures of "stream 2" sediments and Andiperla. Pictures & sediments site 3. Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. Bad penmanship here is partially explained by bumpy weather on airline flight near Guayaquil, Ecuador on 25 February 2018 on way home. Photos: Gripopterygidae: Andiperla, Nemestrinidae, Cantharidae, plant rosettes, Orchidaceae: Calceolaria biflora, Curculionidae that feeds on Nothofagus. 12205

12206 ARGENTINA: Santa Cruz Province: Perito Moreno Glacier, tall waterfalls between boat dock and Dome Camp, S 50.492969 W 73.067808 268 m 19-Feb-2018 C. R. Nelson # 12206 & others, see field notes 97 Wypt 287pmorenofalls Riley and Pablo left others at Dome Camp. Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. Photos: parrots: austral parakeets. Notonemouridae: Udamocerca, with Pablo Pessacq. Photographed the austral parakeets yesterday even further down the trail, closer to dock at vernal pool (They were feeding on buds of Nothofagus. 12206

12207 ARGENTINA: Santa Cruz Province: Perito Moreno Glacier, left bank access upstream of Dome Camp then veered downstream on glacier, Day 3, same general area as Day 1, S 50.495877 W 73.080220 340 m 20-Feb-2018 C. R. Nelson # 12207 & others, see

field notes 97 Wypt 289andiperlavideo 10:40 am Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. Also Wypt 290 10:48 am, dead fly on glacier S 50.495866 W 73.080269 elev. 345 m. Wypt 291 video, more video S 50.495845 W 73.080237 elev. 353 m.

After we packed up camp we walked back to the dock. I talked with a Frenchwoman named Florence and took many pictures along the way. between this glacier reading and the dock reading (from 18 February 2018) Photos and video (with iPhone): Andiperla, Good! videos are best with the iPhone.

Photos: Tipulidae on the ice. 12207

12208 ARGENTINA: Santa Cruz Province: Perito Moreno Glacier, Lago Argentino departure dock to cross lake to Perito Moreno Glacier, Puente Bajo las Sombras, S 50.473846 W 72.994308 187 m 20-Feb-2018 C. R. Nelson # 12208 & others, see field notes 97 Wypt 292docklagoargentino 4:26 pm Same spot as 12199. Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. photos: Plant: Proteaceae: Embothrium coccineum, notro, Chilean firebush.

photos: scenery, upland goose, geese sexually dimorphic male light and female brown at dock. 12208

12209 ARGENTINA: Santa Cruz Province: Perito Moreno Glacier Overlook, S 50.468927 W 73.032239 272 m 20-Feb-2018 C. R. Nelson # 12209 & others, see field notes 97 Wypt 293overlookmoreno 5:07 pm photos: scenery and people. Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein. I moved quickly up and down the viewing platforms to take photographs. The others stayed largely in one place, sometimes talking to some parks colleagues who had helped them last year. We saw a wedding party on a lower platform. 12209

12210 ARGENTINA: Santa Cruz Province: El Calafate, on hillside Paraiso Patagonico cabins, S 50.345272 W 72.245710 247 m 20-Feb-2018 22-Feb-2018 C. R. Nelson # 12210 & others, see field notes 97 Wypt 294cabinelcalafate Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein.

This is a very nice, cheap place to stay, a little removed from the hubub of the village.

Syrphidae Eristalis, saw Asilidae small "Cophura" sized. I couldn't catch it in someone else's room. Photos: southern lapwings and sparrow, perhaps odd house sparrows. 12210

12211 ARGENTINA: Santa Cruz Province: El Calafate, National Radio Station, S 50.348513 W 72.268065 258 m 21-Feb-2018 C. R. Nelson # 12211 & others, see field notes 97 Wypt 296radioelcalafate 11:14 am Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein.

Photos: interviewers and our group live on Argentina National Radio talking about Andiperla

for a half hour. Later photos of crowd and us as speakers at public talk for National Park people and tour guides. Rolando Rivera Pomar led the talk and we all added our parts. The main talk was 1.5 hours with 45 minutes of questions and conversations afterwards. 70 people attended. 12211

12212 ARGENTINA: Santa Cruz Province: Lago Argentino, Hwy 40, 26 air km northeast of El Calafate, S 50.174958 W 71.976987 195 m 22-Feb-2018 C. R. Nelson # 12212 & others, see field notes 97 Wypt 297lagoargentinophoto 11:20 am Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein.
Photos: lake. 12212

12213 ARGENTINA: Santa Cruz Province: Lago Argentino, Hwy 40, 28 air km northeast of El Calafate, S 50.117130 W 72.082169 208 m 22-Feb-2018 C. R. Nelson # 12213 & others, see field notes 97 Wypt 298lagoarg2 11:26 am Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein.
Photos: lake. 12213

12214 ARGENTINA: Santa Cruz Province: Hwy 40, 32 air km northeast of El Calafate, S 50.059314 W 72.128935 304 m 22-Feb-2018 C. R. Nelson # 12214 & others, see field notes 97 Wypt 299rhea 11:33 am Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein.
Photos: rhea 12214

12215 ARGENTINA: Santa Cruz Province: Rio La Leona bridge, Hwy 50, view of Mount Fitz Roy/El Chalten, S 50.059314 W 72.128935 304 m 22-Feb-2018 C. R. Nelson # 12215 & others, see field notes 97 Wypt 300chaltenfitzroylaleona 11:33 am Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein.
Photos: view mountains and river?
12215

12216 ARGENTINA: Santa Cruz Province: Lago Viedma, Hwy 40, 12 km north of Rio La Leona bridge, S 49.716260 W 71.964746 264 m 22-Feb-2018 C. R. Nelson # 12216 & others, see field notes 97 Wypt 301chaltenviedma 12:01 pm Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein.
Photos: El Chalten from Lago Viedma. 12216

12217 ARGENTINA: Santa Cruz Province: RP23 off Hwy 40, 56 km southeast of El Chalten, S 49.590898 W 72.266050 279 m 22-Feb-2018 C. R. Nelson # 12217 & others, see field notes 97 Wypt 302chalten 12:22 pm Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein.
Photos: El Chalten 12217

12218 ARGENTINA: Santa Cruz Province: RP23 off Hwy 40, 44 km southeast of El Chalten, S 49.563688 W 72.391835 270 m 22-Feb-2018 C. R. Nelson # 12218 & others, see field notes 97 Wypt 303chaltenagain 12:27 pm Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein.
Photos: El Chalten 12218

12219 ARGENTINA: Santa Cruz Province: RP23 off Hwy 40, 27 km southeast of El Chalten, S 49.488652 W 72.605450 296 m 22-Feb-2018 C. R. Nelson # 12219 & others, see field notes 97 Wypt 306chalten3 12:36 pm Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein.
Photos: El Chalten 12219

12220 ARGENTINA: Santa Cruz Province: RP23 off Hwy 40, 21 km southeast of El Chalten, S 49.446591 W 72.660267 309 m 22-Feb-2018 C. R. Nelson # 12220 & others, see field notes 97 Wypt 307chaltenstop 12:41 pm Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein.
Photos: El Chalten, long stop at roadside to have time enough to compose photographs.
12220

12221 ARGENTINA: Santa Cruz Province: El Chalten, Los Glaciares National Park, visitors center (then town) S 49.337466 W 72.881884 395 m 22-Feb-2018 C. R. Nelson # 12221 & others, see field notes 97 Wypt 308chaltenparkvc 1:28 pm Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein.
Photos: scenery, mountains, nature trail plants. Later photos in town at outdoor bar, also saw Asilidae like Cyrtopogon or Heteropogon - couldn't catch it. Photos: plants on nature trail. Photos: Andean condors overhead. 12221

12222 ARGENTINA: Santa Cruz Province: small stream trail, up to 1 km from El Chalten, Los Glaciares National Park, visitors center, S 49.339928 W 72.888887 415 m 22-Feb-2018 C. R. Nelson # 12222 & others, see field notes 97 Wypt 309chaltenvc1 5:59 pm Riley Nelson, Rolando Rivera Pomar, Pablo Pessacq, Daniel Bea, and Ronald Kuhnlein.
Photos: scenery, mountains. Walked about a half mile up trail from visitors center with Pablo Pessacq, joined others on the way down. swept flies from over mossy stream. No stoneflies, Plecoptera. Hyalella, 12222

12223 ARGENTINA: Santa Cruz Province: Rio Fitz Roy, El Chalten, Hwy 41 bridge, S 49.334754 W 72.883340 390 m 22-Feb-2018 C. R. Nelson # 12223 & others, see field notes 97 Wypt 310riofitzroyelchalten 7:23 pm Riley Nelson and Pablo Pessacq.
Photos: scenery photos: Gripopterygidae Notoperla maybe magnaspina?, Leptophlebiidae Meridialaris sp. big. 12223

12224 ARGENTINA: Santa Cruz Province: Tres Lagos village, Hwy 40, Hospedaje S 49.597830 W 71.443893 228 m 23-Feb-2018 C. R. Nelson # 12224 & others, see field notes 97 Wypt 311treslagos 8:16 am Riley Nelson and Pablo Pessacq.
Photos: view of front. Not much water to shower with. Spent night of 22-23 February 2018.
12224

12225 ARGENTINA: Santa Cruz Province: Hwy 40, 29 km north of Tres Lagos village, S 49.334408 W 71.469793 487 m 23-Feb-2018 C. R. Nelson # 12225 & others, see field notes 97 Wypt 312guanacomorning 8:43 am Riley Nelson and Pablo Pessacq.
Photos: guanacos 12225

12226 ARGENTINA: Santa Cruz Province: Hwy 40, 58 km north of Tres Lagos village, S 49.101811 W 71.191751 515 m 23-Feb-2018 C. R. Nelson # 12226 & others, see field notes 97 Wypt 313dirtroadrhea 9:17 am Riley Nelson and Pablo Pessacq. On the 70+km stretch of dirt road of Hwy 40 (or near)
Photos: rheas. 12226

12227 ARGENTINA: Santa Cruz Province: views of Lago Cardiel from Hwy 40, 80 km north of Tres Lagos village, S 48.945768 W 71.034291 389 m 23-Feb-2018 C. R. Nelson # 12227 & others, see field notes 97 Wypt 314cardiellake 9:38 am Riley Nelson and Pablo Pessacq.
Photos: Lago Cardiel. 12227

12228 ARGENTINA: Santa Cruz Province: RP 25, 15 km southwest of Estancia La Lucha, S 48.616562 W 70.549879 471 m 23-Feb-2018 C. R. Nelson # 12228 & others, see field notes 97 Wypt 315rheaherd 11:17 am Riley Nelson and Pablo Pessacq. Not on Hwy 40! bad signs! Photos: rheas 12228

12229 ARGENTINA: Santa Cruz Province: Hwy 40, 59 air miles south of Bajo Caracoles, S 47.985791 W 70.967609 658 m 23-Feb-2018 C. R. Nelson # 12229 & others, see field notes 97 Wypt 316mirages 12:18 pm Riley Nelson and Pablo Pessacq.
Photos: mirages on road and making floating islands of mountains. Check to make sure this wasn't across the Chubut Province line. Checked: NO! 12229

12230 ARGENTINA: Chubut Province: Rio Mayo, Hwy 40, S 45.671338 W 70.271206 514 m 23-Feb-2018 C. R. Nelson # 12230 & others, see field notes 97 Wypt 317riomayotinamou 3:47 pm Riley Nelson and Pablo Pessacq.
Photos: Elegant crested tinamous. birds. 12230

12231 ARGENTINA: Chubut Province: Esquel, S 42.914054 W 71.325288 564 m 24-Feb-2018 C. R. Nelson # 12231 & others, see field notes 97 Wypt 318esquelhotel end 9:37 am Riley Nelson and Pablo Pessacq. Spent night of 23-24 February 2018 at the Hotel Angelina.
Photos: morning around town. Met and talked with Pablo, his wife Daniele, daughter

Isabela, and mother Susana.

12231

12232 ARGENTINA: Chubut Province: Viente y Uno Mountain Range, La Hoya Mountains, Arroyo La Hoya, on hairpin curve, 8 km north of Esquel, S 42.840653 W 71.265204 1236 m 24-Feb-2018 C. R. Nelson # 12232 & others, see field notes 97 Wypt 320lahoya 12:04 pm Riley Nelson and Pablo Pessacq with daughter Isabela.

21 Mountain Range, La Hoya Mountain, Rio La Hoya,

Photos: aquatic insects: Austroperlidae Klapopteryx, Gripopterygidae Notoperla 2-3 spp. also Chilenoperla, Notonemouridae Udamocerca, Hydrobiosidae, Limnephilidae, Diptera, Leptophlebiidae. This was the richest stream I saw in Argentina. 12232

12233 ARGENTINA: Buenos Aires Province: Buenos Aires, SoHo District, Hotel Esplendor, 4931 Guatemala "Street", S 34.584632 W 58.426528 29 m 24-Feb-2018 25-Feb-2018 C. R. Nelson # 12233 97 Wypt 321hotelesplendor 5:07 pm Much warmer here. Stayed the night in nice hotel. Noisy for the weekend! 24-25 February 2018 12233

12234 ARGENTINA: Buenos Aires Province: Buenos Aires, Ezeiza International Airport, S 34.816471 W 58.542298 24 m 25-Feb-2018 C. R. Nelson # 12234 97 Wypt 322ezeizaairport 9:10 am Photos: pictures in airport. I also took a picture of the LDS temple from the freeway with my iPhone. Bird list, compiled from whole trip to Argentina: Lesser rhea- many places

Elegant crested tinamou - Rio Mayo

Buff necked ibis - Esquel

Chilean flamingo - El Chalten

Upland goose - Perito Moreno Glacier, Esquel

Andean condor - Perito Moreno Glacier, El Chalten

Cinereous harrier - El Chalten

crested caracara - many places

brown hawk/eagle with crested caracara - Perito Moreno Glacier, photos confirmed it is simply baby of crested caracara.

flying hawk - photos, rufous tailed hawk?

southern lapwing - Esquel, El Calafate, elsewhere

rock dove - city, Buenos Aires and elsewhere

Eared dove - Esquel

Austral parakeet - Perito Moreno Glacier

Chilean flicker - El Chalten

Magellanic woodpecker - Perito Moreno Glacier

Chilean swallow - Perito Moreno Glacier

Patagonia sierra finch - Perito Moreno Glacier
Long tailed meadowlark - El Chalten
house sparrow? - El Calafate hotel, photos, odd?
19 species. 12234

12235 USA: NEW YORK: St. Lawrence Co., Pierrepont, forest by rocky stream northwest of Glenmeal State Forest below McKnight house, N 44.5324 W 75.0243 227 m 04-Mar-2018 C. R. Nelson # 12235 Tristan A. McKnight. 97 Collector: Tristan A. McKnight. TAM #1080. C. R. Nelson photographer, not present when collected. Photographed 8-9 March 2018 in BYU office and lab.

Photos: Tipulidae, Chionea sp. m and f. 12235

12236 USA: UTAH: Utah Co., Rock Canyon Hiking Trails, Provo N 40.2644 W 111.6285 1576 m 03-Mar-2018 C. R. Nelson # 12236 Makani L. Fisher 97 Collector: Makani L. Fisher. C. R. Nelson photographer, not present when collected. Photos: Reduviidae nymphs, tan and black, 12 March 2018. 12236

12237 USA: UTAH: Salt Lake Co. Murray, Nickle Mania, 6051 South State Street, N 40.639412 W 111.888775 1327 m 08-Mar-2018 C. R. Nelson # 12237 & family 98 Photos: people. Riley, Kaye, Amy, Andrea, Jordan, Todd, Wolfgang, and Leah. 12237

12238 USA: UTAH: Utah Co., Provo, BYU, M. L. Bean Museum, N 40.256434 W 111.651443 1423 m 09-Mar-2018 C. R. Nelson # 12238 & family 98 Photos: people, museum tour. Riley, Kaye, Amy, Wolfgang, and Leah. Parkers: Daniel, Tamara, Jane, Millie, and Brett. 12238

12239 USA: UTAH: Utah Co., Diamond Fork River, 0.5 mile north of Hwy 6, N 40.034459 W 111.494730 1516 m 17-Mar-2018 C. R. Nelson # 12239 98 Wypt 325bottomdiamond Photos: people. Entomology Club outing: Riley Nelson, Teagan Mulford, Natalie Saxton, Zach Jaramillo, Sarah Jaramillo, Ian Ashton. Air temp. 10dC; Water temp 7dC. Taeniopterygidae Taenionema uintai adults 2m 1f, given to Natalie Saxton. In water: Pteronarcys californica, Pteronarcella badia, Isogenoides zionensis, Brachycentrus americanus, more. 12239

12240 USA: UTAH: Utah Co., Sixth Water jct Diamond Fork River, at Three Forks Trailhead, N 40.084061 W 111.354793 1692 m 17-Mar-2018 C. R. Nelson # 12240 98 Wypt 326threeforks Entomology Club outing: Riley Nelson, Teagan Mulford, Natalie Saxton, Zach Jaramillo, Sarah Jaramillo, Ian Ashton. Adults: Capnia, Prodiamesa? on sparse snow, Chironomidae, Coreidae Leptoglossus. In water: Pteronarcys californica, Pteronarcella badia, Isogenoides zionensis, Drunella grandis, Atherix, Baetis, Arctopsyche, Rhyacophila, Brachycentrus. 12240

12241 USA: UTAH: Utah Co., Provo, BYU, Botany Pond, N 40.244655 W 111.654376 1411 m 17-Mar-2018 C. R. Nelson # 12241 98 Google Earth Young male mallard duck, killed by car, looked for lice and found none. Preserved head, wing, and feet. Photos: gut from head to anus was about five feet long. Gave curly tail feathers to Andrea Nelson. 12241

12242 USA: UTAH: Utah Co., Provo, Nelson home, bird feeder, 500 East Foothill Drive, N 40.293198 W 111.648997 1490 m 18-Mar-2018 C. R. Nelson # 12242 98 Wypt 327feeder Photos: northern flicker, downy woodpecker, Eurasian collared dove, dark eyed junco, house finch, robin & rose hips. 12242

12243 USA: UTAH: Utah Co., Provo, LDS Church, 4560 North Canyon Road and Foothill Drive, N 40.29372 W 111.652267 1495 m 18-Mar-2018 C. R. Nelson # 12243 98 iPhone Photos: pen art of Ryan Schmidt, age 35, "people in church" autism. Photos: floral arrangement on podium. Bird of paradise, *Strelitzia reginae*, Protea, *Leucospermum cordifolium*? orange and red; orchid yellow and dark. 12243

12244 USA: UTAH: Salt Lake Co. Salt Lake City, Tracy Aviary, Liberty Park, N 40.749268 W 111.876715 1299 m 24-Mar-2018 C. R. Nelson # 12244 & family 98 Wypt 328libertypark (north end, not at aviary) Riley, Kaye, Andrea, Amy, Wolfgang, and Leah. Photos: people and birds 1, white pelican; 2, ruddy duck; 3, song sparrow; 4, Andean condor; 5, golden eagle; 6, southern ground hornbill; 7, peacock; 8, sandhill crane; 9, seriema; 10, white cheeked pintail; 11, red shoveler; 12, chilean flamingo; 13, white faced whistling duck; 14, american avocet; 15, american bittern; 16, black necked stilt; 17, bufflehead; 18, white faced ibis; 19, long eared owl; 20, burrowing owls; 21, barred owl; 22, great horned owl; 23, barn owls; 24, white breasted nuthatch; 25, falcated duck; 26, northern pintail; 27, wrinkled hornbill; 28, red billed toucan; 29, red and green macaw; 30, common raven; 31, american crow; 32, aplomado falcon; 33, red tailed hawk; 34, Verreauxs eagle owl; 35, red crested turaco; 36, roseate spoonbill; 37, willet; 38, trumpeter swan; 39, red head duck; 40, mallard duck; 41, northern shoveler; 42, andean goose; 43, canada goose; 44, common goldeneye duck; 45, hooded merganser; 46, spectacled owl; 47, white throated ground dove; 48, white rumped shama thrush; 49, green wood hoopoe; 50, black naped fruit dove; 51, chestnut breasted malcoha; 52, violaceous turaco. 12244

12245 USA: UTAH: Utah Co., Provo, Nelson home, bird feeder, 500 East Foothill Drive, N 40.293198 W 111.648997 1490 m 07-Apr-2018 C. R. Nelson # 12245 98 Wypt 327feeder Photos: birds: downy woodpecker, dark eyed junco, American goldfinch changing to summer plumage, black capped chickadee, and collared dove. 8 April 2018: photos: Cassin's finch, American goldfinch, downy woodpecker. 12245

12246 USA: UTAH: Salt Lake Co. Emigration Canyon, trail off Pinecrest Canyon Road, N 40.803281 W 111.721632 1927 m 08-Apr-2018 C. R. Nelson # 12246 & family 98 Wypt 001emigratrail trail on west side of road, climbing south. Riley, Kaye, Wolfgang, Andrea, Jordan Christopher, Garrett Christopher, Kaitlyn Mahoney, Taylor Christopher, Michelle Christopher, Lynn Christopher. Boreidae female, *Boreus coloradensis*. Wolf liked worms and snails. Plants: *Pachystima*; *Erythroneum* bloomin; *Mertensia* blooming; *Hydrophyllum* blooming; *Balsamorhiza* leaves budding; *Wyethia* leaves budding. 12246

12247 USA: UTAH: Salt Lake Co. Little Dell Reservoir, N 40.776090 W 111.705070 1816 m 08-Apr-2018 C. R. Nelson # 12247 & family 98 Wypt 002littledelllloons Riley, Kaye, Wolfgang, Andrea, Jordan Christopher. saw common loons in distance from Hwy 65. also double crested cormorants. 12247

12248 USA: UTAH: Grand Co. Green River, Swaseys Beach Campground, 9 miles north of Green River City, N 39.116064 W 110.112192 1242 m 13-Apr-2018 C. R. Nelson # 12248 & others, see field notes 98 Wypt 003swaseys searched for stoneflies and aquatics in river. None found.

Riley, Gordon. N. Oborn, and Wid. Tolman 12248

12249 USA: UTAH: Grand Co. Green River, 1.4 miles south of Swaseys Beach Campground, 8 miles north of Green River City, N 39.095349 W 110.117603 1254 m 13-Apr-2018 C. R. Nelson # 12249 & others, see field notes 98 Wypt 004belowswaseys Riley, Gordon. N. Oborn, and Wid. Tolman Photos: common loon on river 12249

12250 USA: UTAH: San Juan Co. Canyonlands National Park, Needles Overlook, N 38.259236 W 109.696336 1912 m 13-Apr-2018 C. R. Nelson # 12250 & others, see field notes 98 Wypt 005needles Photos: scenery, Wid Tolman with walker.

Riley, Gordon. N. Oborn, and Wid. Tolman 12250

12251 USA: UTAH: San Juan Co. area near Needles Overlook, rocks with cowboy camp carved into them, N 38.273314 W 109.567982 1926 m 13-Apr-2018 C. R. Nelson # 12251 & others, see field notes 98 Wypt 006cowboycaves Photos: outside carved rooms

Riley, Gordon. N. Oborn, and Wid. Tolman 12251

12252 USA: UTAH: San Juan Co. Hatch Rock, Rockland Ranch, N 38.233653 W 109.462932 1751 m 13-Apr-2018 C. R. Nelson # 12252 & others, see field notes 98 Google Earth No photos. modern village carved in rock. Foster colony. We talked with a couple guys working on the community center. They were laying out a radiant heated floor to have cement poured later.

Riley, Gordon. N. Oborn, and Wid. Tolman 12252

12253 USA: UTAH: Grand Co. Moab, Apache Motel, N 38.570639 W109.543206 1243 m
14-Apr-2018 C. R. Nelson # 12253 & others, see field notes 98 Google Earth Photos: art
and John Wayne in lobby. This motel is old and needs help now.

Riley, Gordon. N. Oborn, and Wid. Tolman 12253

12254 USA: UTAH: Grand Co. Colorado River, Hwy 128, mouth of Negro Bill Canyon,
Grandstaff Trailhead N 38.609854 W 109.533715 1213 m 14-Apr-2018 C. R. Nelson #
12254 & others, see field notes 98 Wypt 007negrobill Photos: sign, Grandstaff Trailhead.
This canyon is being renamed Grandstaff to avoid the unfortunate nickname associated
with .

Riley, Gordon. N. Oborn, and Wid Tolman.

Here is an excerpt from a Salt Lake Tribune article of 13 October 2017 by Thomas Burr:

Washington ,Ä¢ A federal board voted Thursday to rename Negro Bill Canyon in southern
Utah, saying the race-based moniker was offensive and citing local support for changing it.
It will now be called Grandstaff Canyon.

The decision is final, and the name change will be entered into the government database
almost immediately.

"The Grand County Council requested the change to honor William Grandstaff, a black
man who ran cattle in the area just north of Moab, by using his real name instead of the
pejorative term that had been the canyon,Äôs name in recent years. The canyon,Äôs name
once included the far more derogatory N-word."

12254

12255 USA: COLORADO: Montrose Co. Paradox, Redd Ranches N 38.379770 W
108.978548 1649 m 14-Apr-2018 C. R. Nelson # 12255 & others, see field notes 98 Wypt
008reddranch Photos: Redd Ranches Bull Sale. Paul Redd and Hardy Redd.

Riley, Gordon. N. Oborn, and Wid Tolman. 12255

12256 USA: COLORADO: Montrose Co. Paradox Valley Overlook N 38.356950 W
108.976265 1702 m 14-Apr-2018 C. R. Nelson # 12256 & others, see field notes 98 Wypt
009paradoxoverview Photos: View down to Redd Ranches Bull Sale.

Riley, Gordon. N. Oborn, and Wid Tolman. 12256

12257 USA: UTAH: Carbon Co. Price, Maverick Gas Station, N 39.59953 W 110.795595
1698 m 14-Apr-2018 C. R. Nelson # 12257 & others, see field notes 98 iPhone Photos:
selfie of Riley Nelson, Gordon Oborn, and Wid Tolman.

Riley, Gordon. N. Oborn, and Wid Tolman. 12257

12257 USA: UTAH: Carbon Co. Price, Maverick Gas Station, N 39.59953 W 110.795595 1698 m 14-Apr-2018 C. R. Nelson # 12257 & others, see field notes 98 iPhone Photos: selfie of Riley Nelson, Gordon Oborn, and Wid Tolman. Riley, Gordon. N. Oborn, and Wid Tolman. 12257

12258 USA: UTAH: Utah Co., Provo, Brigham Young University, Nelson Laboratory, 4118 LSB, N 40.24517 W 111.64909, 1404 m 16-Apr-2018 C. R. Nelson # 12258 98 Photos: Ichneumonidae and Tachinidae emerged from Lepidoptera caterpillars collected the last month or so by Makani Fisher. I wasn't present when the caterpillars were collected. 12258

12259 USA: UTAH: Emery Co. San Rafael Swell, The Wedge, Little Grand Canyon, N 39.095837 W 110.749322, 1915 m 21-Apr-2018 C. R. Nelson # 12259 98 Wypt 010littlegrandcanyon Visited swell after baptism of Sawyer Mead in Ferron, Utah. Riley and Kaye Nelson; Wolfgang Winston and Leah Valentine Smith. 12259

12260 USA: UTAH: Emery Co. San Rafael Swell, Buckhorn Wash Rock Art, N 39.123384 W 110.694382, 1635 m 21-Apr-2018 C. R. Nelson # 12260 98 Wypt 011buckhorn Photos: people and rock art. Riley and Kaye Nelson; Wolfgang Winston and Leah Valentine Smith. 12260

12261 USA: UTAH: Emery Co. San Rafael Swell, head of Buckhorn Wash, dinosaur foot print N 39.160864 W 110.729468, 1686 m 21-Apr-2018 C. R. Nelson # 12261 98 Wypt 012dinofoot Photos: people and dinosaur foot print. Riley and Kaye Nelson; Wolfgang Winston and Leah Valentine Smith. 12261

12262 USA: ARIZONA: Coconino Co. Colorado River, Glen Canyon Dam visitor center N 36.935932 W 111.485915, 1146 m 26-Apr-2018 C. R. Nelson # 12262 & family 98 Wypt 013glencanyondam Photos: Bridge, dam, river, people. Riley and Kaye Nelson; Amy Leah, Wolfgang Winston, and Leah Valentine Smith. 12262

12263 USA: ARIZONA: Coconino Co. Horseshoe Bend, Colorado River, near Page, N 36.880410 W 111.510444 1281 m 26-Apr-2018 C. R. Nelson # 12263 98 Wypt 014horseshoe Photos: time lapse sunset, after sunset, and stars with Horseshoe Bend. 3/4 moon. Photos: canyon and people from Sydney Australia: 1, Joe Xavier (beard), Mo, and Terese; 2, Anna & Charlotte from Denmark; 3, newlyweds from Illinois married near Moab a few days ago. Only Riley in the evening/night. The rest of the family stayed at Travelodge Motel in Page and I joined them later. 12263

12264 USA: ARIZONA: Coconino Co. Wupatki National Monument, Lomaki and Box Canyon Ruins, N 35.576880 W 111.469240 1623 m 27-Apr-2018 C. R. Nelson # 12264 & family 98 Wypt 015lomakiboxcanyon Riley, Kaye, Amy, Leah, and Wolfgang. photos: Leah and cottontail rabbits. 12264

12265 USA: ARIZONA: Mariposa Co. Phoenix, Nelson home, back patio, 2520 West Columbine Drive, N 33.599388 W 112.113674 390 m 27-Apr-2018 30-Apr-2018 C. R. Nelson # 12265 & family 98 Wypt 016nelsoncolumbine 28 April 2018: Photo: Artemis and Kaye's birthday party, step stool for plans to make one. Elan & Orly Dixon & father Craig, Noel & Elias with mother Desir√©e. Riley, Kaye, Amy, Leah, and Wolfgang. Jason, Brandy, Artemis, and Astrid Nelson. 29 April 2018: house sparrow, grackle, dove, rock pigeon, starling, house finch, hummingbird, verdin, dark house finches. 30 April 2018: inca dove, white winged dove, mourning dove, gila woodpecker, Photos: firebrat, Lepismatidae *Thermobia domestica*. 12265

12266 USA: ARIZONA: Mariposa Co. Phoenix, Cave Creek Park, north of Cactus Road, N 33.596917 W 112.111275 390 m 29-Apr-2018 C. R. Nelson # 12266 & family 98 iPhone Photos: flying kites on birthday of Artemis and Kaye in nearest park to Jason and Brandy's house. Riley, Kaye, Amy, Leah, and Wolfgang. Jason, Brandy, Artemis, and Astrid Nelson. 12266

12267 USA: ARIZONA: Yavapai Co. Oak Creek, Red Rock Crossing, Crescent Moon Recreation Area, N 34.824599 W 111.802845 1208 m 30-Apr-2018 C. R. Nelson # 12267 & family 98 upper, Wypt 017redrockcrossing Photos: scenery. people, kids playing, lick a tree, slow shutter speed water. Riley, Kaye Nelson; Amy, Leah, and Wolfgang Smith. Wypt 018lowerredrock N 34.825439 W 111.809058 elev. 1204 m, fewer people, wider view. Photos: Empidonax flycatcher, Hammonds; summer tanager, also saw juniper titmouse and scrub jay just east of Sedona. Saw robin, Gambels quail, yellow rumped warbler. 12267

12268 USA: UTAH: Utah Co., Big Springs Creek, bridge near parking area, 3 air miles south of Vivian Park, N 40.332702 W 111.525355 1758 m 02-May-2018 C. R. Nelson # 12268 & others, see field notes 98 Wypt 019bigsspringsparkingbridge with P. B. Frandsen and three students: Madeline Bursell, Ivan Webber, and Seth Wilson. Same place as CRN 11173 and CRN 9353 Photos: Perlodidae Megarcys signata adults. Chloroperlidae Sweltsa; Ephemeroptera: Baetis, Drunella 2 spp., Paraleptophlebia, Rhithrogena, Epeorus, Cinygmula, Ameletus. Trichoptera: Oligophlebodes, Neothremma, Rhyacophila 2 spp., Glossosomatidae, Arctopsyche. Hydrophilidae, Simuliidae, Chironomidae, Empididae Clinocera sp. 12268

12269 USA: UTAH: Utah Co., Three Forks Trailhead to Fifth Water Hot Springs, N 40.084540 W 111.355616 1660 m 03-May-2018 C. R. Nelson # 12269 & others, see field notes 98 Wypt 025threeforks Riley Nelson, P. B. Frandsen, and C. J. Whipple. Walked and looked at plants from Three Forks Trailhead to waterfall above upper hot springs on Fifth Water. Photos: selfie of group at waterfall. Photos: scenery at and near lower hot springs. Wypt

020sixthwater N 40.082896 W 111.345705 elev. 1715 m: first "new" Lomatium gathered.
Wypt 021boechera N 40.082759 W 111.344380 elev. 1692 m: mustard collected
Boechera?. Wypt 022lowerhotsprings N 40.083116 W 111.319093 elev. 1870 m: photos of
lower hot springs and lower waterfall. Wypt 023sedge: N 40.083128 W 111.328374 elev.
1804 m: collected sedge. Kicked insects in Sixth Water Creek at Three Forks: nymphs,
Pteronarcys, Pteronarcella, Isogenoides zionensis, Isoperla fulva, Drunella grandis,
Glossosomatidae, Brachycentridae, few Hydropsychidae, Athericidae, Plants: Vicia
americana, Eleocharis palustris?, Gymnosporangium orange fungus on Juniperus
scopulorum. 12269

12270 USA: UTAH: Salt Lake Co. Salt Lake City, Tracy Aviary, Liberty Park, N 40.742926 W
111.875009 1299 m 05-May-2018 C. R. Nelson # 12270 & family 98 Wypt 026tracyaviary
Riley & Kaye Nelson; Andrea Nelson, Jordan Christopher; Todd, Amy, Wolfgang, and Leah
Smith. Amy's 32nd birthday party. Photos: people. Photos: kea, peacock, Andean condor,
Chilean flamingo, black necked swan, crowned crane, American avocet, bufflehead, black
necked stilt, white faced ibis, pintail duck, long billed curlew, king vulture, mallard hen and
chicks, roseate spoonbill, American white pelican, laughing kookaburra, masked lapwing,
southern ground hornbill, sandhill crane, red legged seriema, ruddy duck, and falcate duck.
12270

12271 USA: UTAH: Salt Lake Co. Salt Lake City, Larsen home near Capitol, 582 Terrace Hills
Drive, N 40.782221 W 111.861862 1494 m 05-May-2018 C. R. Nelson # 12271 & family 98
Wypt 027paullarsen Photos: retirement open house reception of Lynda Larsen. Retired
from Girl Scout Organization after 30 plus years, at home of Paul and Ann Larsen. Photos:
American magpie, saw mule deer in cemetery. 12271

12272 USA: UTAH: Grand Co. Arches National Park, Devils Garden Trail, near Landscape
Arch, N 38.791069 W 109.606878 1598 m 11-May-2018 C. R. Nelson # 12272 & J. K.
Nelson 98 Wypt 029landscapeend, timelapse arch & clouds Photos: people and scenery,
timelapses. Trail in: Wypt 028landscape 1 N 38.790327 W 109.603090 elev. 1589 m. Wypt
030navajoarch N 38.791291 W 109.609069 elev. 1658 m, photos arch. Wypt
031partitionarch N 38.791676 W 109.608657 elev. 1659 m photos arch. 12272

12273 USA: UTAH: Grand Co. Moab, Matheson Wetlands Preserve, N 38.574637 W
109.574102 1207 m 11-May-2018 C. R. Nelson # 12273 & family 98 Wypt 032matheson
Riley & Kaye Nelson; Andrea Nelson and Jordan Christopher. Photos: people and scenery.
Bird watch: Canada goose 2, mallard duck 1, cinnamon teal 1, coot 1, ring necked
pheasant 3, wild turkey 1, great blue heron 5, turkey vulture 2, sora (by someone else) 1,
spotted sandpiper 1, mourning dove 10, collared dove 2, white throated swift 10, black
chinned hummingbird 3, northern flicker 3, Empidonax flycatcher 1, Ash throated

flycatcher 3, western kingbird 5, cassins kingbird 1 maybe, magpie 3, raven 5, violet green swallow 20, blue gray gnatcatcher 2, robin 1, yellow warbler 3, Macgillivrays warbler 2, yellowthroat 3, chat 10, wlsn's warbler 1, spotted towhee 2, white crowned sparrow 5, black headed grosbeak 5, lazuli bunting 1, red winged blackbird 3, bullock's oriole 1, lesser goldfinch 1. 12273

12274 USA: UTAH: San Juan Co. Canyonlands National Park, Upheaval Dome, first overlook, N 38.428983 W 109.929221 1775 m 12-May-2018 C. R. Nelson # 12274 & family 98 Wypt 033upheaval1 Riley & Kaye Nelson; Andrea Nelson and Jordan Christopher. Photos: people and scenery. Wypt 034upheaval2timelapse N 38.429924 W 109.933628 elev. 1755 m. Photos: several timelapse, watercolor. Photos 12274

12275 USA: UTAH: San Juan Co. Canyonlands National Park, Grand View Point Overlook, N 38.310193 W 109.856736 1898 m 12-May-2018 C. R. Nelson # 12275 & family 98 Wypt 035Grandview Riley & Kaye Nelson; Andrea Nelson and Jordan Christopher. Photos: people and scenery. Photos 12275

12276 USA: UTAH: San Juan Co. Canyonlands National Park, 0.5 miles north of Grand View Point Overlook, N 38.316050 W 109.854360 1913 m 12-May-2018 C. R. Nelson # 12276 & family 98 Wypt 036ephedra Riley & Kaye Nelson; Andrea Nelson and Jordan Christopher.

Photos: Ephedra viridis in bloom, "bloom" 12276

12277 USA: UTAH: San Juan Co. Canyonlands National Park, Mesa Arch, N 38.388005 W 109.863642 1853 m 12-May-2018 C. R. Nelson # 12277 & family 98 Wypt 037mesaarch Riley & Kaye Nelson; Andrea Nelson and Jordan Christopher. Photos: people and scenery, talked with people from China and Switzerland. 12277

12278 USA: UTAH: San Juan Co. Canyonlands National Park, The Neck, Shafer Canyon Overlook, N 38.452901 W 109.818805 1758 m 12-May-2018 C. R. Nelson # 12278 & family 98 Google Earth Riley & Kaye Nelson; Andrea Nelson and Jordan Christopher. No photos, looked down on Shafer Trail Road, access to White Rim Road

12278

12279 USA: UTAH: Grand Co. Moab, Riverside Inn, N 38.5877 W 109.55872 1229 m 13-May-2018 C. R. Nelson # 12279 & family 98 iPhone Riley & Kaye Nelson; Andrea Nelson and Jordan Christopher. Photos: art, "Les Petit Fleurs" bad grammar. 12279

12280 USA: UTAH: Grand Co. Arches National Park, Windows Area, Double Arch, N 38.690136 W 109.539146 1565 m 13-May-2018 C. R. Nelson # 12280 & family 98 Wypt 038doublearch Riley & Kaye Nelson; Andrea Nelson and Jordan Christopher. Photos: scenery, looked at blooming plants. *Oenothera*, *Cryptantha*, *Poliomenantha*. 12280

12281 USA: UTAH: Grand Co. 1 air mile north of Crescent Junction, road north to Book Cliffs, former research site of C. R. Nelson and B. A. Haws, N 38.956162 W 109.828061 1526 m 13-May-2018 C. R. Nelson # 12281 & family 98 Wypt 039crescentjct Riley & Kaye Nelson; Andrea Nelson and Jordan Christopher. Couldn't find remnant trash of my research site of 1987 - 1988, shadscale still bleak. Photos: fishhook cactus, *Sclerocactus parviflora*, magenta. 12281

12282 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 18-May-2018 C. R. Nelson # 12282 98 Photos: Aphididae, three species on *Populus tremuloides* - 1, one small green wingless one with small dark alates on underside of leaves of young aspen shoots (mixed in vial with next species); 2, large flat black one with green spots under cornicles - alate female large with patterned wings, one giving birth. Tended by larger ant at twig tips on mature trees, near a galled stem (of *Agromyzidae*). 3, pink/purple wingless aphids tended by smaller ants on older stem of young shoot. On same plants at #1.
Photos: iridescent scaled green curculionid on *Populus tremuloides*; muscid fly on aspen twig. 12282

12283 USA: UTAH: Box Elder Co. Bear River Migratory Bird Refuge, 15 miles west of Brigham City, N 41.479672 W 112.267240 1284 m 21-May-2018 C. R. Nelson # 12283 & others, see field notes 98 Google Earth at headquarters parking lot bridge With Wayne and Dianne Mathis. We watched birds on a route from the Visitor Center near the freeway to the Autotour route and back to the Visitor Center. We saw 58 species of birds. We also collected some egg masses/galls on *Ericameria nauseosus* at the crossing of the Reeder Overflow. Google Earth: N 40.509616 W 112.106439 elev. 1286 m. Nothing emerged from these specimens as of 10 August 2018, CRN, moved into collection in sealed 50 ml vial. canada goose 336, blue winged teal 2, cinnamon teal 74, northern shoveler 10, gadwall 43, mallard 74, redhead 4, ruddy 5, ring necked pheasant 5, pied billed grebe 4, western grebe 28, clarks grebe 2, double crested cormorant 9, white pelican 13, great blue heron 4, snowy egret 13, cattle egret 1, black crowned night heron 1, white faced ibis 289, turkey vulture 8, coopers hawk 1, swainsons hawk 2, red tailed hawk 4, coot 73, black necked stilt 7, avocet 16, killdeer 7, long billed curlew 3, spotted sandpiper 2, franklins gull 25, ring billed gull 24, california gull 645 (mixed flocks with ring billed), caspian tern 1, foresters tern 10, collared dove 3, kestrel 2, western kingbird 12, eastern kingbird 2, raven 4, tree swallow 2, barn

swallow 31, cliff swallow 400, marsh wren 24, starling 4, yellow warbler 3, chipping sparrow 3, song sparrow 7, yellow breasted chat 1, western tanager 2, yellow headed blackbird 61, bullocks oriole 1, redwinged blackbird 83 (or 33), brown headed cowbird 3, brewers blackbird 4, great tailed grackle 4, house finch 2, house sparrow 7. Grand total 2372.

12283

12284 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 22-May-2018 C. R. Nelson # 12284 98 photos: starling caught by Heiva the cat. Release in blue spruce at night 12284

12285 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 25-May-2018 26-May-2018 C. R. Nelson # 12285 & J. K. Nelson 98 wandering caterpillar, same kind of caterpillar on Boraginaceae *Cryptantha*? *Cryptantha stricta*. Chrysomelidae 3 spp. on narrowleaf cottonwood, *Populus angustifolia*. 31 May 2018: more *Cryptantha* to feed caterpillar. Caterpillar on *Artemisia tridentata* didn't feed in lab, changed plant to *Purshia tridentata* on 22 June 2018, didn't feed. Threw out dead in July 2018. 12285

12286 USA: UTAH: Utah Co., Sixth Water Creek at Three Forks Trailhead, N 40.084540 W 111.355616 1660 m 31-May-2018 C. R. Nelson # 12286 98 Wypt 025threeforks same start as CRN12269 *Lomatium* n. sp.? & dissectum & third fine leafed blue Apiaceae collected fruits that might be galled by Cecidomyiidae for rearing. (Other samples by Clint Whipple yielded a curculionid in the fruits) 12286

12287 USA: UTAH: Salt Lake Co. Salt Lake City, Tracy Aviary, Liberty Park, N 40.749268 W 111.876715 1299 m 01-Jun-2018 C. R. Nelson # 12287 & family 98 Wypt 026tracyaviary or similar Riley & Kaye Nelson and other family members. Same place as 12244 Photos: Chilean flamingo video, barn owl with mouse 12287

12288 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 04-Jun-2018 C. R. Nelson # 12288 & J. K. Nelson 98 Riley, Kaye, Jason, Brandy, Artemis, and Astrid Nelson. Wolfgang & Leah Smith. Pressed plants: Lactucoid on flats 2, tall mustard fat fruit on flats, squat mustard fat fruit on flats, bladderpod mustard on sidehill, *Haeckelia forget me not* on sidehill, snowberry sidehill, rice grass sidehill, *Cryptantha stricta* sidehill 2, rayless "aster" sidehill, long fruit mustard sidehill. Saw, all near highway gate: *Penstemon eatoni*, *Penstemon palmeri*, *Penstemon subglaber*?, *Penstemon cyan* mat, first seen on property. 11 June 2018: *Symphoricarpos oreophilus* snowberry. Green River Shale. 12288

12289 USA: UTAH: Utah Co., Sixth Water Creek at Three Forks Trailhead, N 40.084540 W 111.355616 1660 m 05-Jun-2018 C. R. Nelson # 12289 & B. D. Nelson. 98 Wypt

025threeforks same start as CRN12269 Photos: *Pteronarcys californica*. Saw *Pteronarcella badia*, *Isoperla fulva*, another Perlodidae. 12289

12290 USA: UTAH: Utah Co., Mount Nebo Loop Scenic Byway, Monument Trailhead, N 39.843267 W 111.720952 2811 m 10-Jun-2018 C. R. Nelson # 12290 & family 98 Wypt 040monumentnebo Riley, Kaye, Jason, Brandy, Artemis, Astrid, and Andrea Nelson, Jordan Christopher. Photos: *Laphria vultur*?.
Glacier lilies, *Erythroneura*? 12290

12290 USA: UTAH: Juab Co. Mount Nebo Loop Scenic Byway, Devils Kitchen view area, N 39.803292 W 111.688395 2554 m 10-Jun-2018 C. R. Nelson # 12290 & family 98 Wypt 041devilskitchen Riley, Kaye, Jason, Brandy, Artemis, Astrid, and Andrea Nelson, Jordan Christopher. Photos: Saturniidae caterpillars, *Hemileuca nuttalli* on *Symphoricarpus oreophilus* snowberry; Cerambycidae.

11 June 2018: *Hemileuca* caterpillars photos taken. *Hemileuca* pupa photos taken 28 June 2018 12290

12292 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 11-Jun-2018 C. R. Nelson # 12292 98 photos: Orthoptera inquiline, ant crickets, Myrmecophilidae in garden nest of Photo nest in railroad ties
Photos: Pavement ants, *Tetramorium caespitum* det C. R. Nelson 14 June 2018, nearby. 12292

12293 USA: UTAH: Utah Co., Mount Timpanogos, Pleasant Grove, Battle Creek Falls, N 40.367743 W 111.691945 1734 m 12-Jun-2018 C. R. Nelson # 12293 & J. K. Nelson 98 Wypt 042upperbattlecreekfalls Happy Anniversary, 38 years. *Sweltsa coloradensis*, dipper 12293

12294 USA: UTAH: Utah Co., Sixth Water Creek and Diamond Fork River at Three Forks Trailhead, N 40.084547 W 111.354869 1682 m 15-Jun-2018 C. R. Nelson # 12294 & others, see field notes 98 Wypt 043threeforks Collecting with Bruce and Rex (age 10) Nelson of Seattle, Washington area. *Pteronarcys californica*, *Isoperla fulva*, *Papilio multicaudata*, *Limenitis weidemeyeri*.

Photos: *Pteronarcella badia*, *Argia vivida* mating and laying eggs underwater.
Chrysomelidae large dark flea beetle. 12294

12295 USA: UTAH: Utah Co., Diamond Fork River, 0.5 miles upstream from Hwy 6, N 40.03419 W 111.49478 1510 m 15-Jun-2018 C. R. Nelson # 12295 & others, see field notes 98 105diam Collecting with Bruce and Rex (age 10) Nelson of Seattle, Washington area. *Cercopidae*. Quick stop, no cicadas or *Pteronarcys*. 12295

12296 USA: UTAH: Utah Co., Sixth Water Creek and Diamond Fork River at Three Forks Trailhead, N 40.084547 W 111.354869 1682 m 21-Jun-2018 C. R. Nelson # 12296 & family 98 Wypt 043threeforks Riley & Kaye Nelson. Wolfgang Winston Smith, Leah Valentine Smith. caterpillars on Salix "shrub" move in unison to loud sounds. Caterpillar lab video and photos taken 22 June 2018, Nymphalidae, mourning cloak butterflies, *Nymphalis antiopa*.

Pteronarcys californica females. *Pteronarcella badia*, *Isoperla fulva*.

Pupa photos taken 28 June 2018. Adults started emerging 5 July 2018, all 5 done by 8 July 2018, one died in the pupal skin. Showed 2 adults in Sunday School 8 July 2018 then showed 2 adults in Biology 100 9 July 2018, one escaped in LSB 2006 classroom, lost. Found again after a few days and released outside. 12296

12297 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 22-Jun-2018 C. R. Nelson # 12297 & family 98 Riley & Kaye Nelson. Wolfgang & Leah Smith. *Cryptantha stricta*, *Symporicarpus oreophilus*, and *Purshia tridentata*, all for caterpillar food. 12297

12298 USA: IDAHO: Bannock Co. Pocatello, Zoo Idaho, N 42.843800 W 112.422291 1377 m 23-Jun-2018 C. R. Nelson # 12298 & family 98 Wypt 044idaho1 Riley & Kaye Nelson. Amy, Wolfgang, and Leah Smith. Andrea Nelson. Dan, Tamara, Jane, Millie, and Brett Parker. Ben, Kristi, Logan, Lincoln, Macie, and Hallie Parker. Maegan, Abby, Parker, Allie, and Emily Stoddard. Nick Stoddard had to work. Photos: grizzly bear in water. 12298

12299 USA: IDAHO: Bannock Co. Chubbuck, Freddie's Drive In, N 42.911587 W 112.463438 1368 m 23-Jun-2018 C. R. Nelson # 12299 & family 98 iPhone Riley & Kaye Nelson. Amy, Wolfgang, and Leah Smith. Andrea Nelson. Dan, Tamara, Jane, Millie, and Brett Parker. Ben, Kristi, Logan, Lincoln, Macie, and Hallie Parker. Maegan, Abby, Parker, Allie, and Emily Stoddard. Nick Stoddard had to work. Lunch 12299

12300 USA: IDAHO: Bannock Co. Pocatello Creek Road, continue on Moonlight Mountain, N 42.894760 W 112.289742 2024 m 23-Jun-2018 C. R. Nelson # 12300 & family 98 Wypt 045downtoinkom View east to more mountains, view west to Pocatello, view south to Inkom and Pebble Creek. Daniel Parker in his jeep with Andrea and Riley Nelson. Wildflowers: *Wyethia*, *Balsamorhiza*, *Penstemon* blue/purple, *Senecio*, *Achillea*, *Symphoricarpos oreophilus* (no *Hemileuca* caterpillars), sego lilies (localized), *Eriogonum*, *Erigeron*, *Sedum* (on top). Both rocky mountain and big tooth maple, aspens, *Castilleja*. 12300

12301 USA: IDAHO: Bannock Co. Pocatello, Parker home, 3071 Trevor Street, N 42.91671 W 112.40719 1514 m 23-Jun-2018 C. R. Nelson # 12301 & family 98 iPhone Tamara and Daniel Parker's house, many photos by group at this location. Kite flying.

Riley, Kaye, Andrea Nelson. Amy, Wolfgang, and Leah Smith. Jera Parker was with us here on 22 June 2018.

Daniel, Tamara, Jane, Millie, and Brett Parker. Maegan, Nick, Parker, Abby, Allie, and Emily Stoddard. Kristi, Lincoln, Macie, and Hallie Parker (saw Ben and Logan Parker at Zoo Idaho). Arctiidae (Erebidae) *Grammia* sp. caught by Jane & Millie Parker on 16 June 2018. 12301

12302 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 24-Jun-2018 C. R. Nelson # 12302 & J. K. Nelson 98 Sunday trip to cabin to water lawn. Tanks full. water pressure weak, fixed three sprinklers. Grilled chicken dinner with Kaye. Watched large evening primrose (*Oenothera*) bloom. Helped concrete worker with blowout on trailer on the highway. Refurbished Hi-Lift jacks so we could lift his trailer. Home after dark. Saw *Machimus* with prey Cicadellidae. *Oenothera*.

Photos: Cimbicidae: *Cimbex americana* 12302

12302 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 24-Jun-2018 C. R. Nelson # 12302 & J. K. Nelson 98 Sunday trip to cabin to water lawn. Tanks full. water pressure weak, fixed three sprinklers. Grilled chicken dinner with Kaye. Watched large evening primrose (*Oenothera*) bloom. Helped concrete worker with blowout on trailer on the highway. Refurbished Hi-Lift jacks so we could lift his trailer. Home after dark. Saw *Machimus* with prey Cicadellidae. *Oenothera*. 12302

12303 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 27-Jun-2018 C. R. Nelson # 12303 98 Culicidae male. Photos: Scenopinidae, photos 28 Juny 2018. 12303

12304 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 27-Jun-2018 C. R. Nelson # 12304 98 Photos: Cimbicidae *Cimbex americana* elm sawfly, photos 28 June 2018

Hosts: elm, maple (probably box elder at cabin), *Salix* (also small ones at cabin), and *Tilia*. 12304

12305 USA: UTAH: Utah Co., Provo, BYU, Nelson lab, 4118 LSB, N 40.24517 W 111.64909 1404 m 29-Jun-2018 C. R. Nelson # 12305 98 Started three colonies of *Drosophila melanogaster* vestigial wing strain on Wards Standard Medium, 4 unsexed and unaged adults from old colonies in the lab.

2 July 2018: all adults survived the weekend!

9 July 2018 all colonies have larvae and pupae. Count the pupae in Biology 100 class.
12305

12306 USA: UTAH: Utah Co., Provo River at 2230 North walking bridge N 40.263850 W 111.664211 1419 m 30-Jun-2018 C. R. Nelson # 12306 98 Wypt 046provoriverparking Biology 100 class, First 100 samples. Many photos by Hailey Hopper with my camera. Blanca Gonzales and Vanesa Mikesell took oxygen samples. Also recorded temperatures and velocity. Numbers on class page on line.

Attended: Grant Taylor, Megan Crow, Macie Stratten, Warren Zarada, Haylong Hadlock, Jacob Meyers, Chancey Trentman, Jordan, Thomas Stanford, Hannah Schoendorfer, Ben Griffin, Josh Saxton, Andy Lambson, Alec Call, Abby Johnson, Missy Bingham, Grant Mahana, Christina Wu, Leia Papenfuss, Logan Cox, Thomas Rowan, Joseph Fitzgerald, Madilynn Riley, Chloe Gouge, Kaity Whittingham, Jaydn Ross, Brooke Anderson, Maya Lund, Daniel Tolley, Jacob Capito, Emily Smith, Carrie Christensen, Connor McQuinn, Abbey Frederick, Aubrie Cardon, Hailey Hopper, Lindsey Clark, Shayla Nebeker, Aleks Solorio, Kevin Olpin, Vanesa Mikesell, Jessica Gillette, Bonnie Candland, Blanca Gonzalez, and Jackson Bennett. TAs: Teagan Mulford and Jessica Lockhart. Total on river: 59 persons. Hydropsychidae, Brachycentridae, sculpin, Chironomidae, Baetidae, Ephemerellidae, Oligochaeta, Hirudinea, Simuliidae, Isopoda, snails 12306

12307 USA: UTAH: Utah Co., Provo, Kiwanis Park, N 40.24782 W 111.63881 1414 m 30-Jun-2018 C. R. Nelson # 12307 98 Kaye's iPhone Photos: Springville High School Class of 1978 Reunion. 40 years. many classmates and friends of J. Kaye Wheeler Nelson. 12307

12308 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 01-Jul-2018 C. R. Nelson # 12308 98 Watered lawns, trimmed spruce so they wouldn't hit me in the face on stairs. Riley & Kaye Nelson, Wolfgang and Leah Smith. dead cedar waxwing, saw Bombyliidae, saw Chrysomelidae on Apocynum. iPhoto Penstemon palmeri with Wolfgang. 12308

12309 USA: UTAH: Box Elder Co. Brigham City, Nelson home, 211 North 300 West, N 41.51530 W 112.02098 1336 m 04-Jul-2018 05-Jul-2018 C. R. Nelson # 12309 98 iPhone Riley, Kaye, Rick, and Lana Nelson. at Rick and Lana's house. Photos: fireworks, portrait of Nelson home with new paint. Also photo of stairway. 12309

12310 USA: UTAH: Box Elder Co. Brigham City, LDS Temple, N 41.505445 W 112.01611 1363 m 05-Jul-2018 C. R. Nelson # 12310 98 iPhone Riley, Kaye, Rick, and Lana Nelson. Photos: temple & tabernacle in scaffolding. 12310

12311 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 07-Jul-2018 08-Jul-2018 C. R. Nelson # 12311 98 Photos: Leah

sleeping on the trike and

Photos: 8 July 2018: Leah sleeping with wolf's foot hanging over her. water hyacinths in tank. 12311

12312 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 09-Jul-2018 C. R. Nelson # 12312 98 Fierce rainstorm on Billie's Mountain but dry at sawmill. Added hose to excess drain water in Ashton's Oasis near driveway. black chinned hummingbirds at nectar feeder. 12312

12313 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 10-Jul-2018 C. R. Nelson # 12313 98 tiny ant workers and queens on faucet outside, probably *Monomorium minimum*. Nitidulidae visiting ripe apricots. 12313

12314 USA: UTAH: Utah Co., Provo, BYU, M. L. Bean Museum, N 40.256434 W 111.651443 1423 m 13-Jul-2018 C. R. Nelson # 12314 98 Photos: Retirement party for Dennis Shiozawa and Jack Sites. 12314

12315 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 18-Jul-2018 19-Jul-2018 C. R. Nelson # 12315 & J. K. Nelson 98 Rode four wheelers to Glass Cliffs Photos: prickly poppies, milkweed 12315

12316 USA: UTAH: Iron Co. Parowan Gap, west of Parowan N 37.909219 W 112.985289 1698 m 21-Jul-2018 C. R. Nelson # 12316 & others, see field notes 98 Wypt 047parowangap Photos: petroglyphs. Riley and Kaye Nelson, Rexanne and Hank (William Henry) Pond. 12316

12317 USA: UTAH: Iron Co. 2 miles east of Parowan Gap, west of Parowan, dinosaur tracks, N 37.897470 W 112.949548 1749 m 21-Jul-2018 C. R. Nelson # 12317 & others, see field notes 98 Wypt 048dinosaurtracks Riley and Kaye Nelson, Rexanne and Hank (William Henry) Pond. Photos: Hadrosaur tracks in 68-75 mya rock. 12317

12318 USA: UTAH: Iron Co. Cedar Breaks National Monument, Spectral Trail, N 37.60894 W 112.840153 3178 m 22-Jul-2018 C. R. Nelson # 12318 & others, see field notes 98 Wypt 049spectraltrail Photos: group, scenery. Also photos of rocks in walls of Rock Church at 75 East Center Street in Cedar City. Riley and Kaye Nelson, Rexanne and Hank (William Henry) Pond. 12318

12319 USA: UTAH: Iron Co. Cedar Breaks National Monument, trail to Alpine Pond from Chessman Ridge Overlook, N 37.636042 W 112.824892 3180 m 22-Jul-2018 C. R. Nelson # 12319 & others, see field notes 98 Wypt 138alpinepond (from 2015) Photos: scenery. Riley and Kaye Nelson, Rexanne and Hank (William Henry) Pond. red breasted nuthatch, scrub jay, pine siskins, mountain bluebird. 12319

12320 USA: UTAH: Garfield Co. Forest Service Road 069, Birch Spring Knoll Road, 2.5 air miles SSW of Panguitch Lake, N 37.674257 W 112.661881 2595 m 22-Jul-2018 C. R. Nelson # 12320 & J. K. Nelson 98 Google Earth basalt rocks collected for pond. 12320

12321 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 27-Jul-2018 28-Jul-2018 C. R. Nelson # 12321 & family 98 Riley and Kaye Nelson, Wolfgang and Leah Smith.

Photos: time lapse center on North Star. Lens: zoom DX fisheye at about 18 mm. Aperture wide open, f4. Shutter 5 seconds. ISO 1600. Interval: 20 seconds. Start at 10:30pm and end 4:02am. Frames DSC_6945 to DSC_7944. Maximum available of 999 on Interval Timing on Nikon D610. Full moon and sparse clouds. 12321

12322 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 04-Aug-2018 C. R. Nelson # 12322 & family 99 Riley and Kaye Nelson, Wolfgang and Leah Smith. John Bennion with grandson Ethan and granddaughter Ryan (don't know correct spelling), Jan Gray, Elliot Gray, Kent Wheeler, Anadelle Wheeler, and Rondo Wheeler. We saw the beginnings of the fire, later named Coal Hollow Fire, across the highway to the south and west of the Sheep Creek turn off. Photos: bat under eaves of bathroom window/hot tub of cabin on north side, about 9 bats. I identified them as big brown bats.

Saw Diogmites grossus. 12322

12323 USA: UTAH: Utah Co., Orem, Sizzler Restaurant, State Street near University Blvd., N 40.274659 W 111.685867 1454 m 06-Aug-2018 C. R. Nelson # 12323 & others, see field notes 99 Photos: group shot of BYU Zoology faculty reunion. Organized by Duane Jeffery and Clayton White. Zoology faculty reunion photo, 6 August 2018,

Front Row: Linda Winder, Stenna Andersen, Ferron Andersen, August Jaussi, Laureen Jaussi, Richard Heckmann, Karen Heckmann, Jill Johnson, and Laura Belk.

Row 2: Will Winder, Duane Jeffery, Kaye Jeffery, Joanne Sites, Janet Shiozawa, Susan Woodbury, Merle White, Diana Black, Jaelyn Evans, Marci Shaver Adams, Kaye Nelson, and Riley Nelson.

Row 3: Steve Peck, Richard Heninger, Ward Rhees, Jack Sites, Armand Whitehead, Dennis Shiozawa, Dixon Woodbury, Clayton White, Byron Adams, Hal Black, Paul Evans, Jerry Johnson, and Mark Belk.

12323

12324 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 11-Aug-2018 C. R. Nelson # 12324 & J. K. Nelson 99 Drove up and reviewed status of large Coal Hollow Fire, now at 17,000 acres, that threatens the cabin

from the south, across the highway. We watched ground crews bulldozing fire breaks across the highway, railroad, and creek from the cabin. A crew of up to 30 workers with chain saws and pulaskis was clearing a brush line nearly due south on the ridge across from our gate. The current fire is closest a few miles to the south. It is also worrisome down near Sheep Creek. It is smoky. I took photos from Spanish Fork City to Glass Cliffs and highest spot on our land above spring. *Diogmites grossus* (*angustipennis*) with prey *Megaphorus willistoni* 12324

12325 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 18-Aug-2018 C. R. Nelson # 12325 & family 99 With Kaye Nelson, Wolfgang, Leah, Todd, and Amy Smith. Green River Shale fossils: long plant stems or bones in grainy rock. Vespidae, small *Vespula* prey of male *Diogmites angustipennis*. Tachinidae, large "Peleteria?" prey of female *Diogmites angustipennis*. 12325

12326 USA: UTAH: Salt Lake Co. Salt Lake City, Tracy Aviary, Liberty Park, N 40.742346 W 111.875337 1299 m 20-Aug-2018 C. R. Nelson # 12326 & family 99 Wypt 052tracyaviary flamingo (south margin of flamingo pond) Evening: Riley & Kaye Nelson and other family members Andrea, Amy, Wolfgang, Leah. Photos: spectacled owl, Wolf and Leah releasing ladybird beetles Coccinellidae in the rainforest pavilion. breadfruit leaves, green aracari, Chilean flamingo chick and "mother", southern ground hornbill, Andrea and kids in bones playground, family with wingspan exhibit, pond with entrance building. 12326

12327 USA: UTAH: Weber Co. Ogden, Lindquist Mortuary, 3408 Washington Blvd. N 41.201665 W 111.970287 1328 m 21-Aug-2018 C. R. Nelson # 12327 & J. K. Nelson 99 Google Earth Funeral for Gary Kriese. New wife Janice. sons: Shawn, Michael, Nick, and Jared. 12327

12328 USA: UTAH: Garfield Co. Bryce Canyon National Park, Queens Garden Trail, N 37.627541 W 112.161235 2393 m 22-Aug-2018 C. R. Nelson # 12328 & J. K. Nelson 99 Wypt 053queensgarden Photos: scenery, Claron Formation. 12328

12329 USA: UTAH: Garfield Co. Bryce Canyon National Park, Navajo Loop, Two Bridges, N 37.621394 W 112.164713 2391 m 22-Aug-2018 C. R. Nelson # 12329 & J. K. Nelson 99 Wypt 054twobridges Photos: scenery, Two Bridges, HDR series, switchbacks. Photos: Townsends solitaire birds, including juvenile 12329

12330 USA: UTAH: Garfield Co. Bryce Canyon National Park, rim, 100 m south of Sunset Point, N 37.622512 W 112.168103 2437 m 22-Aug-2018 C. R. Nelson # 12330 & J. K. Nelson 99 Wypt 055southsunset Photos: scenery, time lapses of clouds over canyon toward Inspiration Point. Two series. Talked with Korean man. 12330

12331 USA: UTAH: Garfield Co. rim, halfway between Sunrise and Sunset Points, N 37.624796 W 112.166408 2433 m 22-Aug-2018 C. R. Nelson # 12331 & J. K. Nelson 99 Wypt 056jasonarrives Photos: Riley with arms extended in sky, Kaye with arms extended in sky. Recreating photo of June 1981 where Riley was catching newborn Jason falling from sky. Where do babies come from? Photos: Western bluebird. 12331

12332 USA: ARIZONA: Coconino Co. Page, Travel Lodge Motel, N 36.919668 W 111.463686 1299 m 22-Aug-2018 23-Aug-2018 C. R. Nelson # 12332 & J. K. Nelson 99 Wypt 057pagetravellodge Photos: view to Lake Powell. Stayed in motel. 12332

12333 USA: ARIZONA: Coconino Co. Colorado River, Horseshoe Bend Overlook, N 36.879961 W 111.510211 1287 m 23-Aug-2018 C. R. Nelson # 12333 & J. K. Nelson 99 Wypt 058horseshoebend Photos: scenery and tourists 12333

12334 USA: ARIZONA: Coconino Co. North of Flagstaff, Hwy 89, N 35.3554 W 111.5699 2105 m 23-Aug-2018 C. R. Nelson # 12334 & J. K. Nelson 99 Wypt 058horseshoebend Videos: heavy rainstorm. Elevation was 2205 from iphone. From coordinates on internet it was 6910 ft = 2105 m. 12334

12335 USA: ARIZONA: Mariposa Co. Phoenix, Cave Creek Park, near Cactus Road, N 33.605094 W 112.110599 390 m 25-Aug-2018 C. R. Nelson # 12335 & J. K. Nelson 99 Wypt 059cavecreeknorth Walked loop from 2520 West Columbine Drive south in Park on Sand Lily Road then crossed walking bridge near Cholla Street and went north to wild area above flood basin and low water crossing just north of Sweetwater Avenue, then back to Cactus on west side of park to return to 2420 West Columbine Drive. Photos: vermilion flycatcher, peach faced lovebirds, Gambels quail, mallard ducks. 12335

12336 USA: ARIZONA: Mariposa Co. Phoenix, Childrens Museum of Phoenix, 215 North 7th Street, N 33.450409 W 112.064637 332 m 25-Aug-2018 C. R. Nelson # 12336 & J. K. Nelson & family 99 Google Earth Photos: children, Astrid, and Artemis playing in soap foam play area. Fourth birthday party for Astrid Josephine Nelson. Photos: vermilion flycatcher, peach faced lovebirds, Gambels quail, mallard ducks. 12336

12337 USA: ARIZONA: Mariposa Co. Phoenix, Nelson home, 2520 West Columbine Drive, N 33.599388 W 112.113674 390 m 24-Aug-2018 28-Aug-2018 C. R. Nelson # 12337 & J. K. Nelson & family 99 Wypt 016nelsoncolumbine 26 August: photos: agave stalk from yard with baby plants on it, Octopus agave, Agave vilmoriniana. 27 August: cicada on paloverde tree, Tenebrionidae: saw toothed grain beetle. brought leaves and "rachis" of Washingtonia filifera palms home to Utah. 12337

12338 USA: ARIZONA: Coconino Co. Glen Canyon National Recreation Area, Colorado River, Horseshoe Bend, N 36.880404 W 111.510341 1285 m 28-Aug-2018 C. R. Nelson #

12338 & J. K. Nelson 99 Wypt 060excellent Photos: Canyon and rock. Many using HDR setting on camera, High Dynamic Range and panning in three parts. Hopefully using the 28mm wide angle of my zoom lens allows for stitching. Later: yes, good shots stitched. 12338

12339 USA: ARIZONA: Coconino Co. Kaibab Plateau, fire tower south of Jacob Lake, N 36.699484 W 112.213324 2481 m 28-Aug-2018 C. R. Nelson # 12339 & J. K. Nelson 99 Wypt 061jacoblakefiretower back tracked from Horsebend to check condors at Navajo Bridge near Lee's Ferry then over Kaibab Plateau. Photos: birds: yellow rumped warbler, pygmy nuthatch, another. 12339

12340 USA: ARIZONA: Coconino Co. north edge Kaibab Plateau, view area Hwy 89A N 36.830488 W 112.254626 2079 m 28-Aug-2018 C. R. Nelson # 12340 & J. K. Nelson 99 Wypt 062staircaseview Photos: panoramas and other photos of the Grand Staircase. Photos: Vance couple, older, from Kanab with broken trailer of aspen firewood on another trailer. They knew Harry Barber and Lisa Church. Another younger man and son didn't want their picture taken. I've stopped and photographed here several time. 12340

12341 USA: ARIZONA: Coconino Co. flats east of Fredonia, Hwy 89A, N 36.895209 W 112.363740 1617 m 28-Aug-2018 C. R. Nelson # 12341 & J. K. Nelson 99 Wypt 063lowviewstairs Photos:view of Grand Staircase. 12341

12342 USA: UTAH: Kane Co., Mount Carmel Junction, Hwy junction 89 and 9, N 37.22333 W 112.68116 1574 m 28-Aug-2018 29-Aug-2018 C. R. Nelson # 12342 & J. K. Nelson 99 Xyloryctes jamaicensis 1f, Dynastes granti 1m 1f (female taken out of cup "cage" during the night, probably by a raccoon. Night time temperature to a low of 46dF 12342

12343 USA: UTAH: Utah Co., Provo, LDS Church, Junction Canyon Road and Foothill Drive, Edgemont 10th Ward, N 40.29388 W 111.65234 1477 m 29-Aug-2018 C. R. Nelson # 12343 & J. K. Nelson 99 iPhone Mutual activity, self-defense Photo: Mark Wadsworth. Tarantula from Emily Wright's house, nearby, mounted in Riker mount on 19 October 2018, used Nelson home as the locality. 12343

12344 USA: UTAH: Salt Lake Co. Midvale, Topgolf, 920 River Gate Drive, N 40.624045 W 111.913947 ? m 30-Aug-2018 C. R. Nelson # 12344 & BYU Biology Department 99 Google Earth Department meeting/retreat, then golf driving range "team building" My team: Josh Stowers, Perry Ridge, Richard Gill, and Riley 12344

12345 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi east of Thistle, N 39.95623 W 111.26763 1829 m 31-Aug-2018 01-Sep-2018 C. R. Nelson # 12345 & J. K. Nelson & friends 99 Stayed overnight with USU friends 31 August 2018. With Kaye Nelson, Hank & Rexanne Pond, Blair & Cynthia Parrish, Tracy & Penny Smith (Smith's came Saturday morning). We

worked repairing flood damage (23 August 2018) to roads and irrigation system. I can't life things because of back problems so this help was much appreciated.

Photos: waterfall, scenery, fossil hotspots, group of friends.

Wypt 064bones N 39.955314 W 111.262349 elev. 1909 m. white weathered bone & shell in dark rock. Wypt 066eastpoint N 39.954256 W 111.262052 elev. 1880 m. east point above highway on ridge near east property line, flatter spots, note telephone pole bridge in photo. Wypt 067westofeastpoint N 39.954896 W 111.262783 elev. 1885 m. photo view from flat toward sawmill & gate - panorama. Photos: golden eagle. Hunted fossils in Green River Shale with Tracy Smith on slopes east of sawmill at the way to the east property line ridge. Bones, gastropods, reeds, bird foot print. 12345

12346 USA: UTAH: Utah Co., Provo, BYU, Nelson office, 2119 LSB, N 40.24532 W 111.64879 1400 m 06-Sep-2018 C. R. Nelson # 12346 99 Started four colonies of vestigial winged *Drosophila* with four unsexed adults in each on Carolina medium. Used stock from colonies of summer course. Recorded number of new pupae weekly with my Biology 100 class until 11 December 2018. Then I photographed the brown and rank ugly colonies on 13 December 2018 with my iPhone. found dead birds, male and female MacGillivray's warblers in planter area north of my office. *Drosophila* colonies. 12346

12347 USA: UTAH: Utah Co., Provo, Provo River, BYU River Park at pavilion, N 40.265136 W 111.663568 1415 m 08-Sep-2018 C. R. Nelson # 12347 99 Wypt 068provoriverpark Collecting with Biology 100 and Aquatic Entomology classes. Photos: group shot, about 100 people. Photographer was Jonathan Thompson a friend of one of the students. First 100 samples. No temperatures or velocities measured. Forgot. Much dark silt on the study site.

Riley Nelson, TAs: Megan Crow, Sophie Hatch, Hannah Stadler. Aquatic Entomology: Peter Searle, Nathan St. Andre, Madison Lallatin, Natalie Saxton, Riley Peterson, and Josh Verde. Biology 100 students signed a Google doc on line that they attended. Saw: *Belostomatidae* *Lethocerus americanus* in parking lot puddle (caught by Peter Searle) photos and video taken with Peter on 26 October 2018. Peter Searle caught the specimen in a puddle in the shopping center parking lot.

River: *Baetidae* *Baetis*, *Brachycentridae* *Brachycentrus*, *Limnephilidae* 2 spp. *Hesperophylax*?, *Leptoceridae* *Oecetis*, *Isopoda* *Asellus aquaticus*, *Oligochaeta*, *Hirudinea* 2 spp., *Platyhelminthes*, snails *Potamopyrgus* and other, *Hydropsychidae*, sculpin *Cottus bairdi*. Mallard ducks. 12347

12348 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 09-Sep-2018 C. R. Nelson # 12348 99 Photos: Indian mealmoth,

Plodia interpunctella. caterpillar, prepupa, pupa, adult. From sunflower seeds, bird seed from Home Depot. 12348

12349 USA: UTAH: Utah Co., Little North Fork Creek, Hwy 92, 1 mile south of Sundance Ski Area parking lot, N 40.379153 W 111.568946 1754 m 11-Sep-2018 C. R. Nelson # 12349 99 Wypt 069littlenorthfork Aquatic Entomology class: C. Riley Nelson, Nathan R. St. Andre, Parker L. Nielson, Natalie A. Saxton, Alli Duffy (A. G.), Riley D. Peterson, Peter C. Searle, Joshua A. Verde, Madison L. Lallatin (but lost her at BYU so she didn't collect with us). Simuliidae, Baetidae, Tipulidae, Plecoptera to Alli, Oligochaeta 12349

12350 USA: UTAH: Utah Co., South Fork of the American Fork River, spring area near Timpooneke Trailhead, N 40.430531 W 111.638526 2249 m 11-Sep-2018 C. R. Nelson # 12350 99 Wypt 070abovesite4timp Aquatic Entomology class: C. Riley Nelson, Nathan R. St. Andre, Parker L. Nielson, Natalie A. Saxton, Alli Duffy (A. G.), Riley D. Peterson, Peter C. Searle, Joshua A. Verde. Neophylax empty case Natalie, Perlodidae Megarcys?, Nemouridae, Chloroperlidae, Limnephilidae 2 spp., Lepidostomatidae, Chironomidae, Hydropsychidae, Rhyacophilidae, Ephemerellidae *Drunella grandis*, Heptageniidae, Empididae, Tipulidae, Micrasema? 12350

12351 USA: UTAH: Utah Co., South Fork of the American Fork River, below Timpooneke Trailhead, historical site 4, N 40.431773 W 111.637576 2235 m 11-Sep-2018 C. R. Nelson # 12351 99 Wypt 071sitefour Aquatic Entomology class: C. Riley Nelson, Nathan R. St. Andre, Parker L. Nielson, Natalie A. Saxton, Alli Duffy (A. G.), Riley D. Peterson, Peter C. Searle, Joshua A. Verde. Nemouridae, Perlodidae, Rhyacophilidae, Uenoidae *Neothremma*, Chloroperlidae, Ephemerellidae, Chironomidae, Hydropsychidae 12351

12352 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 13-Sep-2018 C. R. Nelson # 12352 99 Photos: evening 13 September 2018: Pole Creek fire above Payson, from roof. After dark, flames of this fire seen and photographed from home, about 20 miles away! Photos and video: morning, fly larvae photos in garbage can. Muscidae? Calliphoridae? video and photos in lab. then 18 September 2018: fly pupae in lab, adults began emerging 25 September 2018, photos of adults, Calliphoridae: *Lucilia sericata* and videos of the ptilinum popping in and out on teneral adults. 12352

12353 USA: UTAH: Utah Co., Provo, Provo Temple, view toward Mount Nebo, N xx W xx xx m 13-Sep-2018 C. R. Nelson # 12353 99 Check iPhone photos for coordinates Morning and evening photos: Pole Creek fire above Payson, from ride to and from campus. 12353

12354 USA: UTAH: Utah Co., Provo, BYU, Life Science Building south patio N xx W xx xx m
13-Sep-2018 C. R. Nelson # 12354 99 Check iPhone photos for coordinates Morning and
afternoon photos: Pole Creek fire above Payson. 12354

12355 USA: UTAH: Utah Co., Provo, East Lawn Cemetery, N 40.298213 W 111.649280
1552 m, 13-Sep-2018 C. R. Nelson # 12355 99 Wypt 199cemetery Photos: valley
panoramas with Pole Creek Fire above Payson. 12355

12356 USA: UTAH: Utah Co., Billies Mountain Slide, Hwy 6, N 40.004621 W 111.492391
1644 m, 14-Sep-2018 C. R. Nelson # 12356 99 Wypt 073billiesmountain Photos: 1984?
Slide with smoke of Pole Creek Fire in the background. 12356

12357 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, Glass Cliffs, 12 miles east of Thistle,
N 39.955515 W 111.272680 1947 m, 14-Sep-2018 C. R. Nelson # 12357 & J. K. Nelson 99
Wypt 074glasscliffs Photos: smoke to west of Pole Creek Fire. Wolfgang Smith throwing
rocks to hear the glassy tinkling sound. 12357

12358 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle, water tanks
below spring, N 39.958696 W 111.267921 1870 m, 15-Sep-2018 C. R. Nelson # 12358 &
family 99 Wypt 075tanks Photos: Jordan Christopher & A. Todd Smith. Chrysomelidae:
Galeruca, on road to tanks. No host. 12358

12359 USA: UTAH: Utah Co., Provo, East Lawn Cemetery, N 40.298213 W 111.649280
1552 m, 16-Sep-2018 C. R. Nelson # 12359 & J. K. Nelson 99 Wypt 076eastlawn Photos:
time lapse:

1. South Valley - Pole Creek Fire, view Y Mountain to Utah Lake with Mount Nebo in the
haze.
- 2 and 3. Y Mountain in good clouds.
4. Mount Timpanogos, good light but short.
5. Mount Timpanogos, in shadows.
6. Sunset. 12359

12360 USA: UTAH: Davis Co. Clearfield, I-15, Antelope Drive exit, N 41.094444 W
111.995278 1335 m, 21-Sep-2018 C. R. Nelson # 12360 & class 99 Josh's phone Riley
Nelson, Josh Verde, Riley Peterson, Peter Searle, Nathan St. Andre, Natalie Saxton, Alli
Duffy, Madison "Maddi" Lallatin. Aquatic Entomology. Photo: Swainson's hawk, black
morph. 12360

12361 USA: UTAH: Davis Co. Antelope Island, causeway, N 41.066953 W 112.229946 1283
m, 21-Sep-2018 C. R. Nelson # 12361 & class 99 Wypt 092marina (old) Riley Nelson, Josh
Verde, Riley Peterson, Peter Searle, Nathan St. Andre, Natalie Saxton, Alli Duffy, Madison

"Maddi" Lallatin. Aquatic Entomology. Photos: fox, gadwalls, California gulls, eared grebes, raven, avocet, stilt, western meadow lark, barn swallows, long billed curlew, magpie 12361

12362 USA: UTAH: Davis Co. Antelope Island, Great Salt Lake, White Rock Bay, N 41.0199 W 112.2637 1280 m, 21-Sep-2018 C. R. Nelson # 12362 & class 99 Nathan's gps Riley Nelson, Josh Verde, Riley Peterson, Peter Searle, Nathan St. Andre, Natalie Saxton, Alli Duffy, Madison "Maddi" Lallatin. Aquatic Entomology.

Lake edge was N 41.0199 W 112.2637 elev. 4206 ft. = 1280 m Ephydriidae, Artemia salina brine shrimp, Bombyliidae, Carabidae Cicindela, Dolichopodidae, bison, pronghorn, white crowned sparrow, sage thrush. 12362

12363 USA: UTAH: Box Elder Co. Perry Reservoir, Willard Peak Road, 8 miles south of Mantua, N 41.428828 W 111.965133 2322 m, 21-Sep-2018 C. R. Nelson # 12363 & class 99 Wypt 078perryres Riley Nelson, Josh Verde, Riley Peterson, Peter Searle, Nathan St. Andre, Natalie Saxton, Alli Duffy, Madison "Maddi" Lallatin. Aquatic Entomology.

Tubifex worms, Libellulidae, Aeshnidae, Coenagrionidae, Haliplidae Haliphus det CRN 24 Sep 2018, Nepidae Ranatra, Belostomatidae, Notonectidae Notonecta (many students caught) and Notonecta? nymph AND! Buena! yes! det CRN 24 Sep 2018, Corixidae two genera, Baetidae, tiger salamanders common, Meoveliidae, Gerridae, Gyrinidae Gyrinus (photos in lab 13 Nov 2018 by CRN, specimens to Riley Peterson), Hydrophilidae, Ostracoda, Hyaella azteca, Chironomidae, Limnephilidae large adults, Belostomatidae Lethocerus. 12363

12364 USA: UTAH: Box Elder Co. Woods Creek Duck Club, 2 miles south of Corinne, pond at house, N 41.517128 W 112.139781 1274 m, 21-Sep-2018 22-Sep-2018 C. R. Nelson # 12364 & class 99 Wypt 079frontporch Riley Nelson, Josh Verde, Riley Peterson, Peter Searle, Nathan St. Andre, Natalie Saxton, Alli Duffy, Madison "Maddi" Lallatin. Aquatic Entomology.

Time lapse stars start 8:53 pm DSC_3210.jpg then end 1:20 am DSC_3745.jpg Pond newly filled: Berosus, Tropisternus adults and larvae, Culicidae, mystery beetle larvae with Natalie, Dytiscidae, Chironomidae, Libellulidae 1 nymph. Alli Duffy had success with underwater bottle traps 21-22 Sep 2018. Notonectidae, Corixidae. 12364

12365 USA: UTAH: Box Elder Co. Woods Creek Duck Club, 2 miles south of Corinne, big pond west of house, N 41.517025 W 112.147822 1281 m, 22-Sep-2018 C. R. Nelson # 12365 & class 99 Wypt 080pond dike Riley Nelson, Josh Verde, Riley Peterson, Peter Searle, Nathan St. Andre, Natalie Saxton, Alli Duffy, Madison "Maddi" Lallatin. Aquatic Entomology. Coenagrionidae, Chironomidae, Libellulidae, Dytiscidae several genera, Baetidae Callibaetis slow, Meoveliidae (Josh), Notonectidae, Corixidae. 12365

12366 USA: UTAH: Box Elder Co. Bear River, Elwood, Petersen Park, N 41.702788 W 112.114717 1284 m, 22-Sep-2018 C. R. Nelson # 12366 & class 99 Wypt 081petersenparkelwood Riley Nelson, Josh Verde, Riley Peterson, Peter Searle, Nathan St. Andre, Natalie Saxton, Alli Duffy, Madison "Maddi" Lallatin. Aquatic Entomology. Corixidae, Leptoceridae, sunfish, Gambusia. 12366

12367 USA: UTAH: Box Elder Co. Bear River, near Hwy 30, Hampton Ford, N 41.786816 W 112.106190 1285 m, 22-Sep-2018 C. R. Nelson # 12367 & class 99 Wypt 082hamptonford Riley Nelson, Josh Verde, Riley Peterson, Peter Searle, Nathan St. Andre, Natalie Saxton, Alli Duffy, Madison "Maddi" Lallatin. Aquatic Entomology. Leptoceridae, Veliidae Rhagovelia, Hydropsychidae, Crambidae Petrophila, Baetidae, Libellulidae, leopard frog, green sunfish, Gambusia, osprey, Elmidae. 12367

12368 USA: UTAH: Cache Co. Cutler Marsh Marina, Hwy 30, N 41.745291 W 111.956639 1337 m, 22-Sep-2018 C. R. Nelson # 12368 & class 99 Wypt 083cutlermarshmarina Riley Nelson, Josh Verde, Riley Peterson, Peter Searle, Nathan St. Andre, Natalie Saxton, Alli Duffy, Madison "Maddi" Lallatin. Aquatic Entomology. crayfish, Libellulidae, Thamnophis elegans vagrans garter snake. 12368

12369 USA: UTAH: Cache Co. Blacksmith Fork River, Shenoah Picnic Site, 8 miles east of Hyrum, N 41.628768 W 111.696161 1573 m, 22-Sep-2018 C. R. Nelson # 12369 & class 99 Wypt 084blacksmithforkshenoah Riley Nelson, Josh Verde, Riley Peterson, Peter Searle, Nathan St. Andre, Natalie Saxton, Alli Duffy, Madison "Maddi" Lallatin. Aquatic Entomology. Pteronarcys californica, Hesperoperla pacifica, Arctopsyche some live home YES Arctopsyche photos in water, Glossosomatidae, Brachycentridae, Baetidae, Ephemerellidae, Athericidae Atherix, Physella snails, Elmidae. 12369

12370 USA: UTAH: Utah Co., Goshen Warm Springs, North pond, south of end of Utah Lake, Goshen Ponds, N 39.959510 W 111.855591 1379 m, 25-Sep-2018 C. R. Nelson # 12370 & class 99 Wypt 085goshennorthpond Riley Nelson, Josh Verde, Riley Peterson, Peter Searle, Nathan St. Andre, Natalie Saxton, Alli Duffy, Madison "Maddi" Lallatin, Parker Nielson. Aquatic Entomology (whole class).

Photos: scenery and people. Used collecting spots for many years.

Baetidae, Mesoveliidae Mesovelia, Veliidae Rhagovelia, Hydroptilidae, Calopterygidae Hetaerina americana, Coenagrionidae Argia and Ischnura, Libellulidae Libellula saturata Tramea onusta Sympterygion, Elmidae, Hydrophilidae, Gyrinidae, Leptoceridae, mormon racer Coluber constrictor mormon. 12370

12371 USA: UTAH: Utah Co., Provo, BYU, Life Science Building, south stairs, N 40.244919 W 111.649476 1397 m, 25-Sep-2018 C. R. Nelson # 12371 99 near Wypt 072lsbpatio Stratiomyidae: *Sargus bipunctatus*. 12371

12372 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle, N 39.958623 W 111.26763 1860 m, 28-Sep-2018 29-Sep-2018 C. R. Nelson # 12372 & others, see field notes 99 Riley and Kaye Nelson, Paul, Christine, and Harvey Frandsen 3 years old, spent the night. Paul and I cleaned out much of pipe clogged by flood using 1/3 the water in the tall tanks and a 20 foot long 1 inch pipe. Hopefully fall rains and fall flow in the gully will wash the rest of the debris out. It did as of 15 December 2018. Half of rabbitbrush in full bloom, half past. *Rhus aromatica* changed to purple, *Ammophila*, sagebrush lizards, sagebrush full of pollen, *Mantis religiosus* without white eye spots on coxae. 12372

12373 USA: UTAH: Utah Co., Mount Timpanogos, American Fork River, Sawmill Picnic area, near CRN historical site 2 N 40.447929 W 111.680996 1829 m, 04-Oct-2018 C. R. Nelson # 12373 & class 99 Wypt 086sawmillsite2 Riley Nelson, Josh Verde, Riley Peterson, Peter Searle, Nathan St. Andre, Natalie Saxton, Madison "Maddi" Lallatin, Parker Nielson. Aquatic Entomology. Perlodidae, Hydropsychidae, Dixidae, Baetidae, Leptophlebiidae Paraleptophlebia, Elmidae, Heptageniidae. 12373

12374 USA: UTAH: Utah Co., Mount Timpanogos, South Fork American Fork River, CRN historical site 3 near jct North Fork American Fork River, N 40.451805 W 111.656918 1880 m, 04-Oct-2018 C. R. Nelson # 12374 & class 99 Wypt 087southfork Riley Nelson, Josh Verde, Riley Peterson, Peter Searle, Nathan St. Andre, Natalie Saxton, Madison "Maddi" Lallatin, Parker Nielson. Aquatic Entomology. Perlodidae, Nemouridae, Hydropsychidae, Philopotamidae, Baetidae, Elmidae, Heptageniidae. 12374

12375 USA: UTAH: Millard Co. Meadow Hot Springs, 5 miles west of Meadow and I-15, N 38.866023 W 112.504042 1454 m, 11-Oct-2018 C. R. Nelson # 12375 & class 99 Wypt 088meadowhotspring Riley Nelson, Josh Verde, Riley Peterson, Nathan St. Andre, Alli Duffy, Natalie Saxton, Parker Nielson. Aquatic Entomology. Dytiscidae, Dolichopodidae, Hydrophilidae, Hydrochidae? or Elmidae?, Staphylinidae, Curculionidae, Corixidae, Cichlidae: convicts and jewelfish, Odonata, sandhill crane, loggerhead? shrike, swainsons hawk, western meadowlark. 12375

12376 USA: UTAH: Washington Co. Leeds Creek bridge, 5 miles west of Leeds, N 37.281576 W 113.394761 1400 m, 11-Oct-2018 C. R. Nelson # 12376 & class 99 Wypt 089leedsbridge Riley Nelson, Josh Verde, Riley Peterson, Nathan St. Andre, Alli Duffy, Natalie Saxton, Parker Nielson. Aquatic Entomology. Hydropsychidae, Perlidae

Hesperoperla, Perlodidae Isoperla, Ephemerellidae Drunella, Baetidae, Cordulegastridae, Coenagrionidae Argia, Calopterygidae Hetaerina americana, Nemouridae Malenka, Dixidae, Gerridae, Veliidae Microvelia, Tipulidae, Philopotamidae, Psychomyiidae, Hydroptilidae, Brachycentridae, Dytiscidae, Scirtidae, Amphizoidae, Elmidae. 12376

12377 USA: UTAH: Washington Co. Leeds Creek , 2 miles west of Leeds, N 37.266332 W 113.368469 1214 m, 11-Oct-2018 C. R. Nelson # 12377 & class 99 Wypt 091leedscr2mile Riley Nelson, Josh Verde, Riley Peterson, Nathan St. Andre, Alli Duffy, Natalie Saxton, Parker Nielson. Aquatic Entomology. Gerridae, Naucoridae, Perlodidae, Corydalidae, Libellulidae, Calopterygidae. 12377

12378 USA: NEVADA: Clark Co. Warm Springs, Moapa Valley, Cardy Lamb Pool, N 36.725917 W 114.728250 549 m, 11-Oct-2018 12-Oct-2018 C. R. Nelson # 12378 & class 99 Wypt 092cardylamb Riley Nelson, Josh Verde, Riley Peterson, Nathan St. Andre, Alli Duffy, Natalie Saxton, Parker Nielson. Aquatic Entomology. Time lapse of stars with palms. Belostomatidae Belostoma, Aeshnidae Anax, Libellulidae, Baetidae Callibaetis, Tenebrionidae, Vespidae Polistes light kind, Dytiscidae, Haliplidae, Curculionidae, Tabanidae, Culicidae, Therevidae, bladderwort Utricularia macrorhiza, specimens given to Robert Johnson for BYU Herbarium, det. R. L. Johnson. 12378

12379 USA: NEVADA: Clark Co. Warm Springs area, Moapa Valley, main stem Muddy River, N 36.715477 W 114.711455 522 m, 12-Oct-2018 C. R. Nelson # 12379 & class 99 Wypt 093mainmuddy Riley Nelson, Josh Verde, Riley Peterson, Nathan St. Andre, Alli Duffy, Natalie Saxton, Parker Nielson. Aquatic Entomology. First 100s. Water temp. 31dC. Visitor Center place, runs. Wypt 094 visitorplace N 36.710246 W 114.711372 elev. 538 m. Photos: Petrophila adult. Corydalidae, Baetidae, Crambidae, Hydropsychidae, Leptoceridae, Helicopsychidae, Naucoridae Limnocoris moapensis and Ambrysus, Leptohyphidae Tricorythodes, small snail, long snail Melanoides tuberculata, Elmidae, Chironomidae, Oligochaete, Calopterygidae Photos: Hetaerina americana, Platyhelminthes, Coenagrionidae, Hydrophilidae, Aeshnidae Anax junius. 12379

12380 USA: NEVADA: Clark Co. Muddy River, Moapa, near I-15 between Hwy 168 and railroad bridge, N 36.660662 W 114.578570 461 m, 12-Oct-2018 C. R. Nelson # 12380 & class 99 Wypt 095lowermuddy Riley Nelson, Josh Verde, Riley Peterson, Nathan St. Andre, Alli Duffy, Natalie Saxton, Parker Nielson. Aquatic Entomology. Isonychiidae Isonychia, Calopterygidae, Baetidae, Leptohyphidae Tricorythodes. 12380

12381 USA: UTAH: Washington Co. Beaver Dam Slope, trough 0.5 miles south of Lytle Ranch Road at Welcome Sprig turnoff, N 37.059740 W 113.920246 1026 m, 12-Oct-2018 C. R. Nelson # 12381 & class 99 Wypt 096welcometrough Riley Nelson, Josh Verde, Riley

Peterson, Nathan St. Andre, Alli Duffy, Natalie Saxton, Parker Nielson. Aquatic Entomology. No aquatic insects today. just a little dead Chara algae. Nicoletiidae with black ants. 12381

12382 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, Joshua Tree Forest east of bunkhouse, N 37.143292 W 114.018703 882 m, 12-Oct-2018 13-Oct-2018 C. R. Nelson # 12382 & class 99 Wypt 097joshuastars Riley Nelson, Josh Verde, Riley Peterson, Nathan St. Andre, Alli Duffy, Natalie Saxton, Parker Nielson. Aquatic Entomology. Especially with Nathan St. Andre. Photos: star shots to North Star with Joshua trees. Nathan took lovely Milky Way shots with lit Joshua tree in foreground. Joshua trees. Caught desert gecko *Coleonyx variegata*. 12382

12383 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, top of Bens Bluff, N 37.143910 W 114.024755 858 m, 13-Oct-2018 C. R. Nelson # 12383 & class 99 Wypt 098bensbluff Riley Nelson, Josh Verde, Riley Peterson, Nathan St. Andre, Alli Duffy, Natalie Saxton, Parker Nielson. Aquatic Entomology. Riley alone in the morning, Photos: scenery, early morning. 12383

12384 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, Kayes Bluff, west rim of wash, N 37.146523 W 114.026410 913 m, 13-Oct-2018 C. R. Nelson # 12384 & class 99 Wypt 37kayesbluff (old record) checked Google for this. Good! 15 Oct 2018 CRN Riley Nelson, Josh Verde, Riley Peterson, Nathan St. Andre, Alli Duffy, Natalie Saxton, Parker Nielson. Aquatic Entomology. Riley alone in the morning, Photos: scenery, early morning. Also to top of Kayes Bluff, iPhone. wild turkeys 12384

12385 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, north property line, N 37.160436 W 114.017750 866 m, 13-Oct-2018 C. R. Nelson # 12385 & class 99 Wypt 099upperbeaver Riley Nelson, Josh Verde, Riley Peterson, Nathan St. Andre, Alli Duffy, Natalie Saxton, Parker Nielson. Aquatic Entomology. Seven First 100s for about 0.5 hour. Students identified the samples and made a report at the end of the semester. Gelastocoridae, Baetidae, Leptohyphidae, Naucoridae, Heteroceridae, Gomphidae Progomphus, Hydroptilidae, Odonata Libellulidae, Coenagrionidae, Veliidae Microvelia, Gerridae, Leptoceridae, Crambidae Petrophila caterpillar. 12385

12386 USA: UTAH: Washington Co. Beaver Dam Wash, Lytle Ranch Preserve, creek channel base of Kayes Bluff, N 37.145557 W 114.023817 847 m, 13-Oct-2018 C. R. Nelson # 12386 & class 99 Wypt 100beaveratkayesbluff Riley Nelson, Josh Verde, Riley Peterson, Nathan St. Andre, Alli Duffy, Natalie Saxton, Parker Nielson. Aquatic Entomology. Seven First 100s from only channel, it has only been running a week according to Eriberto Madrigal the preserve manager. It took 1- 1.5 hours to get the First 100s!. Students

identified the samples and made a report at the end of the semester. We stopped and bought three pies at Croshaw's in St. George: coconut cream, rhubarb, and apple. No time to eat them. Took them home. Hydrophilidae, Baetidae, Tabanidae, Coenagrionidae, Gomphidae Ophiogomphus?, Dytiscidae, Heteroceridae, Leptohyphidae, Oligochaeta, Leptoceridae. Also big spider at bunkhouse Heteropoda venatoria, huntsman spider, kept alive in lab, dead on 15 December 2018. 12386

12387 USA: UTAH: Kane Co., Zion National Park, East Side, Hwy 9, near Checkerboard Mesa, N 37.226 W 112.8849 xx m, 13-Oct-2018 C. R. Nelson # 12387 & class 99 from Nathan St. Andre's phone Riley Nelson, Josh Verde, Riley Peterson, Nathan St. Andre, Alli Duffy, Natalie Saxton, Parker Nielson. Aquatic Entomology. quick photo: desert bighorn sheep on road. 12387

12388 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB N 40.24517 W 111.64909 1404 m, 19-Oct-2018 C. R. Nelson # 12388 99 Photos: molting hissing cockroaches, Blaberidae Gromphadorhina portentosa, medium sized instar 12388

12389 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6, 12 miles east of Thistle, N 39.95357 W 111.26608 1824 m, 20-Oct-2018 C. R. Nelson # 12389 99 Riley and Kaye Nelson with Wolfgang Winston and Leah Valentine Smith. Benthics: Photos: Perlodidae Isogenoides zionensis det C R. Nelson 2018, Carabidae Bembidion sp, Gomphidae Ophiogomphs det CRN 2018, Perlodidae Isoperla pinta nymph det CRN 2018, Brachycentridae Brachycentrus americanus, Tipulidae 3 kinds/sizes all keyed to Tipula, Pteronarcella badia det CRN 2018, Corixidae 2 genera large first photographed Graptocorixa second photographed Sigara, small, contrasty det CRN 2018, Dytiscidae Agabus? No! keyed as Agabus det CRN 2018, Hydropsychidae Hydropsyche NO, Ceratopsyche no scale hairs det CRN 2018, Dryopidae Helichus det CRN 2018, Elmidae Optioservus? yes, det CRN 2018, Ephemerellidae Drunella coloradensis det CRN 2018 small, Lepidostomatidae Lepidostoma det CRN 2018. 18 benthic species! Snail fossils on hillside 12389

12390 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 28-Oct-2018 C. R. Nelson # 12390 99 Photos: Formicidae, tiny alate, Formicinae? lost one wing before it was photographed. One Photoshop version also made removing that remaining wing. 12390

12391 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle, N 39.958623 W 111.26763 1860 m, 05-Nov-2018 C. R. Nelson # 12391 99 Work day at cabin. Clear, crisp weather. Finished rock and fill work on the driveway. Insulated the house water pit with leaves. Raked leaves of lawn and patios and driveways. Loaded four wheeler

on trailer and pulled it home to Provo. Riley and Kaye Nelson, Andrea Nelson, Jordan Christopher, Amy, Todd, Wolfgang, and Leah Smith. 12391

12391 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle, N 39.958623 W 111.26763 1860 m, 05-Nov-2018 C. R. Nelson # 12391 99 Work day at cabin. Clear, crisp weather. Finished rock and fill work on the driveway. Insulated the house water pit with leaves. Raked leaves of lawn and patios and driveways. Loaded four wheeler on trailer and pulled it home to Provo. Riley and Kaye Nelson, Andrea Nelson, Jordan Christopher, Amy, Todd, Wolfgang, and Leah Smith. 12391

12392 THE NETHERLANDS: North Holland: Amsterdam, Anne Frank House, N 52.375218 E 4.883976 4 m, 16-Nov-2018 C. R. Nelson # 12392 & J. K. Nelson & Jocelyn Denyer (Jera Parker's cousin) 100 Anne Frank house, victims of the Holocaust. Then pancakes and poffertjes, Van Gogh Museum, streets of Amsterdam, Canal boat trip. 12392

12393 NAMIBIA: Khomas Region Windhoek, Hotel Safari, S 22.598115 E 17.082741 1686 m, 17-Nov-2018 01-Dec-2018 C. R. Nelson # 12393 & J. K. Nelson 100 Wypt 107safarihotel, 6:13 pm 17 Nov: Airport to Windhoek by taxi driver Vaino, oryx (gemsbok and baboons. white backed mousebird, lark?, red belled bird, house sparrow. 19 Nov: photos: mousebird, Papilionidae; Cape wagtail. 25 Nov: mousebird, top red breast black bird mystery? subbird?

Away to Etosha Pan and Walvis Bay 20 -23 November 018, back to Hotel Safari 24 November 2018 late afternoon. 12393

12394 NAMIBIA: Khomas Region Windhoek, National Botanic Garden, S 22.570821 E 17.094385 1724 m, 19-Nov-2018 C. R. Nelson # 12394 & J. K. Nelson 100 Wypt 108botanic garden 9:38 am Photos: succulents - Vitaceae including butter tree, helmeted guinea fowl, swallow tailed beeeater, bottle tree, tortoise, red headed agamid photo is blurry, go awy birds, bumble bee at start. photo: red billed quelea, nests of white browed sparrow weaver, Go away bird, white backed mousebird, little brown bird, helmeted guinea fowl, tortoise, swallow tailed bee eater, Cape turtle dove, red headed agama lizard, 12394

12395 NAMIBIA: Khomas Region 30 km north of Windhoek, Okapuka Ranch, off Hwy B1, S 22.303864 E 17.064168 1452 m, 19-Nov-2018 C. R. Nelson # 12395 & J. K. Nelson 100 Wypt 109okapuka 5:38 pm at end. Arrived around 2:30 pm Photos: lilac breasted roller, lark(no, groundscraper thrush), white browed sparrow weaver, red billed quelea, Cape wagtail, red billed spurfowl, blacksmith lapwing, Egyptian goose, yellow canary, southern masked weaver, Nile crocodile, brown faced impala, springbok, blesbok, giraffe, sable

antelope, white rhinoceros, plains zebra, ostrich, bat eared fox, saw yellow billed hornbill, striped mongoose, white tailed wildebeest, blue wildebeest, oryx, starling, helmeted guinea fowl, red breasted francolin. 12395

12396 NAMIBIA: Otjozondjupa Region Okahandja City, S 21.995732 E 16.921104 1318 m, 20-Nov-2018 C. R. Nelson # 12396 & J. K. Nelson & Han√© Brink 100 Wypt 110okahandja 11:04 am Bought 2 carved pangolins in "Dolf" wood from artisan for N\$500 Saw Cape vulture to north and pied babbler to north 12396

12397 NAMIBIA: Otjozondjupa Region rest area, Hwy B1, 88 km south of Otjiwarango, S 21.244047 E 16.817719 1398 m, 20-Nov-2018 C. R. Nelson # 12397 & J. K. Nelson & Han√© Brink 100 Wypt 111breastmountains butt mountain,12:18 pm View to Omatako Mountains (Han√© made reference to breasts). Lunch. five birds, sparrow weaver, red breasted water shrike, go away,Cisticola? Photos: Asilidae Apocleinae escaped much later in Etosha Pan. Termite mounds. End with Kaye's picture, red shirt. 12397

12398 NAMIBIA: Otjozondjupa Region Hwy B1, 77 km south of Otjiwarango, S 21.244047 E 16.817719 1398 m, 20-Nov-2018 C. R. Nelson # 12398 & J. K. Nelson & Han√© Brink 100 Wypt 112omatako to south 1:21pm end D610 camera 1:20 pm Photos: scenery. More "butt" than "breast" look (Han√©'s words). View south to Omatako Mountains. Looked to see "Ghost Mountain" between peaks of Omatko Mountains. Not seen here, move three kilometers north to see (12399). Saw large Gomphocerinae grasshopper. 12398

12399 NAMIBIA: Otjozondjupa Region Hwy B1, 74 km south of Otjiwarango, 1 km north of Omatako River channel, S 21.104400 E 16.830096 1486 m, 20-Nov-2018 C. R. Nelson # 12399 & J. K. Nelson & Han√© Brink 100 Wypt 113ghostmountain 1:28 pm end D610 1:29 pm. Photos: ghost mountain between peaks of Omatako Mountains (further to southwest) find ot name of mountain, it disappears if you return south to 12398, due to angles. 12399

12400 NAMIBIA: Otjozondjupa Region roadside rest area, Hwy B1, 40 km SW of Otavi, S 19.924328 E 17.105536 1486 m, 20-Nov-2018 C. R. Nelson # 12400 & J. K. Nelson & Han√© Brink 100 Wypt 114sunbirdyellowtree 3:37pm end D610 3:36 pm. Photos: sunbirds in yellow flowered legume tree, either scarlet chested or marico female, best guess is scarlet, check in photos. 12400

12401 NAMIBIA: Oshikoto Region Otavi Mountains, Hwy B1, Otavi-Tsumeb Pass, 10 km south of Tsumeb, S 19.318514 E 17.673268 1374 m, 20-Nov-2018 C. R. Nelson # 12401 & J. K. Nelson & Han√© Brink 100 Wypt 116pass north side 5:06pm Start D610 4:52 pm end 6:34 pm. Steak and sausage dinner, blue sundown. Photos: southern masked weaver, male and baby in nest. Photos: southern red billed hornbill. Photos: southern yellow billed hornbill. 12401

12402 NAMIBIA: Oshikoto Region Tsumeb, S 19.247684 E 17.714714 1319 m, 20-Nov-2018 21-Nov-2018 C. R. Nelson # 12402 & J. K. Nelson & Han√© Brink 100 Wypt 117tsumebroom 21 Nov 2018 5:50 am. 20 Nove 2018 enter town 6:42 pm Steak and sausage dinner, blue sundown. Photos: southern masked weaver, male and baby in nest. Photos: southern red billed hornbill. Photos: southern yellow billed hornbill. 12402

12403 NAMIBIA: Oshikoto Region Etosha Pan National Park, Dik dik Drive, Namutoni area, S 18.839985 E 16.961406 1108 m, 21-Nov-2018 C. R. Nelson # 12403 & J. K. Nelson & Han√© Brink 100 Google Earth. D610 start 7:12 am end 7:19 am blesbok, gray duiker, steenbok, dikdik. 7:02 am Batteleur, dikdik, impala. 12403

12404 NAMIBIA: Oshikoto Region Etosha Pan National Park, Klein Namutoni Waterhole, S 18.827260 E 16.950722 1080 m, 21-Nov-2018 C. R. Nelson # 12404 & J. K. Nelson & Han√© Brink 100 Wypt 120kleinnamutoni 11:50 am = mid day. Other times too. Morning D610 start 7:22 am end 7:39 am? blackout?? can't read. Morning then afternoon. Morning: Twenty giraffes at the waterhole. Skyscrapers over the pan! doves, blacksmith lapwing. Noon: spotted hyena, giraffe, kudu, impala, Verreau's eagle, lappet faced vulture, blacksmith lapwing (plover), three banded plover, grebe, duck, sandpiper, spiny lizard, springbok. 12404

12405 NAMIBIA: Oshikoto Region Etosha Pan National Park, Namutoni Camp, S 18.809230 E 16.940678 1096 m, 21-Nov-2018 22-Nov-2018 C. R. Nelson # 12405 & J. K. Nelson & Han√© Brink 100 Wypt 118namutoni 21 Nov 8:25 am Morning, Lunch, Evening. D610 start 7:47am end 8:35am springbok leaving.

Sunset

Morning: go away bird, red eyed bulbul, elephant skull, flamboyant tree, springbok nearby. Lunch: banded mongoose, scimitarbill, woodpecker, striped eye face bird?, big Burchells starling, Go Away bird.

Evening: lions 1m 1 f, yellow billed hornbill. 12405

12406 NAMIBIA: Oshikoto Region Etosha Pan National Park, Tsumcor Waterhole, S 18.715175 E 16.903904 1106 m, 21-Nov-2018 C. R. Nelson # 12406 & J. K. Nelson & Han√© Brink 100 Google Earth Giraffes, zebras, warthog, oryx = gemsbok, kudu 12406

12407 NAMIBIA: Oshikoto Region Etosha Pan National Park, Groot Otavi Waterhole, S 18.780632 E 16.898570 1093 m, 21-Nov-2018 C. R. Nelson # 12407 & J. K. Nelson & Han√© Brink 100 Google Earth The reason I had to use Google Earth to record localities is that I was in such complete awe of the wildlife I was seeing that I couldn't remember to use

my GPS to record the places. I am relying on my cameras to put the time and date on things. But I set those wrong, initially, because I didn't use military time. It was awesome to move from one waterhole to the next. With vistas of strange and wonderful large animals moving before my eyes. These on a salt plain so seemingly familiar to the northern shores of the Great Salt Lake in Utah. The disconnect was not the oddity of the pans and flats and salt and grass but the mammals is such stupendous variety. What a wonderment in this world! Oryx, impala 12407

12408 NAMIBIA: Oshikoto Region Etosha Pan National Park, Klein Okevi Waterhole, S 18.791632 E 16.907837 1092 m, 21-Nov-2018 C. R. Nelson # 12408 & J. K. Nelson & Han√© Brink 100 Google Earth Klein means Little and Groot means Great. Afrikaans I believe, but cognates to German. turtles, Namaqua doves, jackal. 12408

12409 NAMIBIA: Oshikoto Region Etosha Pan National Park, Koinachas Waterhole, S 18.819106 E 16.929194 1095 m, 21-Nov-2018 C. R. Nelson # 12409 & J. K. Nelson & Han√© Brink 100 Google Earth Morning and afternoon, twice! Reeds growing up in middle of waterhole. Morning: springbok, impala, kudu, turtle
Afternoon: blue cranes, springbok, giraffe
Evening: kori bustard, blue cranes, giraffes, black backed jackal. 12409

12410 NAMIBIA: Oshikoto Region Etosha Pan National Park, Chudob Waterhole, S 18.858270 E 16.924851 1102 m, 21-Nov-2018 C. R. Nelson # 12410 & J. K. Nelson & Han√© Brink 100 Google Earth giraffe, kudu, impala, springbok, skink lizard near truck. 12410

12411 NAMIBIA: Oshikoto Region Etosha Pan National Park, west of Chudob Waterhole, S xx E xx x m, 21-Nov-2018 C. R. Nelson # 12411 & J. K. Nelson & Han√© Brink 100 unrecorded. Maybe 119? no. Close to 2:30 pm. Photos: blue wildebeest in shade of mopane trees nearer edge of pan. 12411

12412 NAMIBIA: Oshikoto Region Etosha Pan National Park, Kalkheuwel Waterhole, S 18.896229 E 16.827365 1099 m, 21-Nov-2018 C. R. Nelson # 12412 & J. K. Nelson & Han√© Brink 100 Google Earth Start elephants near 2:55 pm. elephants 20, zebras 100s, vultures eating dead giraffe, marabou stork, kudu, impala. Check photos to see what else we saw. Several colors of vultures. Big and small. Photos: elephants moving through the mopane along our left side toward the waterhole. Surreal experience. See them then not. Babies and adults. Tense times for our guide young Han√©! Get us close but keep us safe. Mothers and babies make these nervous. The herd of 20 moved across the road in front of us on the way to the water. Then we saw the striped curtain of zebras surround us and part to a view of a very large herd on the rocky shores of a waterhole. The elephants parted this

striped curtain and shared water among themselves before we noticed the seething mass of neck bobbing vultures and marabou storks feeding on a dead giraffe whose rib cage was open to us, with vultures standing inside in the shade of this umbrella strut canopy. Oh the wonder of seeing it all. The juxtapositions and movement of stripes and spots, and trunks lifted in greeting and watering. Are we safe? Yes. first photographs through the slanted windshield glass. Not acceptable. Turn the truck crosswise on the dirt road approach to the turnaround. Ah, now the view can be recorded. How fortunate that we didn't have other cars forcing our movement and greater still the fortune that the elephants were calm with us, the vultures, the zebras, and no doubt other species lost in the hubub. All pressed deep into my memory. I have now seen the Etosha Pan. And I long to see even more. The elephants began milling away to the left, evaporating into the mopane forest again. We can breathe again. We leave a bit exhausted with having done really nothing but watch the world unfold before us. Mopane, a magnificent scrubby tree of lime green against the blazing white sands and rocks. Mopane, with branches and trunks torn asunder by the elephants feeding each day. Wildlife at our sides as we return to the main road. Did I really see what I saw? It was pressed firmly in the rubbery recesses of memory. And the day blazed blue again. 12412

12413 NAMIBIA: Oshikoto Region Etosha Pan National Park, flats near Chudob, 3 km NW of Chudob, main road Highway C 38, S 18.849792 E 16.896659 1097 m, 22-Nov-2018 C. R. Nelson # 12413 & J. K. Nelson & Han√© Brink 100 Wypt 122flatsnearchudob 7:37 am 12413

12414 NAMIBIA: Oshikoto Region Etosha Pan National Park, 4 km NE of turnoff to Kalkheuwel Waterhole, main road Highway C 38, S 18.838522 E 16.853116 1097 m, 22-Nov-2018 C. R. Nelson # 12414 & J. K. Nelson & Han√© Brink 100 Wypt 123flats 2 7:46 am 12414

12415 NAMIBIA: Oshikoto Region Etosha Pan National Park, 1.5 km NE of turnoff to Kalkheuwel Waterhole, main road Highway C 38, S 18.858395 E 16.840855 1095 m, 22-Nov-2018 C. R. Nelson # 12415 & J. K. Nelson & Han√© Brink 100 Wypt 124rhino Photos: white rhinoceros 12415

12416 NAMIBIA: Oshikoto Region Etosha Pan National Park, 0.4 km NE of turnoff to Kalkheuwel Waterhole, main road Highway C 38, S 18.864024 E 16.832880 1097 m, 22-Nov-2018 C. R. Nelson # 12416 & J. K. Nelson & Han√© Brink 100 Wypt 125steenbok 8:02 am Photos: steenbok 12416

12417 NAMIBIA: Oshikoto Region Etosha Pan National Park, 2.4 km NW of turnoff to Kalkheuwel Waterhole, main road Highway C 38, S 18.856531 E 16.810858 1096 m, 22-

Nov-2018 C. R. Nelson # 12417 & J. K. Nelson & Han√© Brink 100 Wypt 126 blue wild 8:13 am Photos: blue wildebeest 12417

12418 NAMIBIA: Oshikoto Region Etosha Pan National Park, 4 km NE of Ngobib Waterhole, main road Highway C 38, S 18.860527 E 16.779380 1104 m, 22-Nov-2018 C. R. Nelson # 12418 & J. K. Nelson & Han√© Brink 100 Wypt 127 elephants 8:22 am Photos: elephants 12418

12419 NAMIBIA: Oshikoto Region Etosha Pan National Park, 3.3 km NW of Ngobib Waterhole, main road Highway C 38, S 18.865794 E 16.765692 1101 m, 22-Nov-2018 C. R. Nelson # 12419 & J. K. Nelson & Han√© Brink 100 Wypt 128blackkorhann 8:32 am Photos: black korhann bird 12419

12420 NAMIBIA: Oshikoto Region Etosha Pan National Park, 1.3 km SW of Springbokfountein Waterhole, main road Highway C 38, S 18.941307 E 16.692711 1092 m, 22-Nov-2018 C. R. Nelson # 12420 & J. K. Nelson & Han√© Brink 100 Wypt 130wildebeest spring fontein 9:06 am Photos: wildebeest 12420

12421 NAMIBIA: Oshikoto Region Etosha Pan National Park, 3.5 km NW of Springbokfountein Waterhole, main road Highway C 38, S 18.938619 E 16.663336 1099 m, 22-Nov-2018 C. R. Nelson # 12421 & J. K. Nelson & Han√© Brink 100 Wypt 131ostriches 9:06 am Photos: ostriches 12421

12422 NAMIBIA: Oshikoto Region Etosha Pan National Park, 16 air km east of Etosha Lookout turnoff, main road Highway C 38, S 18.946096 E 16.641991 1101 m, 22-Nov-2018 C. R. Nelson # 12422 & J. K. Nelson & Han√© Brink 100 Wypt 132giraffe 9:22 am 12422

12423 NAMIBIA: Oshikoto Region Etosha Pan National Park, 14 air km east of Etosha Lookout turnoff, main road Highway C 38, S 18.950818 E 16.618338 1097 m, 22-Nov-2018 C. R. Nelson # 12423 & J. K. Nelson & Han√© Brink 100 Wypt 133redhartebeest 9:27 am Photos: red hartebeest 12423

12424 NAMIBIA: Oshikoto Region Etosha Pan National Park, 12 air km east of Etosha Lookout turnoff, main road Highway C 38, S 18.943049 E 16.608852 1094 m, 22-Nov-2018 C. R. Nelson # 12424 & J. K. Nelson & Han√© Brink 100 Wypt 134purpleroller 9:33 am Photos: purple roller bird. 12424

12425 NAMIBIA: Oshikoto Region Etosha Pan National Park, rest area and toilet, 10 air km east of Etosha Lookout turnoff, main road Highway C 38, S 18.933185 E 16.586823 1093 m, 22-Nov-2018 C. R. Nelson # 12425 & J. K. Nelson & Han√© Brink 100 Wypt 135toilet pan 9:44 am 12425

12426 NAMIBIA: Oshikoto Region Etosha Pan National Park, Etosha Pan View Area, Etosha Lookout, S 18.93048 E 16.48755 1087 m, 22-Nov-2018 C. R. Nelson # 12426 & J. K. Nelson & Han√© Brink 100 Google Earth Photos: view to flats, people jumping. Met a bus load of French people. Numbered out of order. (compared to what? CRN 16 Dec 2018) 12426

12427 NAMIBIA: Oshikoto Region Etosha Pan National Park, 2 km east of Etosha Lookout, main road Highway C 38, S 18.961544 E 16.516605 1105 m, 22-Nov-2018 C. R. Nelson # 12427 & J. K. Nelson & Han√© Brink 100 Wypt 136giraffemopane 12427

12428 NAMIBIA: Oshikoto Region Etosha Pan National Park, 0.3 km east of Etosha Lookout, main road Highway C 38, S 18.957997 E 16.499351 1099 m, 22-Nov-2018 C. R. Nelson # 12428 & J. K. Nelson & Han√© Brink 100 Wypt 137ostriches pan 9:59 am 12428

12429 NAMIBIA: Oshikoto Region Etosha Pan National Park, road marker intersection, 3.2 km east of Reitfontein Waterhole, main road Highway C 38, S 19.012261 E 16.355071 1108 m, 22-Nov-2018 C. R. Nelson # 12429 & J. K. Nelson & Han√© Brink 100 Wypt 138leopardsign 10:54 am Photos: hole in road marker where leopard cubs were seen a couple days earlier 12429

12430 NAMIBIA: Oshikoto Region Etosha Pan National Park, Rietfontein Waterhole, S 19.036302 E 16.341175 1109 m, 22-Nov-2018 C. R. Nelson # 12430 & J. K. Nelson & Han√© Brink 100 Wypt 139rietfontein 11:06 am 12430

12431 NAMIBIA: Oshikoto Region Etosha Pan National Park, 4.5 km west of Rietfontein Waterhole, main road Highway C 38, S 19.038896 E 16.299380 1112 m, 22-Nov-2018 C. R. Nelson # 12431 & J. K. Nelson & Han√© Brink 100 Wypt 140 ostrich family 11:14 am Photos: ostrich family 12431

12432 NAMIBIA: Oshikoto Region Etosha Pan National Park, 4 km west of turnoff to Salvadora, main road Highway C 38, S 19.060743 E 16.267144 1103 m, 22-Nov-2018 C. R. Nelson # 12432 & J. K. Nelson & Han√© Brink 100 Wypt 142savanna photos 11:19 am Photos: savanna 12432

12433 NAMIBIA: Oshikoto Region Etosha Pan National Park, 1.2 km east of west turnoff to Sueda & Salvadora Waterholes, main road Highway C 38, S 19.055753 E 16.237696 1094 m, 22-Nov-2018 C. R. Nelson # 12433 & J. K. Nelson & Han√© Brink 100 Wypt 143secretary bird 11:25 am Photos: secretary bird 12433

12434 NAMIBIA: Oshikoto Region Etosha Pan National Park, Ondongab Waterhole, S 19.104491 E 16.110638 1085 m, 22-Nov-2018 C. R. Nelson # 12434 & J. K. Nelson & Han√© Brink 100 Wypt 144weaverbirdondongab 11:48 am 12434

12435 NAMIBIA: Oshikoto Region Etosha Pan National Park, 12 km east of Okaukuejo, main road, Hwy C 38, S 19.152272 E 16.028826 1095 m, 22-Nov-2018 C. R. Nelson # 12435 & J. K. Nelson & Han√© Brink 100 Wypt 145 one gemsbokmanyspring 12:06 pm one oryx, many springbok 12435

12436 NAMIBIA: Oshikoto Region Etosha Pan National Park, Nebrowni Waterhole, 8.3 km east of Okaukuejo, main road, Hwy C 38, S 19.161225 E 15.994770 1102 m, 22-Nov-2018 C. R. Nelson # 12436 & J. K. Nelson & Han√© Brink 100 Wypt 146nebrowniLion 12:33 pm Photos: lions, elephants, springbok, 12436

12437 NAMIBIA: Oshikoto Region Etosha Pan National Park, massive weaverbird nest, south of main road, 1 km east of Okaukuejo, main road, Hwy C 38, S 19.175791 E 15.927658 1116 m, 22-Nov-2018 C. R. Nelson # 12437 & J. K. Nelson & Han√© Brink 100 Wypt 147weaverbirdnest 12:42 pm Photos: weaverbird nest in tree. Big tree easily seen with Google Earth. 12437

12438 NAMIBIA: Oshikoto Region Etosha Pan National Park, Okaukuejo, waterhole, lake, S 19.180911 E 15.916305 1113 m, 22-Nov-2018 C. R. Nelson # 12438 & J. K. Nelson & Han√© Brink 100 Wypt 148okaukuejogate 1:01 pm Photos: elephants, oryx, zebra, giraffe, springbok, impala 12438

12439 NAMIBIA: Kunene Region Hwy M 63, 21 km south of Outjo, S 20.298845 E 16.147726 1198 m, 22-Nov-2018 C. R. Nelson # 12439 & J. K. Nelson & Han√© Brink 100 Wypt 150termite hill M63 3:44 pm Photos: termite nests 12439

12440 NAMIBIA: Erongo Region Walvis Bay, Lagoon Chalet, S 22.981103 E 14.486898 2 m, 22-Nov-2018 23-Nov-2018 C. R. Nelson # 12440 & J. K. Nelson & Han√© Brink 100 Wypt 151walvischalet 8:43 am on 23 November 2018 Also, Wypt 157lagoonchalet 7:12 am. S 22.980976 E 14.486772 elev. 3 m.

Also, photos of dried specimen of hawksbill sea turtle at a second hand shop nearer downtown. 12440

12441 NAMIBIA: Erongo Region Walvis Bay, lagoon, S 23.974974 E 14.48575 0 m, 23-Nov-2018 C. R. Nelson # 12441 & J. K. Nelson & Han√© Brink 100 Wypt 152walvisflingos 11:09 am Photos & videos: lesser flamingos, greater flamingos, several other shorebirds, 12441

12442 NAMIBIA: Erongo Region Dune 7, east of Walvis Bay, Hwy C 34, S 22.970048 E 14.597619 12 m, 23-Nov-2018 24-Nov-2018 C. R. Nelson # 12442 & J. K. Nelson & Han√© Brink 100 Wypt 154dune7 1:16 pm 23 November: Photos: dunes, bottle, glass.

24 November: on top of Dune 7 at 8:08 pm.

Climbed dune then headed north on Highway C 34 on salt compacted road before east on Highway C 28 then north on D 1991 or was it D 1901. 23 November: Photos: Formicidae, beautiful red and black with long golden abdominal hairs, Tenebrionidae.

24 November: house sparrows? at restroom. 12442

12443 NAMIBIA: Erongo Region Long Beach, north of Walvis Bay, Square Rock Beach, S 22.709755 E 14.524378 2 m, 23-Nov-2018 C. R. Nelson # 12443 & J. K. Nelson & Han√© Brink 100 Wypt 155squarerockbeach 4:26 pm rock. Photos: gulls, watching for dolphins and seals. 12443

12444 NAMIBIA: Erongo Region Swakopmund, pier S 22.680740 E 14.519054 10 m, 23-Nov-2018 C. R. Nelson # 12444 & J. K. Nelson & Han√© Brink 100 Wypt 156endofpier Photos: scenery, dinner at the Jetty 1905 Restaurant. Photos: cormorants. Saw Cape sparrows in town near base of pier. 12444

12445 NAMIBIA: Erongo Region Walvis Bay, inland wastewater lagoon, bird place, S 22.963341 E 14.516313 1 m, 24-Nov-2018 C. R. Nelson # 12445 & J. K. Nelson & Han√© Brink 100 Wypt 157walvissewage bird place 7:30 am Beware soft sand, use good car. Photos: big gallinule, white backed mousebird, lesser flamingos many, greater flamingos. 12445

12446 NAMIBIA: Erongo Region Namib Naukluft National Park, Moonscape, east of Walvis Bay, overlook, S 22.690234 E 14.790989 300 m, 24-Nov-2018 C. R. Nelson # 12446 & J. K. Nelson & Han√© Brink 100 Wypt 160moonscape 9:18 am Photos: scenery, panoramas. 12446

12447 NAMIBIA: Erongo Region Namib Naukluft National Park, Welwitschia Plain, S 22.660407 E 14.996953 403 m, 24-Nov-2018 C. R. Nelson # 12447 & J. K. Nelson & Han√© Brink 100 Wypt 161welwiplain 9:56 am Photos: scenery, Welwitschia Plain. In through Moonscape back out to south to Hwy C 28. Photos: Welwitschia mirabilis, first photographed from truck moving at 9:51 am. 12447

12448 NAMIBIA: Erongo Region Namib Naukluft National Park, Groot Welwitschia, viewing area, S 22.669104 E 15.028189 400 m, 24-Nov-2018 C. R. Nelson # 12448 & J. K. Nelson & Han√© Brink 100 Wypt 162grootwelwitschia 10:15 am Photos: scenery, Welwitschia Plain. This was a highlight to see this odd plant. I am so glad I got to come here! Photos: Groot Welwitschia, Welwitschia mirabilis, signs say it is 1500 years old, first pictures of it taken at

10:02 am; Pyrrhocoridae, from Wikipedia it is: Probergrothius angolensis, mating, not sure if it is a predator or pollinator on Welwitschia, or maybe both. Photos: other plants: Photos: ostriches & tracks. 12448

12449 NAMIBIA: Erongo Region 66 air km east of Swakopmund, Hwy C 28, S 22.896909 E 15.143717 482 m, 24-Nov-2018 C. R. Nelson # 12449 & J. K. Nelson & Han√© Brink 100 Wypt 163mirages 11:55 am Photos: mirages. 12449

12450 NAMIBIA: Erongo Region 119 air km east of Swakopmund, Hwy C 28, S 22.891181 E 15.671488 1119 m, 24-Nov-2018 C. R. Nelson # 12450 & J. K. Nelson & Han√© Brink 100 Wypt 164quivertree 12:36 pm Photos: quiver tree. Aloidendron dichotomum. 12450

12451 NAMIBIA: Erongo Region 122 air km east of Swakopmund, Hwy C 28, S 22.874396 E 15.702952 1143 m, 24-Nov-2018 C. R. Nelson # 12451 & J. K. Nelson & Han√© Brink 100 Wypt 165 "turtle rock" 12:41 pm Photos: my made up names: "Turtle Rock", looking for Witwatersberg Mountains. 12451

12452 NAMIBIA: Erongo Region 125 air km east of Swakopmund, Hwy C 28, turnoff for Road 1985, S 22.853711 E 15.734384 1167 m, 24-Nov-2018 C. R. Nelson # 12452 & J. K. Nelson & Han√© Brink 100 Wypt 166near1985 12:47 pm turnoff for road 1985 Photos: turnoff. 12452

12453 NAMIBIA: Erongo Region Donkerkuk Ranch, 132 air km east of Swakopmund, Hwy C 28, S 22.760861 E 15.810501 1271 m, 24-Nov-2018 C. R. Nelson # 12453 & J. K. Nelson & Han√© Brink 100 Wypt 167donkerkukranch 12:59 pm Photos: turnoff. 12453

12454 NAMIBIA: Khomas Region Boshua Pass, western flank, Hwy C 28, S 22.675264 E 16.043736 1465 m, 24-Nov-2018 C. R. Nelson # 12454 & J. K. Nelson & Han√© Brink 100 Wypt 168boshuapassup 1:31 pm 12454

12455 NAMIBIA: Khomas Region Boshua Pass, top, Hwy C 28, S 22.675063 E 16.046531 1515 m, 24-Nov-2018 C. R. Nelson # 12455 & J. K. Nelson & Han√© Brink 100 Wypt 169boshuapasstop 1:33 pm Photos: butter tree Cyphostemma currorii, Vitaceae. Beat some vegetation for Mantophasmatodea, found none. 12455

12456 NAMIBIA: Khomas Region 103 air km west of Windhoek, Hwy C 28, S 22.716057 E 16.087769 1687 m, 24-Nov-2018 C. R. Nelson # 12456 & J. K. Nelson & Han√© Brink 100 Wypt 170baboon 2:14 pm Photos: Chacma baboons 12456

12457 NAMIBIA: Khomas Region 86 air km west of Windhoek, Hwy C 28, S 22.819851 E 16.275057 1697 m, 24-Nov-2018 C. R. Nelson # 12457 & J. K. Nelson & Han√© Brink 100 Wypt 171jackal 2:47 pm Photos: black backed jackal 12457

12458 NAMIBIA: Khomas Region 82 air km west of Windhoek, Hwy C 28, dirt road, S 22.812708 E 16.307458 1678 m, 24-Nov-2018 C. R. Nelson # 12458 & J. K. Nelson & Han√© Brink 100 Wypt 172aloes 2:52 pm Photos: tree aloes. 12458

12459 NAMIBIA: Khomas Region 76 air km west of Windhoek, Hwy C 28, dirt road, S 22.765494 E 16.358023 1723 m, 24-Nov-2018 C. R. Nelson # 12459 & J. K. Nelson & Han√© Brink 100 Wypt 173baboonswater 3:01 pm Photos: 12459

12460 NAMIBIA: Khomas Region 64 air km west of Windhoek, Hwy C 28, dirt road, S 22.732793 E 16.467461 1683 m, 24-Nov-2018 C. R. Nelson # 12460 & J. K. Nelson & Han√© Brink 100 Wypt 174kudu 3:16 pm Photos: 12460

12461 NAMIBIA: Khomas Region 55 air km west of Windhoek, Hwy C 28, dirt road, S 22.695558 E 16.540988 1645 m, 24-Nov-2018 C. R. Nelson # 12461 & J. K. Nelson & Han√© Brink 100 Wypt 175nomantophasmat 3:36 pm Searched, No Mantophasmatodea, on grass and legumes. 12461

12462 NAMIBIA: Khomas Region 46 air km west of Windhoek, Hwy C 28, dirt road, S 22.667686 E 16.624725 1627 m, 24-Nov-2018 C. R. Nelson # 12462 & J. K. Nelson & Han√© Brink 100 Wypt 176steenbok 3:47 pm Photos: steenbok 12462

12463 NAMIBIA: Khomas Region 27 air km west of Windhoek, Hwy C 28, dirt road, S 22.604172 E 16.809660 1811 m, 24-Nov-2018 C. R. Nelson # 12463 & J. K. Nelson & Han√© Brink 100 Wypt 178camelthorntree 4:09 pm "Photos: camelthorn tree, Family: Fabaceae: Vachellia erioloba" 12463

12464 NAMIBIA: Khomas Region 24 air km west of Windhoek, Hwy C 28, dirt road, S 22.607601 E 16.838975 1819 m, 24-Nov-2018 C. R. Nelson # 12464 & J. K. Nelson & Han√© Brink 100 Wypt 179waterbuck 4:16 pm Photos: waterbucks 12464

12465 NAMIBIA: Khomas Region "Location", "Township", neighborhood, 7 air km west of Windhoek, Hwy C 28? paved, S 22.565045 E 17.014613 1626 m, 24-Nov-2018 C. R. Nelson # 12465 & J. K. Nelson & Han√© Brink 100 Wypt 180locationwindhoek 4:30 pm Photos: homes on edge of Windhoek. Simple homes. 12465

12466 NAMIBIA: Khomas Region Windhoek, Hotel Safari, 3 km south of downtown, S 22.595441 E 17.081921 1683 m, 24-Nov-2018 C. R. Nelson # 12466 & J. K. Nelson & Han√© Brink 100 Wypt 181hotelbeeeater 2:34 pm 30 Nov 2018 Photos with Nikon, arrival at Hotel Safari for time of end of our long safari. Then later Wypt 181hotelbeeeater, behind hotel, back service area good for birds and mammals. Many people pictures in Conference Center of the Ninth International Congress of Dipterology over the course of several days 24-30 November 2018. 12466

12467 NAMIBIA: Khomas Region Windhoek, downtown area, S 22.566456 E 17.083103 1671 m, 30-Nov-2018 C. R. Nelson # 12467 & J. K. Nelson & Browns 100 Wypt 182meteorite 4:49 pm Photos: meteorites in small plaza. Shopping with Vicky and Brian V. Brown. Also, dinner at Joes Beerhouse. Wypt 183joesbeerhouse S 22.550877 E 17.090351 elev. 1647 m. 5:57 pm 30 November 2018, dinner with Dan Bickel of Australia, Neal Evenhuis of Hawaii, Emily Hartop and companion Frank of Sweden (Emily was a Brian Brown student). 12467

12468 NAMIBIA: Khomas Region Heja (pronounced Hey yuh) Game Lodge Reception Area, S 22.536843 E 17.193325 1927 m, 01-Dec-2018 C. R. Nelson # 12468 & J. K. Nelson & Whitworths 100 Wypt 184hejagame 7:17 am with Faye and Terry Whitworth (of Tacoma, Washington area.) Terry was a graduate student with Wilford Hanson in the 1970s and studied calliphorid flies before I arrived in Wil's museum lab. Took photos here before and after the game ride. Also: Wypt 187hejagamehq S 22.536105 E 17.193829 elev. 1931 m at 11:43 am. We stayed at Heja and ate lunch waiting for our flight out. Matthew the taxi driver picked us up around 1:30pm. Photos: southern masked weavers! good photos among many less so during the trip. 12468

12469 NAMIBIA: Khomas Region Heja Game Lodge, game drive, starting at airstrip gate, S 22.482018 E 17.188515 1918 m, 01-Dec-2018 C. R. Nelson # 12469 & J. K. Nelson & Whitworths 100 Wypt 185airstrip was 7:45 am with Faye and Terry Whitworth. Wypt 186riverbed S 22.469677 E 17.191475 elev. 1900 m 9:08 am. End of Namibia trip in airport, tarmac: Wypt 188endnamibia S 22.486733 E 17.461350 elev. 1713 m, 4:49 pm. See blackbook list, many photos. 12469

12470 NAMIBIA to ANGOLA KLM Airline flight. S xx E xx xx m, 01-Dec-2018 C. R. Nelson # 12470 & J. K. Nelson 100 Wypt 189etoshapan S 18.655690 E 16.466295 elev 12000 m 6:02 pm. Wypt 190kavangoarea (north of Etosha Pan) S 17.696441 E 15.976483 12000 m 6:10 pm. Wypt 191nearbigriver S 17.105512 elev. 12000 m, 6:15 pm, hint of river. Wypt 192River valley S 16.732957 E 15.616870 elev. 12000 m, 6:18 pm good river. Wypt 193bigRiver S 16.422491 E 15.520382 elev. 12000 m, 6:20 pm. Wypt 194east to okavango (sort of) S 15.067327 E 15.102759 elev. 12000, 6:31pm soon came sunset. Wypt 195luandastop (airport) S 8.849753 E 13.235595 elev. 102 m couldn't leave plane. 12470

12471 NETHERLANDS - UNITED STATES Delta Airline flight. D57 over Shetland Islands, Faroe Islands, Iceland, and Greenland, Photos & GPS with iPhone S xx E xx xx m, 02-Dec-2018 C. R. Nelson # 12471 & J. K. Nelson 100 Wypt 197 amsterdampsychodid N 52.309664 E 4.765378 elev. -1 m, Psychodidae in nice bathroom at airport. Wypt 198 takeoff climb Amsterdam N 52.182656 E 4.858398 elev. 1961 m, to south of airport. Wypt 199edgewaddenzee N 53.470540 E 5.181289 alt. 8206 m. Wypt 200northseanear1pm N

59.407552 E 2.299692 alt. 9407 m, North Sea between Norway and Orkney Islands. Wypt 201 Faroe Islands N 60.705439 E 0.678958 alt. 9328 m, 111 km east of Shetland, Shetland Islands. Wypt 202 Iceland east N 65.800989 W 13.451451 alt 9061 m, 439 km east of Reykjavik. Wypt 203 66 north iceland 1:11 pm, N 66.016276 W 14.483436 alt 9062 m, 14 km east of Bakkafjordur, Iceland. Wypt 204 66 northsunat 1:13pm N 66.114395 W 14.969884 alt. 9056 m, 12 km NW of Bakkfjordur, Iceland. Wypt 205 Greenland east coast N 68.047642 W 31.941411 alt 9043 m, 3:09 pm on GPS, mouth large fjord east coast Greenland. Wypt 207 Greenland across N 67.631046 W 54.556222 alt. 9657 m, west coast Greenland, 400 km north of Nuuk. Wypt 208 airport Utah (airport Utah?) N 40.763525 W 111.979169 elev. 1289 m, Salt Lake Airport, 2:59 pm GPS local, crossing I-80. Done! 12471

12472 USA: UTAH: Utah Co., Provo, BYU, Y Mountain from 2119 LSB, N 40.245091 W 111.648532 1398 m, 05-Dec-2018 C. R. Nelson # 12472 & J. K. Nelson 101 Wypt 001 office LSB Photo: Y Mountain in snow. 12472

12473 USA: UTAH: Davis Co. Bountiful, Debby Smith's home, N 40.867012 W 111.869033 1336 m, 16-Dec-2018 C. R. Nelson # 12473 & J. K. Nelson 101 iPhone photo Photo: people. Riley Nelson, Kaye Nelson, Debby Smith, Todd Smith, Amy Smith, Wolfgang Smith, Leah Smith, Andrea Nelson, Tricia Davis, Olivia Davis, Gavin Davis, Jeff Smith, Carlee Smith. 12473

12474 USA: UTAH: Utah Co., Provo, BYU, Nelson office, 2119 LSB, N 40.245091 W 111.648532 1398 m, 19-Dec-2018 C. R. Nelson # 12474 101 Wypt 001 office LSB Photos: Sophie Lasswell and Maura Brumbaugh with gifts for teaching Biology class. 12474

12475 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 20-Dec-2018 C. R. Nelson # 12475 101 Photos: sunrise from house patio, for solstice if it doesn't show through the clouds tomorrow. 12475

12476 USA: UTAH: Utah Co., Utah Lake, Provo airport dike road, N 40.232072 W 111.736901 1371 m 21-Dec-2018 C. R. Nelson # 12476 101 Google Earth: corner of road Photos: scenery at northwest dike, first bull of to the south and at the corner. 161 m SE of corner. Dreary day, but I like water every day. 12476

12477 USA: UTAH: Utah Co., Orem, Stonehenge Care Center, N 40.296935 W 111.705526 1452 m 21-Dec-2018 C. R. Nelson # 12477 & J. K. Nelson 101 Wypt 003 stonehenge orem Photos: selfies and scenery. 12477

12478 USA: UTAH: Davis Co. Bountiful, Chuck-A-Rama Restaurant, 212 North 500 West. N 40.88713 W 111.892487 1316 m 21-Dec-2018 C. R. Nelson # 12478 & family 101 iPhone

photo Photos: group of Nelson clan. Kaye, Riley, Rick, Lana Nelson. Sally, William, Henry, Andrew, Griffin, and Jenna Wright. 12478

12479 USA: UTAH: Utah Co., Utah Lake, Utah Lake State Park, Provo, South Jetty, N 40.240917 W 111.746561 1361 m 21-Dec-2018 C. R. Nelson # 12479 101 Wypt 004utah lake south Photos: people, sunset, Mount Timpanogos, Cascade Mountain, Mount Nebo, Provo, and Orem. with Kaye, Karla & John Bennion, and Rachel & Clint Whipple. 12479

12480 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Dec-2018 C. R. Nelson # 12480 & J. K. Nelson & whole family. 101 Photos: people. Merry Christmas. family group shot. Riley, Kaye, Jason, Brandy, Artemis, Astrid, Andrea Nelson; Jordan Christopher; Amy, Todd, Wolfgang, and Leah Smith. 12480

12481 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 28-Dec-2018 C. R. Nelson # 12481 101 Makani Fisher's label: USA: UTAH: Washington Co.

Santa Clara River, Gunlock Road, ↗

After Shem Dam and Shivwits Indian Reservation. 37.2137 N, 113.7756 W, ↗

elev: 1014 m, ↗ 24 May 2018, ↗

M.L. Fisher, G. Powell, and beetle folks.

Tineidae: Nemapogon defectella

Det M. L. Fisher, 2018.

On shelf fungus on Populus fremontii.

Photos: shelf fungus moths, fungus collected by Makani Fisher around the end of August? Where? around Provo? 12481

12482 USA: UTAH: Salt Lake Co. Living Planet Aquarium, Draper, 12033 Lone Peak Parkway, N 40.532089 W 111.893745 1349 m 28-Dec-2018 C. R. Nelson # 12482 & family 101 Wypt 005aquarium (entrance) Photos: group shots of two mixed families, Nelsons and Smiths. Riley, Kaye, Jason, Brandy, Artemis, Astrid, Andrea Nelson; Jordan Christopher; Amy, Todd, Wolfgang, and Leah Smith. Debby, Jeff, and Carlee Smith. James, Kristin, and Genevieve Smith. Peggy and Les Bryan (parents of Debby); Trisha, Gavin, and Olivia Davis. Photos: many animals 12482

12483 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle, N 39.958623 W 111.26763 1860 m, 29-Dec-2018 C. R. Nelson # 12483 & J. K. Nelson & family 101 started red snow snowmobile and small four wheeler. Pulled kids on sled behind snowmobile. Riley, Kaye, Jason, Brandy, Artemis, Astrid Nelson. Limb, Poerava, Alix age 6, Brodien age nearly 2. Andrea Nelson and Jordan Christopher. 12483

12484 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB N 40.24517 W 111.64909 1404 m 05-Jan-2019 C. R. Nelson # 12484 101 USA : New York: St. Lawrence Co., Glenmeal State Forest, rock mound by NW trailhead 1 km S of Pierrepont, N 44.53091 W 75.01867, elev: 247 m, 5.i.2019, col. TA & KB McKnight, TAM #1219.1. NY specimens mailed from Tristan McKnight Tipulidae: Chionea sp.; 20190111chionea; 12484

12485 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 06-Jan-2019 C. R. Nelson # 12485 101 6jan backyard birds, 12485

12486 USA: UTAH: Utah Co., Provo River, BYU Riverside Park, 2230 N 300 W near pavilion N 40.26505 W 111.66360 1414 m 12-Jan-2019 C. R. Nelson # 12486 101 Wypt_006provo_.gpx 20190113bio100provo; 12 Jan provo river people 12486

12487 USA: UTAH: Utah Co., Lehi, Thanksgiving Point, Butterfly Biosphere; 6pm 12-Jan-2019 12487 Wypt_007.gpx 12487

12488 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 20-Jan-2019 C. R. Nelson # 12488 20190120moon, lunar eclipse, home 12488

12489 USA: UTAH: Utah Co., Utah Lake, Lincoln Beach N 40.14517 W 111.80307 1368 m 26-Jan-2019 C. R. Nelson # 12489 Wypt_008lincolnbeach.gpx 12489

refer to Gunlock C. R. Nelson # 29jan in lab from old Gunlock; one shot of Y Mountain on 7Feb; 20190207shelffungus

12490 USA: WISCONSIN: N 42.50107 W 87.99029 11039 m 08-Feb-2019 C. R. Nelson # 12490 Wypt_009overkenosha.gpx airline flight; 20190218brazilall 12490

12490.3 USA: NEW JERSEY: over Paterson, NJ N 40.91662 W 74.16465 5764 m 08-Feb-2019 C. R. Nelson # 12490.3 & M. C. Belk Wypt_010hudsonrivervalley.gpx airline flight 12490.3

12490.6 USA: NEW YORK: near Belle Harbor, NY N 40.51689 W 73.88334 3445 m 08-Feb-2019 C. R. Nelson # 12490.6 & M. C. Belk Wypt_011longislandshore.gpx 12490.6

12491 BRAZIL: east of Sao Paulo, BRAZIL S 23.10409 W 46.10258 5133 m 09-Feb-2019 C. R. Nelson # 12491 & M. C. Belk Wypt_012eastsaopaulo.gpx 12491

12592 BRAZIL: Mato Grosso do Sul Campo Grande, BRAZIL S 20.45616 W 54.67309 569 m 09-Feb-2019 C. R. Nelson # 12492 , M. C. Belk, A. Godinho Wypt_013campogrande.gpx 12492

12493 BRAZIL: Mato Grosso do Sul east of Campo Grande S 20.50313 W 54.25107 455 m
10-Feb-2019 C. R. Nelson # 12493 , M. C. Belk, A. Godinho
Wypt_014corregoguariroba_.gpx 12493

12494 BRAZIL: Mato Grosso do Sul 50 km W of Agua Clara S 20.46618 W 53.45363 428 m
10-Feb-2019 C. R. Nelson # 12494 , M. C. Belk, A. Godinho Wypt_015rhea.gpx 12494

12495 BRAZIL: Mato Grosso do Sul 40 km w of Agua Clara S 20.44092 W 53.27541 478 m
10-Feb-2019 C. R. Nelson # 12495 , M. C. Belk, A. Godinho Wypt_016tapir.gpx dead tapir
12495

12496 BRAZIL: Mato Grosso do Sul 30 km w of Agua Clara S 20.41217 W 53.18380 368 m
10-Feb-2019 C. R. Nelson # 12496 , M. C. Belk, A. Godinho Wypt_017morerhea.gpx
12496

12497 BRAZIL: Mato Grosso do Sul Agua Clara S 20.44356 W 52.88477 330 m 10-Feb-
2019 C. R. Nelson # 12497 , M. C. Belk, A. Godinho Wypt_018aguaclara.gpx Millenium
Plaza Hotel 12497

12498 BRAZIL: Mato Grosso do Sul near dam, Sao Domingos Dam, approaching biologist
camp S 20.05360 W 53.17476 367 m 10-Feb-2019 C. R. Nelson # 12498 , M. C. Belk, A.
Godinho Wypt_019riooverderhea.gpx 12498

12499 BRAZIL: Mato Grosso do Sul Sao Domingos Dam biologist camp S 20.05272 W
53.17909 352 m 10-Feb-2019 C. R. Nelson # 12499 , M. C. Belk, A. Godinho
Wypt_020reservoirhouse.gpx 12499

12500 BRAZIL: Mato Grosso do Sul upper limit of trip up Rio Sao Domingos S 19.94862 W
53.19151 351 m 10-Feb-2019 C. R. Nelson # 12500 , M. C. Belk, A. Godinho
Wypt_021upperrioreservoir.gpx 12500

12501 BRAZIL: Mato Grosso do Sul net 1 end up Rio Sao Domingos arm of Sao Domingo
Reservoir S 20.03824 W 53.19064 341 m 10-Feb-2019 C. R. Nelson # 12501 , M. C. Belk, A.
Godinho Wypt_022net1end.gpx 12501

12502 BRAZIL: Mato Grosso do Sul net 2, perpendicular end up Rio Sao Domingos arm of
Sao Domingo Reservoir S 20.04095 W 53.19093 344 m 10-Feb-2019 C. R. Nelson # 12502 ,
M. C. Belk, A. Godinho Wypt_023net2perpend.gpx 12502

12503 BRAZIL: Mato Grosso do Sul reservoir camp, same as 12496 S 20.05299 W
53.17904 361 m 11-Feb-2019 C. R. Nelson # 12503 , M. C. Belk, A. Godinho
Wypt_024reservoircamp.gpx 12503

12504 BRAZIL: Mato Grosso do Sul fish "ladder" below Rio Sao Domingo Reservoir S 20.06682 W 53.17762 317 m 12-Feb-2019 C. R. Nelson # 12504 , M. C. Belk, A. Godinho Wypt_025fishtrap.gpx 12504

12505 BRAZIL: Mato Grosso do Sul tail race of Rio Sao Domingo Reservoir S 20.06444 W 53.17784 314 m 12-Feb-2019 C. R. Nelson # 12505 , M. C. Belk, A. Godinho Wypt_026tail_race.gpx 12505

12506 BRAZIL: Mato Grosso do Sul 30 km E of Nioaque ir 60 km W of Sidrolandia S 21.21843 W 55.54990 596 m 13-Feb-2019 C. R. Nelson # 12506 , M. C. Belk, A. Godinho Wypt_027rheassidrolandiaw.gpx rhea 12506

12507 BRAZIL: Mato Grosso do Sul Bonito, Aguas de Bonito Hotel S 21.13554 W 56.49101 310 m 13-Feb-2019 C. R. Nelson # 12507 , M. C. Belk, A. Godinho Wypt_028aguasdebonitohote.gpx also later days, spot where shot Dinoponera from Sao Domingo 12507

12508 BRAZIL: Mato Grosso do Sul Snorkeling north? Of Bonito C. R. Nelson # 12508 , M. C. Belk, A. Godinho 12508

12509 BRAZIL: Mato Grosso do Sul 5 km S of Bonito S 21.28093 W 56.43470 323 m 14-Feb-2019 C. R. Nelson # 12509 , M. C. Belk, A. Godinho Wypt_029rheabonito.gpx rhea, where is the first stream we snorkeled down? 12509

12510 BRAZIL: Mato Grosso do Sul 30 km S of Bonito S 21.36453 W 56.44794 350 m 14-Feb-2019 C. R. Nelson # 12510 , M. C. Belk, A. Godinho Wypt_030termites.gpx termite mounds 12510

12511 BRAZIL: Mato Grosso do Sul Arararas sinkhole, northeast side S 21.49219 W 56.40255 325 m 14-Feb-2019 C. R. Nelson # 12511 , M. C. Belk, A. Godinho Wypt_031ararasinkhole.gpx macaw sinkhole 12511

12512 BRAZIL: Mato Grosso do Sul Araras Sinkhole, west side S 21.49138 W 56.40349 329 m 14-Feb-2019 C. R. Nelson # 12512 , M. C. Belk, A. Godinho Wypt_032araracliffwest.gpx 12512

12513 BRAZIL: Mato Grosso do Sul 60 km S of Bonito, hwy jct S 21.49453 W 56.44935 337 m 14-Feb-2019 C. R. Nelson # 12513 , M. C. Belk, A. Godinho Wypt_033anteaterflat.gpx dead anteater 12513

12514 BRAZIL: Mato Grosso do Sul 20 km S of Bonito S 21.31860 W 56.42934 320 m 14-Feb-2019 C. R. Nelson # 12514 , M. C. Belk, A. Godinho Wypt_034manytoucans.gpx tree with many toucans, 12514

12515 BRAZIL: Mato Grosso do Sul Blue Grotto, 9 air km W of Bonito S 21.14336 W
56.58776 406 m 15-Feb-2019 C. R. Nelson # 12515 , M. C. Belk, A. Godinho
Wypt_035grutaazul.gpx seriema 12515

BRAZIL: Mato Grosso do Sul Bonito, aquarium in town S 21.12713 W 56.48243 296 m 15-
Feb-2019 C. R. Nelson # , M. C. Belk, A. Godinho Wypt_036bonitoaquarium.gpx

BRAZIL: Mato Grosso do Sul Rio da Prata, snorkeling resort, 60 km S of Bonito S 21.46162
W 56.43967 315 m 15-Feb-2019 C. R. Nelson # , M. C. Belk, A. Godinho
Wypt_037riodaprata.gpx fish

BRAZIL: Mato Grosso do Sul Bonito Airport S 21.24358 W 56.45087 331 m 16-Feb-2019 C.
R. Nelson # , M. C. Belk, A. Godinho Wypt_038bonitoairport.gpx

BRAZIL: Mato Grosso do Sul 50 km SE of Corumba, over Albuquerque S 19.43905 W
57.43460 3575 m 16-Feb-2019 C. R. Nelson # , M. C. Belk, A. Godinho
Wypt_039approachcorumba.gpx airline flight

12516 BRAZIL: Mato Grosso do Sul 20 km E of Corumba, over Rio Paraguay S 19.01350 W
57.45712 1400 m 16-Feb-2019 C. R. Nelson # 12516 , M. C. Belk, A. Godinho
Wypt_040closercorumba.gpx airline flight 12516

12517 BRAZIL: Mato Grosso do Sul Corumba Airport S 19.01217 W 57.67380 140 m 16-
Feb-2019 C. R. Nelson # 12517 , M. C. Belk, A. Godinho Wypt_041corumbairport_.gpx
12517

12518 BRAZIL: Mato Grosso do Sul in air over Corumba S 19.01884 W 57.63770 2460 m
16-Feb-2019 C. R. Nelson # 12518 , M. C. Belk, A. Godinho Wypt_042leavingcorumba.gpx
combine with airport number; airline flight. 12518

12519 BRAZIL: Mato Grosso do Sul 70 km SE of Corumba S 19.27508 W 57.13873 6400 m
16-Feb-2019 C. R. Nelson # 12519 , M. C. Belk, A. Godinho
Wypt_043furtheroutcorumba.gpx heart of Pantanal from air; airline flight 12519

12520 BRAZIL: Mato Grosso do Sul big lake 60 km S of Tres Lagoas S 21.33352 W 51.88905
11234 16-Feb-2019 C. R. Nelson # 12520 , M. C. Belk, A. Godinho Wypt_044somelake.gpx
big lake, from air; airline flight. 12520

12521 BRAZIL: Sao Paulo "Campinas" Airport S 23.01731 W 47.11963 647 m 16-Feb-2019
C. R. Nelson # 12521 , M. C. Belk, A. Godinho Wypt_045campinasroad.gpx 12521

12522 BRAZIL: Sao Paulo Sao Paulo, crossing the Tropic of Capricorn S 23.50031 W
46.72774 756 m 16-Feb-2019 C. R. Nelson # 12522 & M. C. Belk Wypt_046tropic.gpx wild
storm, ride in taxi 12522

12523 BRAZIL: Sao Paulo Sao Paulo, crossing the Tropic of Capricorn S 23.51930 W 46.62008 720 m 16-Feb-2019 C. R. Nelson # 12523 & M. C. Belk Wypt_047saopaulostorm.gpx combine with previous 12523

12524 USA: COLORADO: 50 km NW of Colorado Springs N 39.04378 W 105.73395 11301 m 17-Feb-2019 C. R. Nelson # 12524 & M. C. Belk Wypt_048rockieswestcastle.gpx from air; airline flight 12524

12525 USA: COLORADO: 30 km N of Glenwood Springs N 39.86200 W 107.47244 11264 m 17-Feb-2019 C. R. Nelson # 12525 & M. C. Belk Wypt_049nearingdinosaur.gpx from air; airline flight 12525

12526 USA: UTAH: Duchesne Co. over Duchesne, Utah N 40.14777 W 110.31198 9747 m 17-Feb-2019 C. R. Nelson # 12526 & M. C. Belk Wypt_050whichiskingspeak.gpx from air, which is Kings Peak? Airline flight 12526

12527 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB N 40.24517 W 111.64909 1404 m, 23-Feb-2019 C. R. Nelson # 12527 lab roaches 12527

12528 USA: UTAH: Utah Co., Provo, near Nelson Home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m C. R. Nelson # 12528 24feb birds home; 12528

12529 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB N 40.24517 W 111.64909 1404 m, C. R. Nelson # 12529 20190228wethawaiimoth; from Frandsen/Kawahara 12529

12530 USA: UTAH: Utah Co., Right Fork Hobbie Creek, Jolleys Ranch N 40.16619 W 111.49464 1553 m 01-Mar-2019 C. R. Nelson # 12530 Wypt_051Jolleysranch.gpx winter stonefly collecting 12530

12531 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 2015 LSB N 40.24522 W 111.64933 1409 m 01-Mar-2019 C. R. Nelson # 12531 & students Google Earth berlese in ent lab 12531

12532 C. R. Nelson # 12532 20190303winterinsects 2mar alucita cabin, yes with Andrea, Wolf, Leah, and Kaye; 3mar birds home; 3mar capniids where? Probably home from jolleys ranch; 3mar birds home 12532

same as 12529 C. R. Nelson # 12529 from Frandsen/Kawahara; 20190304wethawaiimoth2 12529

12533 USA: UTAH: Utah Co., Provo, BYU, Nelson office, 2119 LSB, N 40.24528 W 111.64878 1399 m 06-Mar-2019 C. R. Nelson # 12533 & students Wypt_052office.gpx Sam Bennett and Lauren Bryson 12533

12534 East Fork Bear River, trailhead N 40.91278 W 110.82611 2555 m 07-Mar-2019 C. R. Nelson # 12534 & INHUT Wypt_053trailhead.gpx INHUT yurts 12534

12535 first crossing East Fork Bear River N 40.90705 W 110.82310 2567 m 07-Mar-2019 08-Mar-2019 C. R. Nelson # 12535 & INHUT Wypt_054firstwater.gpx INHUT yurts; I have a photo of this missing field book page, numbered 12535 Claassenia at east fork on people on 8 March 12535

12536 East Fork Bear River Trail to yurt, climb N 40.90015 W 110.81517 2642 n 07-Mar-2019 C. R. Nelson # 12536 & INHUT Wypt_055f_to_e_fk.gpx INHUT yurts; 20190310inhutyurt 12536

12537 East Fork Bear River Trail to yurt, moose N 40.93083 W 110.81001 2606 m 07-Mar-2019 C. R. Nelson # 12537 & INHUT Wypt_056moose.gpx MOOSE! INHUT yurts 7mar trail, moose, beulah; 8mar trail and east fork sampling; Also First 100s! 12537

12538 East Fork Bear River trail, Beulah yurt N 40.88928 W 110.80155 2644 m 07-Mar-2019 C. R. Nelson # 12538 & INHUT Wypt_057beulahyurt.gpx INHUT yurts; 20190311winterstoneflies Utacapnia, from East Fork, check specimens! 12538

scattered in yurt trip C. R. Nelson # more INHUT, same sites as Fuji camera; 20190310otherphotographersyurt

12539 USA: UTAH: Utah Co., Provo, near Nelson Home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 10-Mar-2019 C. R. Nelson # 12539 & Russells Riley holding Riley Russell 12539

12540 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB 13-Mar-2019 C. R. Nelson # 12540 & students Bio 100 review session 12540

skip 15-Mar-2019 C. R. Nelson # & family lab roaches, take one.

count as old Gunlock C. R. Nelson # old Gunlock Makani 28may2018.; 20190315tineidlarvabeetle done

12541 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle, 16-Mar-2019 C. R. Nelson # 12541 & family Leah and Wolf at cabin, deer 12541

skip USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 17-Mar-2019 C. R. Nelson # feather on grass at home

skip USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB N 40.24517 W 111.64909 1404 m, 18-Mar-2019 C. R. Nelson # Riley in lab coat with test tubes

skip USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB N 40.24517 W 111.64909
1404 m, 22-Mar-2019 C. R. Nelson # aquarium parts in lab

12541.5 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 23-Mar-2019 C. R. Nelson # 12542 need to justify 12542 with carr
park record! home backyard also birds backyard 23-2 Mar 2019 D610 12542

skip USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 24-Mar-2019 C. R. Nelson # Riley with wax Quetzal,

skip USA: UTAH: Utah Co., Provo, BYU, Nelson office, 2119 LSB,
N 40.24528 W 111.64878 1399 m 26-Mar-2019 C. R. Nelson # view from office

skip Utah to Iowa flight 28-Mar-2019 C. R. Nelson # Riley on plane

skip USA: IOWA: Story Co., Ames, Iowa State University 29-Mar-2019 C. R. Nelson # & G.
W. Courtney Riley Iowa insect zoo

12542 USA: IOWA: Story Co., Ames, Carr Park, South, Skunk River N 42.03885 W 93.60343
271 m 28-Mar-2019 31-Mar-2019 C. R. Nelson # 12542 & G. W. Courtney
Wypt_064carrpark_east_riv.gpx with Greg Courtney's D7000 on long field trip; Check labels
for field numbers! Checked, 12542! 20190331iowa Taeniopteryx 12542

12543 USA: IOWA: Story Co., Ames, Iowa, Reiman Gardens N 42.01004 W 93.63867 276 m
29-Mar-2019 C. R. Nelson # 12543 & G. W. Courtney Wypt_058reimangardens.gpx wide
view 12543

12543 USA: IOWA: Story Co., Ames, Iowa, Reiman Gardens, Butterfly House N 42.01173 W
93.63821 278 m 30-Mar-2019 C. R. Nelson # 12543 & G. W. Courtney
Wypt_059reimanbutterfly.gpx butterflies 12543

12544 USA: IOWA: Wright Co, Big Wall Lake, Iowa N 42.62997 W 93.64325 376 m 31-Mar-
2019 C. R. Nelson # 12544 & G. W. Courtney Wypt_060pondatwall.gpx aquatics 12544

12545 USA: IOWA: Hamilton Co., Boone River, Albrights Canoe Launch N 42.40540 W
93.80979 298 m 31-Mar-2019 C. R. Nelson # 12545 & G. W. Courtney
Wypt_061boonealbrightscan.gpx aquatics 12545

12546 USA IOWA: Webster Co., Prairie Creek, Dolliver State Park N 42.38732 W 94.08118
296 m 31-Mar-2019 C. R. Nelson # 12546 & G. W. Courtney Wypt_062dolliver.gpx aquatics
12546

12547 USA IOWA: Webster Co., bridge over Prairie Creek, Dolliver State Park N 42.38780 W 94.08157 294 m 31-Mar-2019 C. R. Nelson # 12547 & G. W. Courtney
Wypt_063dolliverbridge.gpx aquatics 12547

12548 Iowa to Utah flight 01-Apr-2019 C. R. Nelson # 12548 people on plane 12548

12549 USA: UTAH: Salt Lake/Utah Co. views from Frontrunner 01-Apr-2019 C. R. Nelson # 12549 12549

12550 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB C. R. Nelson # 20190402birdsiowaaquatics; march birds, thenaquatics from Iowa trip in lab D610

skip this USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 05-Apr-2019 pills in window

12551 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 05-Apr-2019 C. R. Nelson # 12551 crocuses at home, Ripples 12551

skip this USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 06-Apr-2019 C. R. Nelson # last tomato from last fall

12552 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 07-Apr-2019 C. R. Nelson # 12552 & family Kaye at cemetery, Wolf in tree 12552

skip this USA: UTAH: Utah Co., Provo, BYU, LSB
N 40.24519 W 111.64880 1399 m 08-Apr-2019 C. R. Nelson # BYU St. Clair class

12553 USA: UTAH: Utah Co., Provo, BYU, Nelson office, 2119 LSB,
N 40.24519 W 111.64880 1399 m 09-Apr-2019 C. R. Nelson # 12553 spider in office 12553

12554 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 10-Apr-2019 C. R. Nelson # 12554 birds in feeder 12554

skip this USA: UTAH: Utah Co., Provo, BYU, Nelson office, 2119 LSB,
N 40.24519 W 111.64880 1399 m 10-Apr-2019 C. R. Nelson # & Anna Bailey
Wypt_065Anna_office.gpx Anna Bailey, in office!

12555 USA: UTAH: Utah Co., Battle Creek Falls, Pleasant Grove N 40.367543 W 111.693001 1718 m 11-Apr-2019 C. R. Nelson # 12555 & INHUT Google Earth 12555

12556 USA: UTAH: Utah Co., Provo, East Lawn Cemetery, 13-Apr-2019 C. R. Nelson # 12556 & scouts Youth hike above cemetery 12556

12557 USA: UTAH: Utah Co., Provo, Sertoma Park, near Centennial Middle School, N 40.266815 W 111.652505 1446 m, 13-Apr-2019 C. R. Nelson # 12557 & family 102 Google Earth Wolfgang's soccer game. Photo: Leah with tangerine 12557

12558 USA: UTAH: Utah Co., Diamond Fork River just above junction Sixth Water Creek, Three Forks trailhead N 40.084595 W 111.355300, 1671 m, 13-Apr-2019 C. R. Nelson # 12558 & Frandsen family 102 Wypt 067threeforksdiam Riley Nelson age 63, Paul Frandsen PBF20190413_, Christine Frandsen, Harvey Frandsen age 4, Wallace Frandsen ~ 6 months, water samples for Ben Abbott lab BYU 2 First 100s Pteronarcella badia nymphs, Isogenoides zionensis nymphs, Isoperla fulva nymphs, Baetidae, Brachycentridae, Hydropsychidae Arctopsyche, Drunella grandis, Drunella small, Ephemerella inermis/coloradensis, Tipulidae 2 spp Tipula Antocha, Atherix, Philopotamidae?, Uenoidae?, Oligophlebodes?, 12558

12559 USA: UTAH: Utah Co., Sixth Water Creek, just above junction with Diamond Fork River Three Forks Trailhead N 40.084366 W 111.355411, 1674 m, 13-Apr-2019 C. R. Nelson # 12559 & Frandsen Family 102 Wypt 068sixththreeforks water sample for abbott lab, 2 first 100s (this was crossed out however and replaced with) : NO! Pteronarcys californica nymphs, Pteronarcella badia, Isogenoides zionensis, Isoperla fulva, Ephemerellidae, Baetidae, Brachycentridae, Hydropsychidae, Elmidae, Athericidae, Chironomidae, Diamesinae adults, none kept 12559

12560 USA: UTAH: Utah Co., Diamond Fork Canyon Red Ledges Picnic Area N 40.079871 W 111.403070, 1610 m 13-Apr-2019 C. R. Nelson # 12560 & Frandsen family 102 Wypt 069redledges photos, rocks, scenery, and people 12560

12561 USA: UTAH: Utah Co., Diamond Fork River 1.1 miles east of junction with Wanrhodes Creek N 40.077243 W 111.409098 1602 m 13-Apr-2019 C. R. Nelson # 12561 102 Wypt 071distreamwahnup other locations:

parking lot on highway

Wypt 070diamparkabovewahn

N 40. 077946

W 111. 409089 elevation 1606 m Pteronarcys, Pteronarcella, Hydropsychidae, Isogenoides zionensis, Isoperla fulva, Atherix, Elmidae 12561

12562 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 14-Apr-2019 C. R. Nelson # 12562 102 photos pine siskin & house finch 12562

12563 USA: UTAH: Utah Co., Provo, BYU, Nelson Office, 2119 LSB N 40.245521 W 111.648765 1409 18-Apr-2019 C. R. Nelson # 12563 102 photo voucher, jumping spider,

found dead, rolled up in window blinds. Live pictures and 9 April 2019 3:21 pm Phidippus audax 12563

12564 USA: UTAH: Utah Co., Provo, BYU, walk between Smoot Building and Life Science Building N 40.247437 W 111.649688 1428 m 19-Apr-2019 C. R. Nelson # 12564 102 photos: Magnolia near south end of Jesse Knight building; N 40.24915 photos W 111.649895 elev. 1428m - daffodils near northwest corner of Harold B. Lee Library; photos robin in ginkgo tree, and ginkgo buds, between Eyring Science Center and Herald R. Clark Building - N 40.247425 W 111.64988 elev. 1428 m 12564

12565 USA UTAH: Utah Co., Orem Public Library N 40.302670 W 111.701914 1452 m 24-Apr-2019 C. R. Nelson # 12565 JK & CR Nelson
LV & WW Smith 102 Google Earth coordinates through Google earth, photos through John Bennion, reading from "An Unarmed Woman" his new novel. Wednesday 12565

12566 USA: UTAH: Utah Co., Provo, BYU, Marriott Center N 40.29343 W 111.64922 1495 m 25-Apr-2019 C. R. Nelson # 12566 102 talks, commencement and convocation, photos: Teagan Mulford & family, Anne Bennion & family, Jessica Lockhart & family, next day in office Andrea McRae 12566

12567 USA: UTAH: Utah Co., Provo, 500 East Foothill Drive, Nelson home N 40.29343 W 111.64922 1495 m 27-Apr-2019 28-Apr-2019 C. R. Nelson # 12567 102 photos: birds 12567

12568 USA: UTAH: Utah Co., Fairfield, Camp Floyd N 40.260737 W 112.093673 1489 m 29-Apr-2019 C.R. Nelson & INHUT 12568 John Bennion, Brian Cannon, Anna Brinton, Anna Bailey, Cass Bean, Spencer Clark, Izzy Lazenby, Abbi Wilbur, Hayden Weinig, Jaren Evans, Ethan Horlacher, Eliza Powell, Kessia Robinson, Rebekah Cannon, Karley Ludwig 102 Wypt 072campFloyd Camp Floyd 1858 - 1861, Patrick Connors 1863 - Fort Douglas // house sparrow, house finch, starling, cut down old cottonwood, 6-8' diameter, stump alive, photos: largest lilac (purple) I've ever seen!! by Carson's Stagecoach inn // Fairfield to Vernon, Golden Eagle, western meadowlark, swallows hawk, Red tailed hawk, Canada goose, belted kingfisher, Coopers hawk, horned lark, great horned owl, Green jacket, black throated gray warbler?, Red winged blackbird, starling, ravens, mourning dove, collared dove 12568

12569 USA: UTAH: Tooele Co., Sheeprock Mountains, Little Valley Creek N 39.960049 W 112.378245 1942 m 29-Apr-2019 C.R. Nelson & INHUT 12569 102 Wypt 073littlevalley Ate 1 Pteronarcella each: Jaren Evans, Eliza Powell, Ethan Horlacher, Riley Nelson, Vernon Reservoir, saw lesser scaup, eared grebe, Brewers blackbird, Tree? swallows, avocets leech, Baetidae, Limnephilidae, Gerridae, Pteronarcyidae, Perlodidae, Elmidae,

Gammaridae, Oligochaeta, Lepidostomatidae?, Hydropsychidae, Chironomidae, eat Pteronarcella badia 12569

12570 USA: UTAH: Tooele Co., Rush Valley, Mitchell's house, Green Jacket Ranch (Bennions) N 40.012386 W 112.399178 1819 m 29-Apr-2019 01-May-2019 C.R. Nelson & INHUT 12570 Brexton Bennett and Brian Hill joined us 1 May 2019 - 10:00am, still no Christina Miller 102 Wypt 076Greenjackethouse Wypt 074greenjacketnorth, N 40.013248 W 112.398930 elevation 1810 m, 30 April 2019 at 6:57am also sampled at Vernon Creek, one other thing a few hundred waters below Vernon Reservoir Ravens, Yellow Warbler, great horned owl, killdeer; First 100 95% Chironomidae, 4% Tipulidae, 1% Baetidae, photo: starling (a dead one), photo: Hippoboscidae sheep ked on domestic sleep 12570

12571 USA: UTAH: Millard Co., Delta, Topaz Museum N 39.349870 W 112.573543 1413 m 01-May-2019 C.R. Nelson & INHUT 12571 viewed exhibits about internment camp 102 Google Earth coordinates found on Google Earth 12571

12572 USA: UTAH: Washington Co., Mountain Meadows N 37.475685 W 113.643412 1718 m 01-May-2019 C.R. Nelson & INHUT 12572 102 Wypt 078mountainmeadowdown photos: talk of massacre; Wypt 077mountainmeadowup N 37.477162 W 113.632239 elev. 1806 m 12572

12573 USA: UTAH: Washington Co., Beaver Dam Slope, Lytle Ranch Road N 37.095001 W 113.959576 1078 m 01-May-2019 C.R. Nelson & INHUT 12573 102 Wypt 082ssnake photos: long nosed snake on road 2-3 May 2019 12573

12574 USA: UTAH: Washington Co., Beaver Dam Wash, Lytle Ranch, N 37.143505 W 114.021469 848 m 01-May-2019 05-May-2019 CR Nelson & INHUT 12574 Anna Brinton and Anna Bailey, at Hannah Leavitt Terry monument (4 May 2019) 102 Wypt 019bunkhouse Wypt 079tortoise N 37.143512 W 114.019179 elev. 849 m photos Tortoise, Wypt 083topkayesbluff N 37.146414 W 114.026254 7:25 am elev. 922 m 4 May 2019 - top of Kaye's Bluff, Bullocks oriole, house sparrow, phainopepla, heron, yellow warbler, says phoebe, ash-throater flycatcher, Raven, hummingbird, white pelican, (4 May 2019 Global Bird Big Day), yellow warbler, raven, house sparrow, Phainopepla, American pelican, great horned owl, black phoebe, boat-tailed grackle, black chinned hummingbird, lesser goldfinch, persimmon grove caterpillars, photos: Sphingidae caterpillars on desert four o'clock 12574

12575 USA: UTAH: Washington Co., Beaver Dam Wash, Lytle Ranch, Cottonwood Classroom N 37.144759 W 114.023058 847 m 02-May-2019 CR Nelson & INHUT 12575 102 Wypt 080cottonwood classroom photos: zebra tailed lizard 12575

12575.5 USA: UTAH: Washington Co., cliffs of Santa Clara River Kayenta N 37.171129 W 113.715109 921 m 03-May-2019 CR Nelson & INHUT 12575.5 102 Wypt 081Kayentarock photos: rock climbing Scarabaeidae Xyloryctes 12575.5

12576 USA: UTAH: Washington Co., Beaver Dam Slope, Lytle Ranch Road, 1 mile east of Welcome Springs turn off N 37.068646 W 113.911023 1118 m 05-May-2019 CR Nelson & INHUT 12576 102 Wypt 084welcome on the way to Gunlock for church photos: mojave rattlesnake 12576

12576.5 USA: UTAH: Washington Co., Lands Hill, Tempi'po'op N 37.154129 W 113.704600 969 m 05-Jun-2019 CR Nelson & INHUT 12576.5 102 Wypt 085tempipoop photos: petroglyphs & people 12576.5

12577 USA: UTAH: Washington Co., Gunlock, LDS church N 37.290726 W 113.758367 1123 m 05-May-2019 CR Nelson & INHUT 12577 102 Google Earth photos: Gunlock Ward Bishopric, Bishop Lemuel Leavitt, 1st Counselor Larry Jessup, 2nd Counselor Hyrum Smith great tailed grackle at church, white feed ibis at Gunlock Reservoir 12577

12578 USA: UTAH: Washington Co., St. George Tabernacle & Temple N 37.107446 W 113.583993 835 m 05-May-2019 CR Nelson & INHUT 12578 102 Wypt 086tabernacle photos: people & scenery 12578

12579 USA: UTAH: Wahington Co., Snow Canyon State Park N 37.205095 W 113.646165 1042 m 05-May-2019 06-May-2019 CR Nelson & INHUT 12579 102 Wypt 087lostpinyonsnow photos: morning walk on Lone Pinyon Trail, scrub joy 12579

12580 USA: UTAH: Washington Co., Zion National Park, watchman group 3 campground N 37.195424 W 112.986961 1192 m 06-May-2019 CR Nelson & INHUT 12580 102 Wypt 091watchmaninhut photos: time lapse of clouds and West Temple, north DSC_3749.jpg - 3778.jpg, north 3780 - 3953.jpg, west temple 3960 - 4252.jpg photos: western blackbird, western tanager, yellow warbler, Plumbeous vireo, robin, turkey, downy woodpecker, house finch, lesser goldfinch, chipping sparrows 12580

12581 USA: UTAH: Washington Co., Zion National Park, Lodge Creek waterfall south of Zion Lodge N 37.246273 W 112.952940 1312 m 06-May-2019 CR Nelson 12581 & J.S. Bennion 102 Wypt 088creeksouthlodgezion Virgin River 1981 CRN site near lodge, Wypt 089lodgesite1981, N 37.246190 W 112.958078 elev. 1296 m tiger swallowtails, robins, white throated sniff, black-chinned hummingbird 12581

12582 USA: UTAH: Kane Co., Zion National Park, Pine Creek, Keyhole Canyon N 37.226978 W 112.900746 1690 m 07-May-2019 CR Nelson & INHUT 12582 102 Wypt 090keyhole photos: canyoneering in watery slot 12582

12583 USA: UTAH: Washington Co., Zion National Park, Riverside Walk, Temple of Sinawava N 37.297788 W 112.947796 1376 m 07-May-2019 CR Nelson & INHUT 12583 102 Wypt 037narrows rain Tipulidae pupa on Hanging Garden, columbine, Penstemon eatonii 12583

12584 USA: UTAH: Garfield Co., Bryce Canyon National Park, Sunrise Viewpoint to Queens Garden N 37.627541 W 112.161235 2393 m 08-May-2019 CR Nelson & INHUT 12584 102 Wypt 053queensgarden photos: The Queen formation 12584

12585 USA: UTAH: Kane Co., Crack in the Wall above confluence, Coyote Gulch and Escalante River N 37.419481 W 110.986187 1345 m 08-May-2019 09-May-2019 CR Nelson & INHUT 12585 102 Wypt 093crackwrite (GPS code) 9 May 2019 6:56 am, photos: people & scenery toad tadpoles in potholes 12585

12586 USA: UTAH: Kane Co., Coyote Gulch between Crack in the Wall and Hamblin Arch, Moki steps N 37.41973 W 111.04173 1237 m 09-May-2019 10-May-2019 CR Nelson & INHUT 12586 & David McKay 102 Wypt 168moki Groups met at top waterfall above lower alcove, Wypt 094lower spring N 37.425782 W 110.993796 elev. 1136 m - drank from lower fern spring 12586

12587 USA: UTAH: Kane Co., Coyote Gulch: Black Lagoon and Pueblo Ruins N 37.414716 W 111.021243 1174 m 09-May-2019 CR Nelson & INHUT 12587 102 Wypt 039ruins (chase point north to left for ruins north to right for lagoon) photos: people and scenery, Google Earth Ruins N 37.415775 W 111.021858 elev. 1243 m, Google Earth Lagoon N 37.417693 W 111.021205 elev. 1209 m leeches 12587

12588 USA: UTAH: Kane Co., walk from Moki steps of Coyote Gulch to 40 mile tank N 37.392547 W 111.048620 1467 m, 10-May-2019 CR Nelson & INHUT 12588 102 Google Earth photos: black sand treader cricket, Orthoptera: Rhaphidophoridae 12588

12589 USA: UTAH: Wayne Co., Sunglow Campground, east of Bicknell N 38.341667 W 111.518889 2215 m 10-May-2019 12-May-2019 CR Nelson & INHUT 12589 102 google earth cold nights 12589

12590 USA: UTAH: Wayne Co., Capitol Reef National Park, Grand Wash, Cassidy Arch N 38.261090 W 111.225575 1812 m 11-May-2019 CR Nelson & INHUT 12590 102 Wypt 095Cassidy hiked to Cassidy Arch, most rappelled down, 1 hiked back to trailhead with Rebekah Cannon and Abbi Wilbur, photos: rappels, scenery, people 12590

12591 USA: UTAH: Wayne Co., Capitol Reef National Park, Fruita Group Campground N 38.278872 W 111.251595 1670 m 12-May-2019 CR Nelson & INHUT 12591 102 Wypt 096capitolreefgroup set up camp, bird watching after 10:00am - 12:00pm church in Torrey,

photos: time lapse north cliffs 10:00 - 12:29pm, 4358-4657.jpg robin, Bullocks oriole, Black headed grosbeak, white crowned sparrow, violet green swallow, Green tailed towhee, yellow rumped warbler, lark sparrow, Raven, yellow marmot, Brown headed cowbird, yellow warbler 12591

12592 USA: UTAH: Wayne Co., Capitol Reef National Park, Cohab Canyon Trail N 38.282615 W 111.239984 1734 m 13-May-2019 CR Nelson & INHUT 12592 102 Wypt 097Cohab photos: people and scenery, climbing in slot canyon plants: pinyon pine, Douglas fir, Ephedra, Penstemon eufori?, Cercocarpus intricate, Utah juniper, indian ricegrass, service berry, yucca, claret cup, single leaf ash; MacGillivray's warbler, Bullocks oriole 12592

12593 USA: UTAH: San Juan Co. blackbrush flats near Fry Canyon, Hwy 95 N 37.768574 W 110.286612 1448 m 13-May-2019 CR Nelson & INHUT 12593 102 Wypt 098segolily Magnificent. photos: Sego Lilies, pale purple, thousands training up through the shrubs and nearby. 12593

12594 USA: UTAH: San Juan Co., Natural Bridges National Monument, Sipapu Bridge to Kachina N 37.600291 W 110.031180 1708 m 13-May-2019 CR Nelson & INHUT 12594 102 Wypt 099Kachina Wypt 100owachomo N 37.584475 W 110.013697 elev. 1853 m, Anasazi (Ancestral Pueblo) Ruins; photos: card games at the Owachomo bathroom photos: people & scenery; Douglas Fir, Pinyon pine (edulis), Utah Juniper, Ephedra, Indian ricegrass, service berry, single leaf ash, Clematis (Z spp. virgins bower & dropping blossoms), Salix exigua, Salix broader leaves, fremont cottonwood, many composites, rubber rabbitbrush, Lepidium & other mustards, snowberry 12594

12595 USA: UTAH: San Juan Co., Bears Ears Road, 2 miles north of Natural Bridge National Monument highway 95 N 37.606113 W 109.920610 2268 m 13-May-2019 14-May-2019 CR Nelson & INHUT 12595 102 Wypt 101bearsarsview 13 May 2019 7:48 pm, high spot views to Navajo Mountain, Henry Mountains, Bears Ears photos: scenery morning and evening people, hula hoop, and camp, Karley writing on the high spot; house wren, fishhook cactus, pinyon pine (Pinus edulis), Utah Juniper, shiny composites, snowberry!; photos: Eastern fence lizard? 12595

12596 USA: UTAH: San Juan Co., Butler Wash Ruins, 17 miles southwest of Blanding N 37.525190 W 109.638983 1616 m 14-May-2019 CR Nelson & INHUT 12596 102 Wypt 102butlerwashruins photos: plants, people, ruins, collared lizard 12596

12597 USA: UTAH: San Juan Co., Newspaper Rock, Hwy 211 N 37.988078 W 109.518023 1867 m 14-May-2019 CR Nelson & INHUT 12597 102 from INHUT 2016 CRN 11666 petroglyphs 12597

12598 USA: UTAH: San Juan Co., Dugout Ranch and Canyonlands Research Center, Hwy 211 N 38.071043 W 109.564794 1628 m 14-May-2019 16-May-2019 CR Nelson & INHUT 12598 102 Wypt 103dugoutranch Reservoir near headquarters, paintings of cliffs across creek to the south; 15 May 2019 warning, Heidi Redd in classroom, evening ultimate frisbee, moon rise, toad; Wypt 104kitchen N 38.070212 W 109.566304 1625 m; Wypt 106dugoutpaint N 38.067675 W 109.568057 4:30 pm elev. 1624 m is May 2019 painting Sundial Peak mallard duck, redhead duck, ring necked duck, coot, red winged blackbird, western meadowlark, Golden eagle, Bolluocks oriole, says phoebe, black throated sparrow 12598

12599 USA: ARIZONA: San Juan Co., Shay Canyon petroglyphs jet Indian Canyon N 38.009147 W 109.539645 1835 m 15-May-2019 CR Nelson & INHUT 12599 & Heidi Redd 102 Wypt 105petroheidi photos: petroglyphs, including "mammoth" reformed by park superintendent scenery; Wypt 107walmartrock N 38.036792 W 109.548083 elev. 1722 m 8:20 am 16 May 2019, Heidi Redd referred to this parking lot for rock climbers as "like a Walmart parking lot", as too much for the tourist a reason why wilderness is preferred to parks. 12599

12600 USA: UTAH: Grand Co., Arches National Park, Sand Dune Arch N 38.763534 W 109.579953 1613 m 16-May-2019 CR Nelson & INHUT 12600 Brian Hill and Spencer Clark are back 102 Wypt 108sanddunearch student drawings of plants, photos: scenery, Brian Cannon read from "Desert Solitaire" by Ed Abbey 12600

12601 USA: UTAH: Grand Co., Kane Creek, Ledges Campground 10 miles southwest of Moab N 38.472499 W 109.602211 1273 m 16-May-2019 17-May-2019 CR Nelson & INHUT 12601 102 photos: scenery, people 12601

12602 USA: UTAH: Grand Co., Green River, Mineral Bottom Boat Ramp N 38.525045 W 109.993185 1224 m 17-May-2019 CR Nelson & INHUT 12602 102 Wypt 109mineral bottom started down the river, 9 canoes, overcast & a bit windy, started canoes at 1:00pm, arrived later, 5:00pm or so at Fort Bottom, Brian Cannon is my canoe mate photos: people loading canoes 12602

12603 USA: UTAH: San Juan Co., Green River, Fort Bottom camp about 10-12 miles south of Mineral Bottom N 38.454085 W 110.033183 1184 m 17-May-2019 18-May-2019 CR Nelson & INHUT 12603 102 Wypt 111fortbottom setup camp, started in calm, then gale force winds, then calm; Wypt 110ruinpetrifiedwood N 38.452237 W 110.035654 elev. 1245 m, walked to log cabin, walked to ridge top indian ruin with two towers, found petrified wood in Chinle Formation, beautiful soil crusts on the Moenkopi sands (see GPS on the back) Wypt 112edgeofmoenkopi N 38.452866 W 110.034392 elev. 1208 m 18 May 2019 7:09am; view

to Buttes of the Cross, Wypt 113crossrock N 38.391706 W 110.031884 elev. 1190 m 18 May 2019 11:48am; Queen Anne Bottom Wypt 114millard N 38.387610 W 110.034241 elev. 1197 m 18 May 2019 12:47pm; on ruins walk, talked with Izzy Lazenby, and Karley Ludwig, talked with Hayden Weenig, in the dark about plants and LDS cosmology, scriptures, agency of evolution. Drift time to Anderson Bottom 3-4 hours yellow warbler, Bullocks oriole, Canada goose, Great Blue heron, yellow chat, black headed grosbeak; photos: people & scenery between stops 12603

12604 USA: UTAH: Wayne Co., Green River, Anderson Bottom N 38.363090 W 110.015714 1189 m 18-May-2019 19-May-2019 CR Nelson & INHUT 12604 102 Wypt 117andersoncamp walked around Bonita Bend Butte; Wypt 115Sandesonpetro N 38.365897 W 110.017815 elev. 1220 m - petroglyphs on north facing wall of meander, center of old ox bow of river. Adam & Eve & snake & sheep, students jumped in sloping sand abundant purple phacelia, lupines blue bonnets, Townsendia, cement slab of dedicatory building, transit to Dead Horse Canyon 9:20 am -12:50 pm, mostly drifting, some paddling, some wind; Wypt 116pogovideo N 38.362081 W 110.025485 elev. 1204 m; my day for breakfast, cold cereal & powdered milk photos: people & scenery, Avocets, cinnamon teal, Great Blue Heron, Mallard duck; videos of Pogonomyrmex ants 12604

12605 USA: UTAH: Wayne Co., Provo, 500 East 4525 North, Nelson home N 38.329696 W 109.966818 1183 m 19-May-2019 20-May-2019 CR Nelson & INHUT 12605 Riley Nelson & Brian Cannon, Eliza Powell & Christina Miller, Anna Brinton & Anna Bailey, Jaren Evans & Ethan Horlacher 102 Wypt 119deadhorsecanyon 19 May 4:55pm; overcast - tour canons behind others for ahead. Headed to Turks Head Camp - taken by one canoe, nervous, when is our group? Found Rebekah Cannon sentry on hill, John Bennion sentry on slickrock. 19 May 2019 My lunch day - tortillas and beans, peanut butter, grape jam, salsa, oranges, apples, trail mix, Transit to Jasper Creek 9:20 am - 1:00pm; Wypt 118valentine (near tip of bend of Valentine Bottom 19 May 2019 9:56am) N 38.386703 W 109.987117 elev. 1188 m; Wypt 120dead horse up (incredible amounts of Jasper, agate., marked up, Dead Horse Canyon and climbed to first shelf plain above camp, 20 May 2019 6:53am), N 38.329075 W 109.971718 elev. 1244 m; Wypt 121deadhorsehigh, ledge above camp, long way to get here by going up Dead horse canyon, magnificent, N 38.329604 W 109.966234 elev. 1219 m Virginia, heard a rail, canyon wren, brown headed cowbird, ash throated flycatcher, turkey vultures 12605

12606 USA: UTAH: Wayne Co., Green River, river left canyon ~ 6 miles (maybe shorter) south of Dead Horse Canyon N 38.283640 W 109.928995 1196 m 20-May-2019 CR Nelson 12606 & B. Q. Cannon 102 photos: scenery exploring small side inlet as a potential camp spot; iPhone photo, Nope! maybe on Fujicamera 12606

12607 USA: UTAH: Wayne Co., Green River, Jasper Canyon Camp N 38.24491 W 109.91921 1191 m 20-May-2019 21-May-2019 CR Nelson & INHUT 12607 102 Google Earth walked around Jasper Canyon to pour off alcove, a sparse hanging garden, noted well made Anasazi Ruin near camp, Explored box canyon just barely south of camp. A weeping rock pour off alcove many crinoid fossils in emerging limestone layer, Brian Cannon discussion on wilderness and formation of Canyonlands Park (good discussion) - Brian Hill prompt "Do we need wilderness?" and CR Nelson discussion randomness and determinism; Wypt 122jaspercamp N 38.245157 W 109.919089 elev. 1263 m 21 May 2019 6:41 am; 1 Bathed and washed clothes in the north Jasper inlet photos: scenery & people 12607

12608 USA: UTAH: Wayne Co., confluence Green and Colorado Rivers N 38.188234 W 109.887867 1211 m 21-May-2019 CR Nelson & INHUT 12608 102 Wypt 123confluence photos: surveyors stone inscriptions, scenery, people 12608

12609 USA: UTAH: Wayne Co., Canyonlands National Park, Dollhouse Trail, top of switchbacks from Spanish Bottoms N 38.157352 W 109.941478 1471 m 21-May-2019 CR Nelson & INHUT 12609 102 Wypt 124dollhousetop photos: scenery & people 12609

12610 USA: UTAH: Wayne Co., Canyonlands National Park camp 2 miles north of Dollhouse N 38.173691 W 109.942414 1479 m 21-May-2019 22-May-2019 CR Nelson & INHUT 12610 Brian Cannon, Rebekah Cannon, Kessia Robinson, Hayden Weenig, Karley Ludwig 102 Wypt 125north dollhouse watercolor, backpack away from Dollhouse to camp with: photos: scenery & people, tadpoles in pool 12610

12611 USA: UTAH: Wayne Co., Colorado River, camp lower Spanish Bottom N 38.156761 W 109.933485 1201 m 22-May-2019 CR Nelson & INHUT 12611 102 Wypt 126spanishbottomdown photos: waiting for jet boat from Tex's 12611

12612 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95862 W 111.26763 1860 m 22-May-2019 23-May-2019 CR Nelson & INHUT 12612 with Kaye Nelson & Wolfgang & Leah Smith 102 evening with Karla Bennion, Annalee Cannon photos: western skunk, people 12612

12613 USA: UTAH: Wasatch Co., Rock Cliff Campground on Provo River above Jordanelle Reservoir N 40.603560 W 111.342322 1884 m 23-May-2019 24-May-2019 CR Nelson & INHUT 12613 102 Wypt 127rockcliff camp in cold rain, wet inside tent; Wypt 128rockcliffupland, N 40.601129 W 111.340397 elev. 1889 m photos: scenery & people; yellow warbler, white pelican, chipping sparrow, America goldfinch 12613

12614 USA: UTAH: Summit Co., Park City, Kimball Junction movie theater N 40.71993 W 111.54064 1952 m 23-May-2019 CR Nelson & INHUT 12614 102 Google Earth whole group watched The Avengers: Endgame 12614

12615 USA: UTAH: Wasatch Co., Heber City, Dairy Keen Drive In N 40.50520 W 111.41314
1711 m 23-May-2019 CR Nelson & INHUT 12615 102 Google Earth dinner after movie
12615

12616 USA: UTAH: Wasatch Co., Provo River xx mi below Jordanelle Reservoir N 40.55811
W 111.43314 1743 m 24-May-2019 CR Nelson & INHUT 12616 102 Google Earth talk of
stream restoration 12616

12617 USA: UTAH: Utah Co., Provo River, Vivian Park to Utah Lake State Park N 40.355666
W 111.573018 1580 m 24-May-2019 CR Nelson & INHUT 12617 102 Wypt 129Vivianpark
Wypt130maceysprovo N 40.253329 W 111.667460 elev. 1397 m - bicycle ride with several
stops (Maceys- Fort Utah), Paul Reams Park - Fort Utah talks by Robert Carter of
Springville; Wypt 131reams, N 40.241122 W 111.685218 elev. 1384 m 12617

12618 USA: UTAH: Morgan Co., Mormon Flats to Big Mountain N 40.828307 W 111.605760
1954 m 25-May-2019 CR Nelson & INHUT 12618 102 Wypt 132pioneerup start hike up to
Big Mountain on 1847 original pioneer trail; Wypt 133bigmountain N 40.827733 W
111.654067 elev. 2257 m - view to Salt Lake Valley; (back to pick up vans) Wypt
134mormonflats N 40.815688 W 111.584737 elev. 1830 m 12618

12619 USA: UTAH: Salt Lake Co., Affleck Park, Emigration Canyon N 40.81196 W 111.68010
1900 m 25-May-2019 27-May-2019 CR Nelson & INHUT 12619 102 Google Earth camp
saturday night and sunday night 12619

12620 USA: UTAH: Salt Lake Co., (1) Salt Lake City, Cathedral of the Madeline N 40.76966
W 111.88172 1336 m 26-May-2019 CR nelson & INHUT 12620 102 Google Earth attended
mass; (2) N 40.72033 W 111.86977 elev. 1309.116 m - Forest Dale First Ward attended LDS
Church, met Ben McAdams US representativ; (3) saw minority church; (4) visited oldest
LDS church, Building in Utah 400 south and Gilgal Gardens N 40.75932 W 111.86906, elev.
1317.955 m; Wypt 135gilgal N 40.759243 W 111.869254 elev. 1320 m 12620

12621 USA: UTAH: Salt Lake Co., This is the Place Park, north Emigration canyon N
40.752128 W 111.816320 1502 m 27-May-2019 CR Nelson & INHUT 12621 102 Wypt
136thisistheplace 12621

12622 USA: UTAH: Salt Lake Co., Salt Lake City, Natural History Museum of Utah N
40.76227 W 111.82377 1507 m 27-May-2019 CR Nelson & INHUT 12622 102 toured with
class, but especially with Anna Brinton & Ethan Horlacher 12622

12623 USA: UTAH: Salt Lake Co., Salt Lake City, Ensign Peak park, N 40.794398 W
111.890683 1650 m 27-May-2019 CR Nelson & INHUT 12623 102 Wypt 137ensignpeak

hike to top of peak; started misnumbering as 12723 on this page. Fixed 23 July 2019 but some labels may have wrong number 12623

12624 USA: UTAH: Davis Co., Antelope Island, Bridger Bay Campground N 41.040128 W 112.260189 1286 m 27-May-2019 29-May-2019 CR Nelson & INHUT 12624 102 Wypt 150 Bridger Bay Camp. morning 28 May 2019, Wypt 138 Bridger Bay edge, N 41.045768 W 112.264148 elev. 1270 m - edge Great Salt Lake 12624

12625 USA: UTAH: Davis Co., Antelope Island, Frary Peak, top N 40.962175 W 112.216039 2000 m 28-May-2019 CR Nelson & INHUT 12625 102 Wypt 148 Frary Peak mostly hiking with Kessia Robinson and Rebekah Cannon; Route (1) Wypt 139 Frary Trailhead N 40.993545 W 112.203049 elev. 1385 m.; (2) Wypt 140 Bonneville Bench N 40.993723 W 112.207104 elev. 1472 m Provo Bench? (peak); (3) Wypt 141 Dooley Turnoff N 40.989524 W 112.211058 elev. 1552 m; (4) Wypt 142 One Mile (1 mile mark) N 40.986739 W 112.214022 elev. 1591 m; (5) Wypt 143 One Point Five N 40.984224 W 112.214502 elev. 1679 m; (6) Wypt 144 Two Miles N 40.978481 W 112.215426 elev. 1738 m; (7) Wypt 145 Two Point Five N 40.973044 W 112.217908 elev. 1824 m; (8) Wypt 146 Buffalo Pass N 40.968055 W 112.217436 elev. 1931 m; (9) Wypt 147 Three N 40.966868 W 112.216566 elev. 1952 m; (10) Wypt 148 Frary Peak N 40.962175 W 112.216039 elev. 2000 m; (11) Wypt 149 Frary End N 40.993802 W 112.202670 elev. 1378 m trailhead 12625

12626 USA: UTAH: Davis Co., Great Salt Lake Antelope Island, Bridger Bay, shore of Buffalo Point N 41.041815 W 112.276580 1278 m 28-May-2019 CR Nelson 12626 Karley Ludwig, Hayden Weenig 102 Wypt 151 Buffalo Point low photos: sunset at lake level photos: Ephydriidae larvae in "freshwater" pool 2 feet above lake level; photos: Syrphidae larvae in same pool - rat tailed maggots 12626

12627 USA: UTAH: Box Elder Co., Mantua, Box Elder Campground N 41.492749 W 111.949206 1565 m, 29-May-2019 01-Jun-2019 CR Nelson & INHUT 12627 102 Wypt 156 Box Elder Camp. camp for three days; group campground A evening 30 May 2019, campfire songs and stories with Brigham friends Leonard Hawkes and Delose Conner, tribute to Winston P. Nelson, songs: mice, mice, mice, running through the rice; stories: moose shit pie, orange triangle, little green man, evening 31 May 2019 - walk to cemetery to Elvina & Ole P. Nelsons graves - showed pictures of Nelson & Larson families yellow warblers, broad tailed hummingbird, robin, large chokecherry trees, box elder trees, 12627

12628 USA: UTAH: Box Elder Co., Brigham City, Tesoro Gas Statopm (formerly Bess's) about 251 North Main Street N 41.515783 W 112.015985 1337 m 31-May-2019 CR Nelson & INHUT 12628 102 Wypt 152 Bess photos: large brine shrimp boats being repaired in the back 12628

12629 USA: UTAH: Box Elder Co., Bear River Migratory Bird Refuge 15 miles west of Brigham City N 41.479672 W 112.267240 1284 m 30-May-2019 CR Nelson & INHUT 12629 102 saw 55 species photos: birds and scenery; pied billed grebe (3), eared grebe (2), western grebe (5), clark's grebe (40), white pelican (7), double crested cormorant (3), great blue heron (14), snowy egret (18), black crowned night heron (2), white faced ibis (256), canada goose (68), gadwall (19), american wigeon (2), mallard (27), northern shoveler (8), blue winged teal (2), red head (2), western kingbird (3), eastern kingbird (3), black hilled magpie (1), raven (4), cliff swallow (150), barn swallow (10), marsh wren (3), starling (4), common merganser (1), ruddy duck (3), turkey vulture (19), northern harrier (1), redtailed hawk (1), kestrel (1), ring necked pheasant (1), coot (30), sandhill crane (4), killdeer (3), black necked stilt (14), avocet (117), whimbrel (1), long billed curlew (11), western sandpiper (2), long-billed dowitcher (1), franklins gull (9), ring billed gull (10), california gull (75), forsters tern (1), mourning dove (1), song sparrows (3), house sparrow (2), red winged blackbird (75), yellow headed blackbird (75), western meadowlark (1), brewers blackbird (5), brown headed cowbird (7), great tailed grackle (2) 12629

12630 USA: UTAH: Box Elder Co., Stinking Springs. 6.5 miles west of Corinne N 41.5762967 W 112.2336717 1298 m 31-May-2019 CR Nelson & INHUT 12630 102 iphone photos: scenery; photos: Syrphidae (green with cyanobacteria) - larvae - rat-tailed maggots in hot springs 12630

12630.5 USA: UTAH: Box Elder Co., Northrup - Grumman Missile Plant, former Thiokol, Missile Gardens, 24 miles West of Brigham City, N N 41.65912 W 112.44061 1339 m 31-May-2019 CR Nelson & INHUT 12630.5 102 photos: missile casings 12630.5

12631 USA: UTAH: Box Elder Co., Golden Spike National Historic Site N 41.617154 W 112.550376 1497 m 31-May-2019 CR Nelson & INHUT 12631 102 viewed locomotives and displays, lunch drive to spiral jetty: burrowing owls, long billed curlew, turkey vultures, horned larks, western meadow lark, barn swallows, white pelicans, california gulls 12631

12632 USA: UTAH: Box Elder Co., Great Salt Lake, Spiral Jetty N 41.437507 W 112.669327 1277 m 31-May-2019 CR Nelson & INHUT 12632 102 Wypt 154spiralwateredge N 41.437261 W 112.669509 elev. 1280 m edge Great Salt Lake off "apex" of Spiral Jetty, also did mark and recapture experiments with four colonies of harvester ants; talked with visitor, recognized from Brigham City. Ron Reeves from a couple doors away from home, 211 N 300 W! Talked of my father as dear friend, talked of passing of Duane Phippen. photos: scenery and people, Pogonomyrmex occidentalis on hillside just above parking area 12632

12633 USA: UTAH: Box Elder Co., Honeyville, Crystal Springs N 41.660053 W 112.088615
1302 m 01-Jun-2019 02-Jun-2019 CR & JK Nelson & INHUT 12633 102 Wypt
157crystalsprings photos: people 12633

12634 USA: UTAH: Box Elder Co., Brigham City 3rd & 15th ward church N 41.5151113 W
112.0194028 1337 m 01-Jun-2019 02-Jun-2019 CR Nelson & INHUT 12634 102 iphone
Thompson - Hansen House ~ 130 North Main Street - Pioneer Park - *3rd & 15th Ward
Church; Brigham City Tabernacle inside steeple N 41.5052716 W 112.0146111 elev.
1343.863 m; Gina & Bryon Conner home (Thompson Pioneer Home) N 41.5142117 W
112.0185695 elev. 1342.339 m, Tesoro Gas Station, formerly Bess's photos: Jim & Dietz,
Janet & Lee Williams 12634

12635 USA: IDAHO: Franklin Co., Bear River Massacre, overlook site N 42.152738 W
111.907354 1437 m 02-Jun-2019 CR Nelson & INHUT 12635 102 Wypt 158boaogoivp
photos: talk by Darren Parry spoke of massacre and views of his Grandmother, Mae
Timbimboo Parry; Darren is chairman of the Northwestern Band of the Shoshone Nation
also at lower monument site 12635

12636 USA: IDAHO: Franklin Co., Bear River, Oneida Narrows Red Point Campground N
42.233828 W 111.759856 1437 m 02-Jun-2019 05-Jun-2019 CR Nelson & INHUT 12636
102 Wypt 159redpoint photos: people in hammocks, floated in inflatable Kayaks from just
below dam to major take ant spot 42 miles below Redpoint. Rate morning walk to ridge
above campground; photos: Oneida Narrows morning fog & watercolor then fossils then
Kayaks. Wypt 163redpointcampend N 42.234078 W 111.759463 elev. 1428 m 5 June 2019;
Wypt 161topredpoint N 42.231972 W 111.762180 elev. 1515 m 4 June 2019; Wypt
160redpointtop N 42.232917 W 111.762107 elev. 1512 m 11:02 am 3 June western tanager,
Lazuli bunting, American goldfinch, song sparrow, robin, cedar waxwing, crow, marsh
wren, chipping sparrow, red winged blackbird, canada goose, turkey, White pelican, yellow
warbler, spotted towhee, broad tailed humming bird, mallard duck, golden eagle 12636

12637 USA: IDAHO: Franklin Co., Bear River, Oneida Narrows Spencer Shale outcrop near
top end of reservoir N 42.319892 W 111.713170 1599 m 04-Jun-2019 CR Nelson & INHUT
12637 102 Wypt 162SpenceOneida photos: people hunting trilobites in outcrop suggested
by Val Gunther 12637

12638 USA: IDAHO: Bear Lake Co., Spence Shale outcrop near Mill flats west of Liberty
Walcott Quarry N 42.303240 W 111.509454 2098 m 05-Jun-2019 CR Nelson & INHUT
12638 102 Wypt 164Spenceliberty photos: people hunting trilobites and Hyoliths 12638

12639 USA: UTAH: Rich Co., Bear Lake Overlook Hwy 89 N 41.921294 W 111.457476 2319
m 05-Jun-2019 CR Nelson & INHUT 12639 102 Wypt 165bearlake in context of discussion

of homology and analogy, their snowball fight at Old Limber Pine Trailhead review endemic fishes of Bear Lake: whitefish, Bonneville whitefish, Bear Lake cisco, Bear Lake cutthroat trout, Bear Lake sculpin 12639

12640 USA: UTAH: Cache Co., Logan Canyon, Ricks Spring N 41.839942 W 111.588949 1766 05-Jun-2019 CR Nelson & INHUT 12640 102 Wypt 166ricksspring water temperature 8 degrees celsius, velocity photos: scenery & people; 10 First 100 Invertebrate samples: Chironomidae, Limnephilidae, Rhyacophilidae, Chloroperlidae, 2 spp Sweltsa, Oligochaeta, Tipulidae - Tipula; dipper, song sparrow, swallows rough winged? 12640

12641 USA: UTAH: Cache Co., Logan Canyon, Springhollow Campground N 41.751547 W 111.717042 1553 m 05-Jun-2019 06-Jun-2019 CR Nelson & INHUT 12641 102 Wypt 167springhollowgroupa set up camp 6:00 pm; Wypt 168crimsonspringhollow N 41.748622 W 111.714615 elev. 1627 m (6 June 2019 7:26 am), painting, hillside to west 12641

12642 USA: UTAH: Utah Co., Mount Timpanogos, Pleasant Grove - Grove Creek N 40.374793 W 111.711969 1559 m 06-Jun-2019 CR Nelson 12642 & John Bennion 103 Wypt 169grovecreektrailhead 6:19 pm (GPS code); Wypt 170yellowfalls N 40.383934 W 111.702596 elev. 1900 m 7:25 pm - yellow calcium waterfall; Wypt 171bridge N 40.38993 W 111.696204 elev. 2054 m 7:50 pm - wooden bridge 12642

12643 USA: UTAH: Utah Co., Mount Timpanogos, west face Indian Spring N 40.394374 W 111.685847 2274 m 06-Jun-2019 CR Nelson 12643 & John Bennion 103 Wypt 172indianspring arrived at camp with others of INHUT, 8:30pm; female elk a few hundred meters downtrail from cam, photos on iPhone (& coordinates); set up tent in Maple Grove in the rain in bed by 9:24pm; chose this route for hike after going up American Fork Canyon and talking with Cami McKinney and others at Timpanogos Cave: Alpine Loop Closed! Too much snow near Timpanogos 12643

12644 USA: UTAH: Utah Co., Mount Timpanogos, west bench hike Indian Springs to Canyon Glen Park in Provo Canyon N 40.380052 W 111.674233 2229 m 07-Jun-2019 CR Nelson & INHUT 12644 103 Wypt 173battle (GPS code) spur trail jet to Battle Creek 9:53 am; Wypt 174nfbattlecreek N 40.379075 W 111.671184 elev. 2235 m 9:59am; Wypt 181drycanyonphoto#2marker N 40.369024 W 111.655183 elev. 2459 m 2:11 pm - rehabilitation chute marker 2; Wypt 182drycanyonphoto#4marker N 40.368453 W 111.655162 elev. 2446 m 2:14 pm - rehabilitation chute marker 4; Wypt 183camptwo N 40.343995 W 111.651380 elev. 1857 m 4:50 pm - camp for night on flat above Canyon Glen Trailhead 2 miles away 12644

12645 USA: UTAH Utah Co., Top Big Baldy N 40.365929 W 111.666525 2672 m 07-Jun-2019 CR Nelson & INHUT 12645 103 Wypt 177topbaldy 12:38 pm; Wypt 178topannas, 12:39

pm, same GPS, photos: Anna Bailey & Anna Brinton; Wypt 180snakebaldy N 40.366733 W 111.665149 elev. 2647 m spot where caught bull snake; Wypt 175firstsnow N 40.375943 W 111.666698 elev. 2296 m 10:19 am - first snow field crossing; Wypt 176baldysaddle N 40.372010 W 111.656067 elev. 2543 m 11:43 am - saddle, spur trail to Big Baldy photo with Bull snake - Spencer Clark, Eliza Powell, & Anna Brinton 12645

12646 USA: UTAH: Utah Co., park at Edgemont North Stake white church building 4300 North Canyon Road N 40.289709 W 111.654235 1468 m 13-Jun-2019 CR Nelson & INHUT 12646 with Cannons: Doug, Beverly, Melissa, and William (Rebekah is in the class...) 103 Wypt 184ballooning photos: filling, riding in, and deflating their hot air balloon 12646

12647 USA: UTAH: Emery Co., San Rafael Swell, Fuller Bottom Road, 2 miles southwest of Buckhorn Wash, Turnoff near Red Knoll N 39.159033 W 110.804098 1674 m 17-Jun-2019 19-Jun-2019 CR Nelson & INHUT 12647 103 Wypt 185flowers photos: superbloom of Oenothera, Lupinus, bluebonnets, yellow composites 12647

12648 USA: UTAH: Emery Co., San Rafael Swell, San Rafael River, Fuller Bottom N 39.118505 W 110.855308 1607 m, 17-Jun-2019 19-Jun-2019 CR Nelson & INHUT 12648 103 get start time from Fuji camera; put in to float San Rafael River at 1500 cubic feet per second, magnificent; Retrieved truck on 19 June 2019 12648

12649 USA: UTAH: Emery Co., San Rafael River, Fuller Bottom to Virgin Springs Canyon N 39.085306 W 110.776546 1627 m 17-Jun-2019 CR Nelson & INHUT 12649 103 Wypt 186virginspringcanyon 17 June 2019 5:01 pm; photos: people in inflatable Kayaks, "duckies"; Brian Cannon is my Kayak partner for the trip, good conversations 12649

12650 USA: UTAH: Emery Co., San Rafael River, Little Grand Canyon, Virgin Springs Canyon Mouth N 39.085306 W 110.776546 1627 m 17-Jun-2019 18-Jun-2019 CR Nelson & INHUT 12650 103 Wypt 186virgincanyon Wypt 187virginpainting N 39.082792 W 110.776187 elev. 1676 m 17 June 2019 7:17 pm - place where I painted a watercolor on the south rim; 7:05 am - 7:20am time lapse to west DSC 6645 - DSC 6825 180 frames, 7:22 - 7:41 am across river to north DSC 6827 - DSC 7061 234 frames photos: scenery & people; chrysomelidae on Fremont Cottonwood, Cicadas 12650

12651 USA: UTAH: Emery Co., San Rafael River, Virgin Springs Canyon to Cane Wash N 39.092007 W 110.732433 1573 m 18-Jun-2019 CR Nelson & INHUT 12651 103 Wypt 192canewash 19 June 2019 6:48 am; Cass Bean & Abbi Wilbur spilled in a tricky rapid near a big rock slab. Safe. photo: scenery & people 12651

12652 USA: UTAH: Emery Co., San Rafael River, Little Grand Canyon, petroglyph Knob west of west rock ridge of Cane Wash N 39.094102 W 110.739240 1613 m 18-Jun-2019 CR Nelson & INHUT 12652 103 Wypt 191art (west side of knob) photos: people, scenery,

petroglyphs, granary, rock house remains; Wypt 190home N 39.094297 W 110.738969
1635 m east side of knob indian house and granary 12652

12653 USA: UTAH: Emery Co., San Rafael River, Little Grand Canyon, saddle in west rock
ridge of Cane Wash N 39.090099 W 110.736623 1636 m 18-Jun-2019 CR Nelson & INHUT
12653 103 Wypt 188caneridgewest (site photo looks down Cane Wash) photos: scenery &
camp; Wypt 189slabs N 39.091489 W 110.736383 elev. 1638 m 18 June 2019 5:46 pm -
Navajo sandstone slab on west side of west ridge of Cane Wash, I want to camp here
12653

12654 USA: UTAH: Emery Co., San Rafael River, Little Grand Canyon, Cane Wash, camp N
39.092007 W 110.732433 1573 m 18-Jun-2019 19-Jun-2019 CR Nelson & INHUT 12654
103 Wypt 192canewash (site photo view up Cane Wash from camp, 19 June 2019 6:48 am)
photos: people & scenery students slept on ledges, night time lapse to northeast DSC 7190
- DSC 7338 19 June 2019 10:00 - 12:28 am 148 frames; Wypt 193templerock N 39.091565
W 110.725116 Elev. 1557 m 12654

12655 USA: UTAH: Emery Co., San Rafael River, Little Grand Canyon, Cane Wash to
swinging bridge take out, Buckhorn Wash N 39.080813 W 110.667277 1559 m 19-Jun-2019
CR Nelson & INHUT 12655 103 Wypt 194takeout photos: end float trip; drove back from
Price to retrieve my forgotten bag 12655

12656 USA: UTAH: Emery Co., San Rafael Swell, Buckhorn Wash Petroglyphs N 39.123591
W 110.693943 1616 m 19-Jun-2019 CR Nelson & INHUT 12656 103 photos: petroglyphs,
group photo, all of INHUT! safe at end! I forgot my black gear bag here and had to drive all
the way back from Price to find it. It wasn't there when I returned. People said a ranger
headed south had just left so I drove to swinging bridge and found a couple who had saved
the bag and left a message on my office phone. What a great world we live in with great
people. They are from Colorado. 12656

12657 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W
111.26763 1829 m 21-Jun-2019 JK & CR Nelson 12657 103 turning on water, all well
except break in culinary line in crawl space under hot water heater and leaking supply line
for upstairs toilet 12657

12658 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W
111.64922 1495 m 23-Jun-2019 CR Nelson 12658 WW Smith & LV Smith 103 photos:
playing with reflections of the sun with phone and mirror in the front room 12658

12659 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623
W 111.26763 1829 m 25-Jun-2019 CR Nelson 12659 Val Gunther (fossil hunting friend
from Brigham City, Utah); later in the day with JK Nelson, WW Smith & LV Smith 103

photos: large bird tracks from a few years ago, new bird tracks; photos: people & lizard (with JK Nelson, WW Smith, LV Smith) 12659

12660 USA: UTAH: Utah Co., Rock Canyon, hike from month to Squaw Peak foottrail and back N 40.26544 W 111.62187 1649 m 26-Jun-2019 CR Nelson 12660 scouts & leaders: Sean Foster, Chandler Eyre, Christian Hollingworth, Michael Hunter, Asa Faulcomer, Connor Cook, Spencer Smith 103 iPhone photo photos: people, cooked hot dogs at small clearing, just east of Torwoff of Squaw Peak Trail 12660

12661 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 msl (Provo, home) 1495 m 28-Jun-2019 30-Jun-2019 JK & CR Nelson 12661 & family 103 photos: people; July 2019 12661

12662 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95324 W 111.26463 1801 msl 29-Jun-2019 JK & CR Nelson 12662 JR, BD, AV, and AJ Nelson 103 photos: people 12662

12663 USA: UTAH: Utah Co., Provo, North Park Fifth West and Fifth North N 40.2407 W 111.6660 1396 m 30-Jun-2019 JK & CR Nelson 12663 Riley, Kaye, & family: Jason, Brandy, Artenis, Astrid, Todd, Amy, Wolf, Leah 103 iPhone photo band concert photos: people with stag beetle Lucanidae - Lucanus mazama 12663

12664 USA: UTAH: Salt Lake Co., Salt Lake City, Liberty Park Tracy Aviary N 40.74367 W 111.87541 1302 m (4272 ft) 01-Jul-2019 JK & CR Nelson 12664 & family, all but Jordan 103 iPhone photo cut finger, pelican bite photos: white pelican, southern ground hornbill, chilean flamingos, peacock, people 12664

12665 USA: UTAH: Salt Lake Co., Salt Lake City, Christopher-Nelson home, 973 East 800 South N 40.75215 W 111.86301 1324 m (4345 ft) 01-Jul-2019 JK & CR Nelson 12665 & family, all, including Jordan Christopher 103 iPhone photo photos: people with chalk 12665

12666 USA: UTAH: Utah Co., Provo, Riverwoods Mall N 40.29950 W 111.65917 1447 m (4748 ft) 02-Jul-2019 JK & CR Nelson 12666 Riley, Kaye & family: Jason, Brandy, Artenis, Astrid, Wolf, Leah 103 iPhone photo photos: people on merry-go-round 12666

12667 USA: UTAH: Box Elder Co., Brigham City, Nelson home 211 North 300 West N 41.51532 W 112.02091 1329 m (4359 ft) 04-Jul-2019 JK & CR Nelson 12667 Riley, Kaye & whole family: Jason, Brandy, Artenis, Astrid, Todd, Amy, Wolf, Leah, Rick, Lana, Sally, Jerry, Will, Andrew, Griffin, Gena (Genevieve) 103 iPhone photo photos: people, Fourth of July party 12667

12668 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95324 W 111.26463 1801 msl 05-Jul-2019 06-Jul-2019 JK & CR Nelson 12668 & whole family 103 photos: family groups, Jason with girls high above cabin Artemir with lizard 12668

12669 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 msl (Provo, home) 1495 msl 07-Jul-2019 10-Jul-2019 CR Nelson 12669 103 also 10 July 2019 - East Lawn Cemetery photos: Blue, the female cat 12669

12670 USA: UTAH: Utah Co., Provo Canyon, Bridal Veil Falls N 40.338954 W 111.601862 1669 m 10-Jul-2019 CR Nelson 12670 & Mutual 103 Google photos: scenery 12670

12671 USA: UTAH: Utah Co., Slate Canyon, east of Provo N 40.22667 W 111.5789 2207 m 11-Jul-2019 CR Nelson & friends 12671 Riley Nelson & friends: Paul Frandsen, Clint Whipple, Chip Oscarson, Paul & Clint 103 iPhone Hiked to Canyon split just past trail turnoff that goes over the saddle to Rock Canyon photos: Mycetophilidae, Tineidae on Apocynum androsaemifolium, Scrophularia, Formicidae - Formice ants tending aphids and sharing honeydew, on Agastache?, Columbrine; photos at home 16 June 2019: Cleridae Trichodes ornatus Say 12671

12672 USA: UTAH: Utah Co., Spanish Fork, Spanish Oaks Reservoir N 40.072031 W 111.600310 1568 m 13-Jul-2019 JK & CR Nelson 12672 WW & LV Smith 103 Google Earth photos: fishing with Wolf & Leah 12672

12673 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95324 W 111.26463 1801 msl 13-Jul-2019 JK & CR Nelson 12673 WW & LV Smith 103 played in cabin, watered lawn, also 17 July 2019, morning: to meet plant survey crews for an environmental firm out of Salt Lake. Afternoon: to work with Scott Ashton to repair cabin water pipes 12673

12674 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 msl 14-Jul-2019 JK & CR Nelson 12674 family, & friends: Riley Nelson, Kaye Nelson, Todd Smith, Amy Smith, Wolfgang Smith, Leah Smith, Darryl Lee, Henry Lee, John Bennion, Karla Bennion, Janet "Bennion", Paul Frandsen, Christine Frandsen, Harvey Frandsen, Todd Chandlee, Aicha Rochdi, Clint Whipple, Rachel Whipple, Isaac Whipple 103 Bastille Day Feast, Tiurai celebration (Tahitian) 12674

12675 USA: UTAH: Iron Co., Kanarra Creek to Kanarra Falls, east of Kanarraville N 37.537834 W 113.150040 1896 m 19-Jul-2019 JK & CR Nelson 12675 103 Wypt 198middlekanarra Roxanne and Hawk Pond, Hike from town to broad falls in narrow canyon past narrow falls with iron ladder; pictures 18 year olds from St. George - Kenzie & Hunter; Wypt 197Kanarraville trailhead N 37.537043 W 113.175249 elev. 1719 m - trailhead

parking lot (wrong field note, numbers on label?) photos: scenery & people, Asilidae: Heteropogon, Perlodidae, short winged male 12675

12676 USA: UTAH: Washington Co., Zion National Park, Kolob Canyons overlook N 37.428315 W 113.204020 1925 m 19-Jul-2019 JK & CR Nelson 12676 103 Wypt 199kolobtimber RM & WH Pond; photos: scenery & people, watercolor: painting 12676

12676.5 USA: WYOMING: Lincoln Co. South of Fossil Butte National Monument 3.2 mi south west of Hwy 30, Lindgren Fossil Quarry N 41.772805 W 110.73963 2146.402 m 26-Jul-2019 CR Nelson 12676.5 V. Gunther, Tom Lindgren 103 end of misnumbering that began 27 May 2019 with 12623 18 inch layer - photos: 14 ft crocodile, sandwich layer - Knightia fish, Phareodus fish 12676.5

12677 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 msl 27-Jul-2019 CR Nelson 12677 103 26 July 2019, Nelson Lab BYU, photo: Christine & Paul Frandsen photos: Lygaeidae, Lestidae Lestes, Aeshnidae Aeshna or Rhionaeschna 12677

12678 USA: UTAH: Salt Lake Co., Midvale, 695 West Center N 40.610384 W 111.909990 1322.527 m 27-Jul-2019 JK & CR Nelson 12678 & family 103 Google Earth photos: play production by Debby Smith of "The Wizard of Oz" 12678

12679 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 msl 02-Aug-2019 CR Nelson 12679 103 photos: Collembola on sawn cross section of blue spruce, Picea pungens 12679

12680 ECUADOR: PICHINCHA PROVINCE: Quito, Parque Carolina neighborhood, Hotel Finlandia S 0.179480 W 78.480745 2779 m 04-Aug-2019 10-Aug-2019 JK & CR Nelson 12680 103 Wypt 212hotelfinlandia1 Sunday 4 August: church walk city; 5 August: hotel; Wypt 213hotelfinlandia2 S 0.179480 W 78.480745 elev. 2779 m 12680

12681 ECUADOR: PICHINCHA PROVINCE: north of Quito, "true" equator, Museo de Sitio Iltin 2474 m 05-Aug-2019 JK & CR Nelson 12681 Jane Garrido 103 Wypt 201equator Monday 280 ft S of equator of Google Earth; Wypt 202middle photos: two hummingbirds equator stuff 12681

12682 ECUADOR: PICHINCHA PROVINCE: North of Quito - Mitad del Mundo S 0.002168 W 78.455708 2476 m 05-Aug-2019 JK & CR Nelson 12682 J. Garrido 103 Wypt 203bigequator Equator exhibits, photos: people & scenery; 913 ft South of Equator of Google Earth, Wypt 204tower S 0.002165 W 78.455855 elev. 2488 m 12682

12683 ECUADOR: PICHINCHA PROVINCE: churches of Quito Old Town S 0.221113 W 78.513645 2834 m 05-Aug-2019 JK & CR Nelson 12683 J. Garrido 103 Wypt 205oldquito photos: town & scenery & people, dancers, police, Helados de paila 12683

12684 ECUADOR: PICHINCHA PROVINCE: Quito, Cumbay[√]°, University of San Francisco - Quito S 0.197002 W 78.435398 2397 m 06-Aug-2019 08-Aug-2019 JK & CR Nelson 12684 103 Wypt 206cumbayausfq 6 August with Kaye, 7 August without Kaye, 8 August with Kaye 12684

12685 ECUADOR: PICHINCHA PROVINCE: Quito, Volcan Pichincha, Teleferico Gondola and walk to to 4800 m S 0.186754 W 78.537154 3932 m 09-Aug-2019 JK & CR Nelson 12685 103 Wypt 208toptelefer Wypt 207basetele - base of Teleferico S 0.192212 W 78.519636 elev. 3114 m; Wypt 209swings - swing above Teleferico S 0.183200 W 78.538548 elev. 3997 m; Wypt 210horsecorral - lunch spot at horse corral S 0.181291 W 78.539426 elev. 3995 m; Wypt 211mirapichincha S 0.179907 W 78.541399 elev. 4058 m Riley high spot 12685

12686 ECUADOR Pichincha Province Alambi Hummingbird Reserve S 0.029280 W 78.680784 1490 m 10-Aug-2019 JK & CR Nelson 12686 103 Wypt 214alambi Diego guide, Mia from China, travel to Mindo photos: hummingbirds and walk 12686

12687 ECUADOR: PICHINCHA PROVINCE: Mindo, Tram & walk to waterfall S 0.076217 W 78.764414 1485 m 10-Aug-2019 JK & CR Nelson 12687 & 12686 103 Wypt 2215tarabito mindo photos: hummingbirds, tanagers, banana 12687

12688 ECUADOR: PICHINCHA PROVINCE: Mindo, El Quetzal Restaurant S 0.051171 W 78.774173 1262 m 10-Aug-2019 JK & CR Nelson 12688 Diego Mia 103 Wypt 218quetzalmindo 12688

12689 ECUADOR: PICHINCHA PROVINCE: Mindo, Mariposario Nathaly, butterfly garden S 0.054158 W 78.775583 1248 m 10-Aug-2019 JK & CR Nelson 12689 Diego, Mia 103 Wypt 219nathaly 12689

12690 ECUADOR: PICHINCHA PROVINCE: trip back to Quito, Reserva Geobotanica Puluahua, 17 km north of Quito - near Calacali? S 0.000873 W 78.558853 2837 m 10-Aug-2019 JK & CR Nelson 12690 Diego, Mia 103 Google Earth Guess roadsides 12690

12691 ECUADOR: PICHINCHA PROVINCE: Quito, Gu[√]°polo View (Sunday) S 0.201484 W 78.479196 2819 m 11-Aug-2019 JK & CR Nelson 12691 103 Wypt 220quitohigh List of tour people: start volcanos tour 12691

12692 ECUADOR: Pichincha Province (Sunday) Avenida de los Volcanos to Rio Bamba, Sol
Tambillo S 0.408494 W 78.547441 2783 m 11-Aug-2019 JK & CR Nelson 12692 103 Wypt
221cotopaxigolddome Wypt 222cinereousharrier hawk - S 0.888321 W 78.784037 elev.
3815 m 12692

12693 ECUADOR: COTOPAXI PROVINCE: El Tigua S 0.951672 W 78.868209 3715 m 11-
Aug-2019 JK & CR Nelson 12693 103 Wypt 223tigua art store, alpaca sweater Kaye,
Condor mask 12693

12694 ECUADOR: COTOPAXI PROVINCE: Toachi River Canyon, Canyon Overlook S
0.928967 W 78.905798 3486 m 11-Aug-2019 JK & CR Nelson 12694 103 Wypt 224toachi
photos: canyon 12694

12695 ECUADOR: COTOPAXI PROVINCE: Quilotoa Caldera Lake S 0.866702 W 78.915777
3873 m 11-Aug-2019 JK & CR Nelson 12695 103 Wypt 226quilotoacrater Wypt 225quilotoa
S 0.866701 W 78.916305 elev. 3862 m; Wypt 227quilotoabelowrim S 0.867662 W
78.913492 elev. 3798 m - time lapse, donkey broke Kaye's toe 12695

12696 ECUADOR: COTOPAXI PROVINCE: Zumbahua, dance, wedding S 0.961342 W
78.898923 3513 m 11-Aug-2019 JK & CR Nelson 12696 103 Wypt 228zumbahuadance
photos: wedding extravaganza 12696

12697 ECUADOR: COTOPAXI PROVINCE: roadside scenes and ice cream in Salcedo S
1.069155 W 78.595845 2623 m 11-Aug-2019 JK & CR Nelson 12697 103 Wypt
229salcedohelados bought ice cream bars 12697

12698 ECUADOR: Rio Bamba, Hacienda Andaluza S 1.538493 W 78.732759 3304 m 11-
Aug-2019 12-Aug-2019 JK & CR Nelson 12698 103 Wypt 231chimborazoandaluza 11 brief
stop and photos before reaching hacienda: Wypt 230chimborazofirstlook S 1.484699 W
78.700801 elev. 3569.

hacienda evening photos: sunset views Chimborazo; 12 Wypt 232haciendasouth S
1.539297 W 78.733138 elev. 3301 m, morning photos: Hacienda sights, Chimborazo
Volcano, crystal clear; 13 morning photos: Chimborazo in clouds breakfast 12698

12698.5 ECUADOR: CHIMBORAZO PROVINCE: San Juan, west of Rio Bamba S 1.630957
W 78.785002 3244 m 12-Aug-2019 JK & CR Nelson 12698.5 & tour 103 bought a curved
knife - La Haz \$1.49 12698.5

12699 ECUADOR: CHIMBORAZO PROVINCE: Chimborazo area, Chimborazo Lodge view S
1.525116 W 78.838391 3916 m 12-Aug-2019 JK & CR Nelson 12699 103 Wypt
236chimborazolodge (GPS code) 9:52am saw Castilleja sp., views vicu√±a; Wypt
234santeresa S 1.598818 W 78.783 elev. 3319 m; Wypt 235abovesanteresa 9:43 am, S

1.548061 W 78.811220 elev. 3612 m; Wypt 237vicunafirst, first vicu√±a 10:03 am, S
1.516682 W 78.858671 elev. 4105 m 12699

12700 ECUADOR: CHIMBORAZO PROVINCE: Chimborazo mountain area, banded
volcanic "ash" at roadside S 1.518569 W 78.859505 4122 m 12-Aug-2019 JK & CR Nelson
12700 103 Wypt 238pyroclasts photos: geology, three pebbles of different colors 12700

12701 ECUADOR: CHIMBORAZO PROVINCE: Chimborazo area, Guaranda Visitor Center S
1.497775 W 78.874727 4369 m 12-Aug-2019 JK & CR Nelson 12701 103 Google Earth
12701

12702 ECUADOR: CHIMBORAZO PROVINCE: Chimboazo Volcano, Refuge 1 S 1.475096 W
78.845893 4842 m 12-Aug-2019 JK & CR Nelson 12702 103 Wypt 239refugeone (GPS
code) 11:38 am; Wypt 240belowref2 below refuge 2 12:14 pm, S 1.473889 W 78.841410
elev. 4940 m; Wypt 241whirlwind 12:19 pm, S 1.473497 W 78.840919 elev. 4958 m 12702

12703 ECUADOR: CHIMBORAZO PROVINCE: Chimborazo Volcano, Refuge 2 S 1.472603 W
78.838741 5039 m 12-Aug-2019 JK & CR Nelson 12703 103 Wypt 242refugio2 (GPS code)
12:33 pm; photos: scenery & building; Wypt 244springnoinsects 1:57 pm spring, no
insects, S 1.474089 W 78.841767 elev. 4941 m 12703

12704 ECUADOR: CHIMBORAZO PROVINCE: Chimborazo Volcano Province, Condor
Cocha, pond S 1.471126 W 78.838601 5063 m 12-Aug-2019 JK & CR Nelson 12704 103
Wypt 243condorcocha photos: pond, Nicole B√°ttner 12704

12705 ECUADOR: CHIMBORAZO PROVINCE: Chimborazo Area, Polylepis forest, Bosque
de Polylepis S 1.54007 W 78.884163 4296 m 12-Aug-2019 JK & CR Nelson 12705 103
iPhone photo photos: plants & people, magnificent rosaceous forest strange plant
diversity; Polylepis trailhead 3:51 pm, Wypt 246polytrail S 1.534666 W 78.880708 elev.
4246 m; turn to Polylepis forest 3:34 pm, Wypt 245turntopolylepisforest S 1.507682 W
78.869587 elev. 4309 m, bathroom stop down 12705

12706 ECUADOR: CHIMBORAZO PROVINCE: Chorrera Canyon, canyon near Rio Bamba S
1.530565 W 78.828724 3790 m 12-Aug-2019 JK & CR Nelson 12706 103 Wypt
248chorreracyn (GPS code) 5:41 pm; Wypt 247banosdown - pitstop, S 1.535322 W
78.831880 elev. 3810 m (5:31 pm Kaye sick) 12706

12707 ECUADOR: COTOPAXI PROVINCE: Lake Yambo (Laguna de Yambo), South of
Salcedo S 1.099460 W 78.592618 2746 m 13-Aug-2019 JK & CR Nelson 12707 103 Wypt
249lagoyambo (GPS code) 9:48 am 12707

12708 ECUADOR: COTOPAXI PROVINCE: El Progreso, south of Machachi S 0.732262 W
78.609500 3036 m 13-Aug-2019 JK & CR Nelson 12708 103 Wypt 250nearelprogreso

(GPS code) 10:57 am; Wypt 251southofmachachi (10:59 am) S 0.732482 W 78.609515 elev. 3034 m 12708

12709 ECUADOR: COTOPAXI PROVINCE: Cotopaxi National Park, Entrance Station, headquarters? S 0.679146 W 78.553895 3310 m 13-Aug-2019 JK & CR Nelson 12709 103 Wypt 252cotopaxientrancepark (GPS code) 11:13 am; then visitor center and trails Museum - Wypt 253cotopaximariscalsucre S 0.642894 W 78.495635 elev. 3687 m; then the tunnel of trees 12709

12710 ECUADOR: Pichincha Province Cotopaxi National Park, Laguna de Limpiopungo S 0.613001 W 78.473344 3881 m 13-Aug-2019 JK & CR Nelson 12710 103 Google Earth coots? 12710

12711 ECUADOR: PICHINCHA PROVINCE: Cotopaxi National Park, Tambopaxi Lodge & Refugio Hotel S 0.588328 W 78.449330 3765 m 13-Aug-2019 JK & CR Nelson 12711 103 Wypt 255tambopaxi (GPS code) 3:21 pm; Wypt 254condors S 0.590664 W 78.448117 elev. 3729 m photos: condors, hummingbirds, lunch, spyros, first saw condors before Tambopaxi 12711

12712 ECUADOR: PICHINCHA PROVINCE: Posada Mirolindo S 0.190530 W 78.325773 2573 m 13-Aug-2019 14-Aug-2019 JK & CR Nelson 12712 103 Wypt 256mirolindoposada 12712

12713 ECUADOR: Quito - Guayaquil - Galapagos flight Pacific Ocean S 0.124744 W 78.359617 2386 m 14-Aug-2019 JK & CR Nelson 12713 103 Wypt 257quitoairport photos: first view Galapagos, San Cristobal, Daphne Major & Minor; Wypt 258westofguayaquil S 1.951669 W 82.614184 elev. 11608 m; Wypt 259ocean2 S 1.615849 W 85.113922 elev. 11614 m; Wypt 260ocean3 S 1.480860 W 86.119536 elev. 11622 m; Wypt 261ocean4 S 1.259495 W 87.771483 elev. 11589 m; Wypt 262ocean5 S 1.027652 W 88.692970 elev. 9118 m; Wypt 263firstisland (San Cristobal East) S 0.851223 W 89.262097 elev. 6292 m; Wypt 264firstislandwest (San Cristobal West) S 0.795998 W 89.442662 elev. 5129 m (12:44 pm); Wypt 262island2ship (Santa Cruz) S 0.519822 W 90.222072 elev. 1728 m; Wypt 266hat (Daphne Minor) S 0.441882 W 90.350262 elev. 1161 m 12713

12714 ECUADOR: Galapagos Province Galapagos Archipelago, Baltra Airport, ferry to Santa Cruz, dry forest S 0.457328 W 90.236618 58 m 14 August 2019, 1:02 pm JK & CR Nelson 12714 103 Wypt 268atgatebaltra S 0.445017 W 90.271011 elev. 59 m 1:07 pm; Wypt 269firsttouchsantacruz S 0.490727 W 90.282028 elev. 14 m 2:29pm 12714

12715 ECUADOR: Galapagos Province Galapagos Archipelago, Santa Cruz Island, sinkhole - Genesis S 0.624847 W 90.384056 608 m 14-Aug-2019 JK & CR Nelson 12715 103 Wypt 270genesis 12715

12716 ECUADOR: Galapagos Province Galapagos Archipelago, Santa Cruz, tortoise lunch, Rancho El Manzanillo S 0.696671 W 90.401380 166 m 14-Aug-2019 JK & CR Nelson 12716 103 Wypt 271tortoiselunch photos: giant tortoises 12716

12717 ECUADOR: Galapagos Province Galapagos Archipelago, Santa Cruz Island, Puerto Ayora S 0.744598 W 90.311927 12 m 14-Aug-2019 JK & CR Nelson 12717 103 Wypt 272puertoayora 12717

12718 ECUADOR: Galapagos Province Galapagos Archipelago, Isabela Island, Tintoreras Islet near, Puerto Villamil S 0.970591 W 90.960605 1 m 15-Aug-2019 JK & CR Nelson 12718 103 Wypt 273intoreras 12718

12719 ECUADOR: Galapagos Province Galapagos Archipelago, Isabela Island, Puerto Villamil S 0.962719 W 90.959111 4 m 15-Aug-2019 JK & CR Nelson 12719 103 Wypt 274villamilharbor 12719

12720 ECUADOR: Galapagos Province Galapagos Archipelago, Isabela Island, Flamingo Lagoon near, Puerto Villamil, Posada de Flamengos S 0.945627 W 90.974801 10 m 15-Aug-2019 JK & CR Nelson 12720 103 Wypt 275lagunaflamingo 12720

12721 ECUADOR: Galapagos Province Galapagos Archipelago, Isabela Island, near Puerto Villamil, Tortoise Nursery, Centro de Crianza Tortugas Gigantes S 0.947485 W 90.974149 0 m 15-Aug-2019 JK & CR Nelson 12721 103 Wypt 276crianza 12721

12722 ECUADOR: Galapagos Province Galapagos Archipelago near Isabela Island, rounding southwestern tip, near midnight S 1.020079 W 91.434474 0 m 15-Aug-2019 JK & CR Nelson 12722 104 Wypt 277nearmidnight 12722

12723 ECUADOR: Galapagos Province Galapagos Archipelago, Isabela Island near Punta Morena S 0.707259 W 91.331491 6 m 15-Aug-2019 JK & CR Nelson 12723 104 Wypt 278isabellawhales whales! 12723

12724 ECUADOR: Galapagos Province Galapagos Archipelago, Isabela Island, shore walk near Punta Moreno, 8:12 am S 0.717448 W 91.336138 8 m 16-Aug-2019 JK & CR Nelson 12724 104 Wypt 279puntamoreno 12724

12725 ECUADOR: Galapagos Province Galapagos Archipelago, crossing to Fernandina, 12:57 pm S 0.611050 W 91.351943 3 m 16-Apr-2019 JK & CR Nelson 12725 104 Wypt 280startchannel photos: frigate birds 12725

12726 ECUADOR: Galapagos Province Galapagos Archipelago, Fernandina Island, cove north of Punta Mangle S 0.432428 W 91.390333 13 m 16 August 2019, 3:22 pm JK & CR Nelson 12726 104 Wypt 281fernandinal 12726

12727 ECUADOR: Galapagos Province Galapagos Archipelago, off Fernandina Island, Bolivar channel, south east of Punta Espinosa S 0.280947 W 91.403712 9 m 16 August 2019, 6:27 pm JK & CR Nelson 12727 104 Wypt 282bolivarchannel2 12727

12728 ECUADOR: Galapagos Province Galapagos Archipelago, Fernandina Island, Punta Espinosa S 0.265737 W 91.445935 7 m 17 August 2019, 7:51 am JK & CR Nelson 12728 104 Wypt 283puntaespinoza 12728

12729 ECUADOR: Galapagos Province Galapagos Archipelago, Fernandina Island, Punta Espinosa, inland S 0.266586 W 91.449155 3 m 17 August 2019, 8:48 am JK & CR Nelson 12729 104 Wypt 284fukushimatsunami photos: debris pile from tsunami originating in Fukushima, Japan. It hit the Charles Darwin Research Station on Santa Cruz Island 11 March 2011.; Wypt 285turtles S 0.266474 W 91.449904 elev 10 m 9:29 am 12729

12730 ECUADOR: Galapagos Province Galapagos Archipelago, Isabela Island, west shore, Tagus Bay S 0.263627 W 91.371657 0 m 17 August 2019, 1:36 pm JK & CR Nelson 12730 104 Wypt 286dolphinbayisabela Wypt 288mouthtaguscove S 0.270378 W 91.379472 elev. 1 m 12730

12731 ECUADOR: Galapagos Province Galapagos Archipelago, Isabela Island, Darwin Lake above Tagus Bay S 0.258596 W 91.369804 49 m 17 August 2019, 2:06 pm JK & CR Nelson 12731 104 Wypt 287darwinlake photos: Darwin Lake; Wypt 288mouthtaguscove S 0.270378 W 91.379472 elev. 1m photos: finches 12731

12732 ECUADOR: Galapagos Province Galapagos Archipelago, offshore west of Isabela Island, watching to cross equator S 0.108876 W 91.520197 0 m 17 August 2019, 5:24 pm JK & CR Nelson 12732 104 Wypt 289barelysouth 12732

12733 ECUADOR: Galapagos Province Galapagos Archipelago, offshore west of Isabela Island, near Cape Berkeley N 0.000285 W 91.599227 8 m 17 August 2019, 6:49 pm JK & CR Nelson 12733 104 Wypt 290just north Wypt 291equator N 0.000285 W 91.599227 elev. 8 m 17 August 2019 6:49 pm; iPhone photos of iPhone screen of Motron x GPS, closest to Equator wa, N 0.000053 W 91.599377 elev. 9 m 6:49 pm crossed the line in between S 0.000040 W 91.599417 elev. 9 m 6:49 pm, bad starry pictures a little further north 12733

12734 ECUADOR: Galapagos Province Galapagos Archipelago, off Isabela Island, Cape Berkeley N 0.036139 W 91.596655 7.9248 m (26 ft) 18 August 2019, 12:52 am JK & CR Nelson 12734 104 iPhone iPhone: photos stars 12734

12735 ECUADOR: Galapagos Province Galapagos Archipelago, Santiago Island, Egas Bay S 0.239996 W 90.857844 0 m 18 August 2019, 5:59 am JK & CR Nelson 12735 104 Wypt 292egasbaysantiago (at sea) Wypt 293egasbaysantiago (walk on top) S 0.241337 W

90.861770 elev. 2 m 18 August 2019 7:20 am; Wypt 294grottoegasbay N 0.246186 W 90.868613 elev. 0 m; Wypt 295goodbyeegasbay S 0.236801 W 90.864221 elev. 0 m 18 August 2019 10:33 am 12735

12736 ECUADOR: Galapagos Province Galapagos Archipelago, Santiago Island, Egas Bay grottos S 0.246186 W 90.868613 0 m 18-Aug-2019 JK & CR Nelson 12736 104 Wypt 294grottoegasbay 12736

12737 ECUADOR: Galapagos Province Galapagos Archipelago, Santiago Island, south side S 0.380727 W 90.605228 5 m 18 August 2019, 2:09 pm JK & CR Nelson 12737 104 Wypt 296southsantiago 12737

12738 ECUADOR: Galapagos Province Galapagos Archipelago, Chinese Hat Island off, southeast shore, Santiago Island S 0.368624 W 90.584690 11 m 18 August 2019, 2:56 pm JK & CR Nelson 12738 104 Wypt 297chinahatisland 12738

12739 ECUADOR: Galapagos Province Galapagos Archipelago, Santa Cruz Island, mouth, Black Turtle Cove S 0.494810 W 90.326674 0 m 19 August 2019, 6:13 am JK & CR Nelson 12739 104 Wypt 298blackturtlecove 12739

12740 ECUADOR: Galapagos Province Galapagos Archipelago, Santa Cruz Island, back of Black Turtle Cove S 0.503806 W 90.325348 0 m 19 August 2019, 6:40 am JK & CR Nelson 12740 104 Wypt 299backblackturtle 12740

12741 ECUADOR: Galapagos Province Galapagos Archipelago, Baltra Island, northwest side S 0.438878 W 90.284362 4 m 19-Aug-2019 JK & CR Nelson 12741 104 Wypt 300portatbaltra photos: diving blue footed boobies 12741

12742 ECUADOR: Galapagos Province Galapagos Archipelago, Santa Cruz Island, airport S 0.444613 W 90.269653 46 m (152 ft) 19-Aug-2019 JK & CR Nelson 12742 104 iPhone gps flight to Guayaquil leaving Baltra San Cristobal 12742

12743 ECUADOR: Galapagos Province Guayaquil Airport S 2.157185 W 79.884374 12 m 19-Aug-2019 JK & CR Nelson 12743 104 Google Earth 12743

12744 ECUADOR: Galapagos Province Quito Airport S 0.1252555 W 78.359703 2388m (7836 ft) 19-Aug-2019 JK & CR Nelson 12744 104 iPhone photo Volcanoes near Quito Quito, people in airport 12744

12745 USA: GEORGIA: Fulton/Clayton Cos. Atlanta International Airport N 33.640728 W 84.427700 305 m 20-Aug-2019 JK & CR Nelson 12745 104 Google Earth 12745

12746 USA: airline flight Atlanta to Salt Lake City N 40.789833 W 111.997 1297 m 20 August 2019, 11:16 am JK & CR Nelson 12746 104 Wypt 301touchdown (in Salt Lake City)

photos: runaway, mountains of Colorado, Rush Valley, fires?, marshes of Great Salt Lake, Kennecott Copper Mine, Antelope Island, Lees Creek, house sparrows Salt Lake Airport
12746

12747 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 21-Aug-2019 CR Nelson & S Ashton 12747 104 assessment of damage 12747

12748 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 msl 21-Aug-2019 JK & CR Nelson 12748 104 talking with Todd Chandler and Aicha Rochdi with wold and black dog Zoey photos: wasp flight 12748

12749 USA: UTAH: Sevier Co. Sevier River at Big Rock, Candy Mountain N 38.519020 W 112.264029 1755 m 22-Aug-2019 JK & CR & AJ Nelson 12749 104 Wypt 302sevierbigrockcandy Acroneuria abnormis skins 12749

12750 USA: ARIZONA: Coconino Co. Colorado River at Navajo Bridge, Hwy 89 N 36.818136 W 111.632300 1060 m 23 August 2019, 8:59 am JK & CR & AJ Nelson 12750 104 Wypt 303condors5 photos: California Condors, six 12750

12751 USA: ARIZONA: Yavapai Co., McGuireville Rest Area, 1-17 N 34.674109 W 111.772485 1144 m 23-Aug-2019 JK & CR & AJ Nelson 12751 104 Wypt 304Mcguirevillereatarea moths - Crambidia cephalica, Tortricidae, ant lions - vella, smaller one 12751

12752 USA: ARIZONA: Maricopa Co., Phoenix, 2520 West Columbine Drive, Nelson Home N 33.599019 W 112.113777 389 m 23-Aug-2019 JK & CR & AJ Nelson 12752 JR & BD & AV & AJ Nelson 104 12752

12753 USA: ARIZONA: Pima Co., Santa Catalina Mountains, Mount Lemmon Overlook N 32.368469 W 110.717343 2013 m 23-Aug-2019 JK & CR Nelson & 12752 12753 104 Google Earth photos: sunset 12753

12754 USA: ARIZONA: Pima Co., Santa Catalina Mountains, Mount Lemmon, Rose Canyon Campground N 32.395007 W 110.698655 2161 m 23-Aug-2019 25-Aug-2019 JK & CR Nelson & 12752 12754 104 Wypt 307rosecanyoncamp hammocks, 25 August (morning) walk with Artemis, then with Astrid (24 August) - blacklight, photos: Tiger moths, photos: Scarabs, Green & black: Mantispidae, I first thought Plega sp but I think they are something else! Mantispa? 12754

12755 USA: ARIZONA: Pima Co., Santa Catalina Mountains, Mount Lemmon, Box Canyon, Spring Trail N 32.417125 W 110.744519 2484 m 24-Aug-2019 JK & CR Nelson & 12752 12755 104 Wypt 305boxcanyon 12755

12756 USA: ARIZONA: Pima Co., Santa Catalina Mountains, Mount Lemmon Cookie Cabin, Summerhaven N 32.441537 W 110.759877 2354 m 24-Aug-2019 JK & CR Nelson & 12752 12756 104 Google Earth cookies & pizza 12756

12757 USA: ARIZONA: Pima Co., Santa Catalina Mountains, Mount Lemmon, summit? N 32.439490 W 110.786328 2762 m 24-Aug-2019 JK & CR Nelson & 12752 12757 104 Wypt 306mtlemmon photo: long view 12757

12758 USA: ARIZONA: Pima Co., Santa Catalina Mountains, Mount Lemmon, Rose Canyon Lake N 32.387838 W 110.711473 2120 m 25-Aug-2019 JK & CR Nelson & 12752 12758 104 Wypt 308rosecanyonlake yellow eyed juncos 12758

12759 USA: ARIZONA: Pima Co., Santa Catalina Mountains, Mount Lemmon, San Pedro River overlook N 32.400070 W 110.689913 2239 m 25-Aug-2019 JK & CR Nelson & 12752 12759 104 Wypt 309sanpedrooverlook picnic 12759

12760 USA: ARIZONA: Maricopa Co., Gilbert, Parker home N 33.339704 W 111.756136 385 m 26-Aug-2019 JK & CR Nelson 12760 Arizona Nelsons, Jake, Alison, Tate, Lucy, Miles, Calvin, Penelope 104 Wypt 310Parkers 12760

12761 USA: ARIZONA: Coconino Co., Navajo Indian reservation, South of Cameron, Native Grill N 35.803773 W 111.446428 1402 m 27-Aug-2019 JK & CR Nelson 12761 104 Wypt 311nativegrill 12761

12762 USA: UTAH: Salt Lake Co., Draper, Corner Canyon, Ghost Falls N 40.496098 W 111.821575 1663 m 31-Aug-2019 JK & CR Nelson & USU friends 12762 ponds, Smiths, Parrishes 104 Wypt 312ghostfalls 12762

12763 USA: UTAH: Utah Co., Provo, BYU Botany Pond N 40.244672 W 111.650537 1394 m (4575 ft) 05-Sep-2019 JK & CR Nelson 12763 WW & LV Smith 104 iPhone photo photos: people, grandchildren photos: turtles & ducks 12763

12764 USA: UTAH: Utah Co., Provo, Provo River, BYU Riverside Park, pavilion, 2230 North 300 West N 40.265045 W 111.663697 1412 m (4633 ft) 07-Sep-2019 CR Nelson & Bio 100 class 12764 Riley Nelson, Sophie Carter TA, Anna Harris TA, Sean Bennett - lab student, Halle simms, Olivia Roberts, Lindsey Jorgensen, Bryson Lindsey, Christian Hunt, Karlee McRae, Kyle De La Hoz, Jameese Witt, Courtney Carroll, Leah Medley, Heidi Hansen, Jason Francis, Marshall Nielsen, Kali Ofahengave, Aidan Russell, Gabe Schaffer, Emily Kimpel, Antonette Appel, Anna Hart, Megan Robertson, Ellie Cressman, Lily Tait, Cole Ballard, Shane Moon, Brian Crow 104 iPhone photo Warm nice day 10 am - 12 noon, about 20-30 students & 2 TAs; near pavilion - First 100s all students, Air temp: 21°C, Water temp: 14°C; Velocity for Provo River (m/s) (1) 7.95 s, (2) 8.32 s, (3) 8.65 s, (4) 7.75 s, (5) 7.79 s, (6)

7.53 s, (7) 7.72 s, (8) 8.10 s, (9) 8.03 s, (10) 8.23 s, traveled 10 m sculpins - 10, in samples: Baetidae - early instars many, Brachycentridae, Limnephilidae, Leptoceridae, Simuliidae, Oligochaeta, New Zealand mudsnails, Black leech - soft long, Tan leech - hard oval, Hydropsychidae, saw: sponge that Sam Bennet collected at usual rock upstairs from footbridge 12764

12765 USA: UTAH: Salt Lake Co., Salt Lake City Utah State Fairgrounds N 40.771912 W 111.923242 1279 m (4197 ft) 09-Sep-2019 JK & CR Nelson & family 12765 Riley Nelson, Kaye Nelson, Andrea Nelson, Jordan Christopher, Amy Smith, Wolfgang Smith, Leah Smith, Emily Jacobsen 104 iPhone photos: rides, goats, pigs, people 12765

12766 USA: UTAH: Utah Co., Edgemont 10th Ward LDS Church, 345 East Foothill Drive N 40.29397 W 111.652375 1481 m (4858 ft) 11-Sep-2019 CR Nelson & church youth 12766 104 iPhone photos: packing food kits 12766

12767 USA: UTAH: Utah Co., South Fork Creek, 1.5 miles, South of Vivian Park & Hwy 189 N 40.34775 W 111.546967 1664 m (5460 ft) 12-Sep-2019 JK & CR Nelson & students 12767 104 iPhone photo Paul Frandsen Lab Party photos: Tipulidae, Dolichopodidae 12767

12768 USA: UTAH: Utah Co., Wheeler Sawmill, 12 miles east of Thistle, Waterfall Springs N 39.959678 W 111.267845 1896 m (6222 ft) 14-Sep-2019 JK & CR Nelson 12768 104 iPhone photos: spring flow, Kaye and I repaired the top end of the culinary water line, now the small spring (running 0.1 gallon/minute) after the August flood. We also cleared the tank crossing culvert with much effort so the flow doesn't erode the road. I had cleared the house driveway culvert earlier in the day for the same reason. 12768

12769 USA: UTAH: Utah Co., Provo, Cannon home, 405 East 4450 North N 40.29279 W 111.65091 1483 m 14-Sep-2019 CR Nelson & Doug Cannon 12769 104 Google Earth Doug Cannon brought for C. Riley Nelson; feeding on tomato leaves and fruit 3 full-sized caterpillars, last instar? *Manduca sexta*. photos: caterpillar in lab, 17 Sept 2019. Died soon after. 12769

12770 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab 4118 LSB N 40.245521 W 111.648765 1409 m 16-Sep-2019 CR Nelson 12770 104 same at 2119 LSB photos (on 17 Sep 2019) - Sciaridae, "large" from colony of Madagascar hissing roaches (old mulch) -> Kellogg Organic Garden Soil 12770

12771 USA: UTAH: Salt Lake Co., Red Butte Creek, 300 m east of Red Butte Gardens, Amphitheater entrance N 40.774167 W 111.817778 1554 m 16-Sep-2019 Paul B. Frandsen & Russell J. Stewart 12771 104 Frandsen iPhone photos by CR Nelson in lab: *Hesperophylax*, *Rhyacophila* 12771

12772 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 21-Sep-2019 JK & CR Nelson & family 12772 104 Work day at the cabin with Amy & kids and Mead family cleared debris near house dug new "outhouse" toilet vacuumed silt out of broken 4" culinary water pipe - no rock in pipe, should flush fine, built rock support wall and leveled driveway crossing, cleaned tiny culinary spring dug out valves at tanks, photos: Wolf sliding head down, face up at clay sand "cliff" war tanks, unearthed road drag and pulled it behind four wheeler to grade road and fire break. 12772

12773 USA: UTAH: Utah Co., Goshen Warm Springs, North Pond south end of Utah Lake N 39.959546 W 111.855343 1368 m 24-Sep-2019 CR Nelson & class 12773 Riley, Robert, Emma, Anna, Tyler K., Nick, Abilee, Hannah, Sara, Jacob, Sam 104 Wypt 314goshen UV & Mercury vapor light & sheets, 8:00 - 10:30 pm; blessing for Alexis? before heading to Goshen Leptoceridae, Erebidae, Hydroptilidae, Scarabaeidae, Cantharidae - on sunflower Helianthus annuus, Limnephilidae, Scutigera - house centipede 12773

12774 USA: UTAH: Millard Co., Meadow Hot Spring 4 miles west of Meadow N 38.864463 W 112.503191 1460 m 26-Sep-2019 CR Nelson & class 12774 Riley Nelson, Robert J. Erickson, Visna, Hannah D. Nelson, Mallory DeFord, Anna Eichert, Sara Jaramillo, Tyler Broberg, Sam Bennett, Nick Penrose, Megan Pena, Clara Nielsen, Sarah A. Murphy, Jacob Searcy, Kylee Lenon, Andy Denison 104 Wypt 315meadow Carabidae - Cicindela, Libellulidae Libellula saturata, Mantidae, Lycaenidae pygmy blue, Jewel fish, mollie, Oscar? 12774

12775 USA: UTAH: Washington Co., Pine Valley Mountains, Leeds Creek, 2 miles west of Leeds N 37.266266 W 113.368457 1213 m 26-Sep-2019 27-Sep-2019 CR Nelson & class 12775 104 Wypt 316lowerleeds morning, sunrise Wypt 317leedshighspot N 37.261504 W 113.371529 elev. 1264 m stream: Hydropsychidae, Oreonectes, Gomphidae, Corydalidae, Hesperoperla pacifica, Isoperla pinta, Pteronarcella badia, photos: Promachus yellow hinet? male, Hesperotettix grasshoppers; photos 30 Sep 2019 - Tiger Moths - Lycomorpha splendens, Arachnis clear wing, Lasiocampidae, Saturniidae, Hemileuca neumogenii, Mutillidae, Scorpions - 2 spp including Hadrorus, photos infield: Scarabaeidae Xyloryctes, Myrmeleontidae, photos 30 Sep 2019 Berothidae Lomanyia texana 12775

12776 USA: UTAH: Washington Co., Pine Valley Mountains Leeds Creek, ~ 5 miles east of Leeds N 37.285417 W 113.400872 1462 m 27-Sep-2019 CR Nelson & class 12774 12776 104 Wypt 318upperleeds Wypt 319righthandleeds N 37.286341 W 113.399974 elev. 1442 m tarantula hole, cicada skin, California sister butterfly; canyon tree frogs, Archilestes, Gyrinidae, Gerridae 12776

12777 USA: UTAH: Washington Co., Leeds, city park N 37.237853 W 113.358371 1061 m 27-Sep-2019 CR Nelson & class 12777 104 Wypt 320leedspark Leeds park Embiidina, Thysanura, Dermaptera - 2 families, Forficulidae, Forficula auricularia, Spongiphoridae, Labia minor 12777

12778 USA: UTAH: Washington Co., St. George, Crosby Park, Santa Clara River near confluence of Virgin River N 37.074102 W 113.582990 779 m 27-Sep-2019 CR Nelson & class 12774 12778 104 Wypt 321santaclaraconfluence Crosby Confluence Park: Dolichopodidae, Muscidae, Coenagrionidae, Libellulidae, Dytiscidae 12778

12779 USA: UTAH: Washington Co., Beaver Dam Wash, Lytle Ranch Preserve creek near base of Bens Bluff N 37.144759 W 114.023059 847 m 27-Sep-2019 28-Sep-2019 CR Nelson & class 12774 12779 104 Wypt 080cottonwood (from May classroom 2019) night 27 Sep: collected around UV and Mercury vapor lights streamside: Noctuidae, Sphingidae Manduca rustica, Geometridae, Tortricidae, No Arctiinae, Erebidae Catocala, Chrysopidae, Carabidae bombardier beetles& elytra of Calosoma scrutator tiger beetle Megacephala? Sara Jaramillo's specimen - photos, Tetrigidae; photos 30 Sep 2019: Tarantula male; 28 Sep noontime: Gelastocoridae, Tetrigidae, Pompilidae - Pepsis, Dolichopodidae, Efferia albibarbis, Libellula saturate, zebra tailed lizard 12779

12779.5 USA: UTAH: Washington Co., between Hwy 91 and Welcome Spring turnoff N 37.063061 W 113.903092 1093 m (3585 ft) 28-Sep-2019 CR Nelson # 12779.5 104 Google Earth got flat tire, van 50, sharp rock puncture. & Class CRN 12774 12779.5

12780 USA: UTAH: Washington Co., Beaver Dam Slope/Wash, Lytle Ranch Preserve, Joshua tree forest east of bunkhouse N 37.143541 W 114.019147 874 m 28-Sep-2019 CR Nelson & class 12774 12780 104 Wypt 322tortoiseburrow Wypt 323deadbabytortoise N 37.143552 W 114.019168 elev. 865 m - visited burrow of tortoise seen last spring Wypt 079 tortoise recent activity, but no tortoise - but dead baby tortoise; Wypt 324oldalice N 37.143769 W 114.015409 elev. 893 m - also visited burrow of Alice the male tortoise of 2014 - burrow completely collapsed - no activity; second flat tire on Van 50 at the same spot (changed within 50 feet of yesterday's flat!), found limestone rounded boulder with brachiopod fossils Acrididae - band wings, Sintoria cazieri (on Yucca brevifolia), Cicadelliidae - Cuerna (on Yucca brevifolia), Efferia benedicti? females, Promachus; Bootettix grasshopper near creosote bush 12780

12781 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 msl 30-Sep-2019 JK & CR Nelson 12781 104 photos (30 Sep 2019) Pyralidae: Plodia interpunctella Indianmeal moth caterpillars in pantry, sliced almonds, Tettigoniidae, Microcentrum rhombifolium 12781

12782 USA: UTAH: Utah Co., BYU, Life Sciences Building N 40.245521 W 111.648765 1409 m 02-Oct-2019 CR Nelson, 12782 Sarah Coffin, Russ Matheson, Sandy Garrett 104 Psocoptera, book lice in Animal feed probably Liposcelis sp. 12782

12783 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 msl 12-Oct-2019 CR Nelson 12783 & AT & WW Smith 104 emptied hot water tank drained house water put antifreeze in all drains of sinks, toilets, and bathtub opened faucets in spa pit and washer hookups. Dug out valves at tanks from silt of flood. Reconnected pipes between irrigation and culinary tanks. Drained irrigation tanks. Reconnected culinary hoses so water can go in vault. Wolf & Todd found snail fossils and Wolf showed me a stick that was curved like a snake. Equations were calculated to find the water flow output, final answer: $6.4 \text{ min/gal} = 0.15 \text{ gal/minute}$

Also collected honey locust seed pods containing bruchine Chrysomelidae beetles at Smith home at: 75 North 850 West, Orem, Utah. Could call it CRN #12783.5. Many beetles had emerged by 4 November 2019 and I shared them with my Entomology class. 12783

12784 USA: IDAHO: Bannock Co., Indian Rocks State Park I-15 near McCammon N 42.683516 W 112.217325 1446 m 16-Oct-2019 JK & CR Nelson & family 12784 Riley, Kaye, Todd, Amy, Wolf, Leah 104 Wypt 325mccammon basalt with lichens for Stoddards 12784

12785 USA: IDAHO: Bannock Co., Pocatello, Stoddard Home 1366 Camelback View Drive N 42.901 W 112.39672 1579 m (5180 ft) 16-Oct-2019 17-Oct-2019 JK & CR Nelson & family & friends & 12784 + 12785 Nick Stoddard, Maegan Stoddard, Abby Stoddard, Parker Stoddard, Emily Stoddard, Alison Stoddard, Daniel Parker, Tamara Parker, Jane Parker, Milli Parker, Brett Parker, David Parker, Jera Parker 104 iPhone photo 12785

12786 USA: WYOMING: Park Co., Yellowstone National Park Madison River Bridge, Hwy 191 first crossing east of west entrance N 44.661236 W 110.962237 2067 m 17-Oct-2019 JK & CR Nelson 12786 & family & 12784 +, Andrea Nelson & Jordan Christopher 104 Wypt 326madisoncrossing photos: bison, buffalo 12786

12787 USA: WYOMING: Park Co., Yellowstone National Park, Grand Prismatic Spring, Excelsior Geyser N 44.525283 W 110.837305 2194 m 17-Oct-2019 JK & CR Nelson & 12786 12787 104 Wypt 327grandprism photos: scenery, people 12787

12788 USA: WYOMING: Park Co., Yellowstone National Park, Lower Geyser Basin, Spasm Geyser N 44.550998 W 110.808492 2226 m 17-Oct-2019 JK & CR Nelson & 12786 12788 104 Wypt 328spasmgeyser photos: Spasm Geyser; Wolf got a sliver in his palm from the wood railing. Amy was able to get it out with my forceps from my knife amid many tears. 12788

12789 USA: WYOMING: Park Co., Yellowstone National Park, Gibbon Falls N 44.653797 W 110.771752 2162 m 17-Oct-2019 JK & CR Nelson & family 12786 12789 104 Wypt 329gibbonfalls photos: scenery, falls, people 12789

12789.5 USA: WYOMING: Park Co., Yellowstone National Park, Artist Paint Pots N 44.691597 W 110.738213 2270 m 17-Oct-2019 JK & CR Nelson & family 12786 12789.5 104 Wypt 330mudpots photos & videos mudpots 12789.5

12790 USA: WYOMING: Park Co., Yellowstone National Park, Madison River, Hwy 191 near Mount Jackson N 44.649047 W 110.946294 2049 m 17-Oct-2019 JK & CR Nelson & family 12786 12790 104 Wypt 331madisonelf long lens photographer was in too big a hurry to share with me photos: elk herd, big bull bugling 12790

12791 USA: MONTANA: Gallatin Co., West Yellowstone, Evergreen Motel N 44.662669 W 111.103491 2026 m 17-Oct-2019 18-Oct-2019 JK & CR Nelson & family 12786 12791 104 Wypt 332evergreenmotel dinner at Bullwinkles, Restaurant food was fine but a little overpriced for a hamburger, motel rooms renovated and nice, but we missed the kitsch 12791

12792 USA: WYOMING: Park Co., Yellowstone National Park, Madison River, Talus pulloff N 44.647510 W 110.933161 2060 m 18-Oct-2019 JK & CR Nelson & 12786 12792 104 Wypt 333talus photos: people at river 12792

12793 USA: WYOMING: Park Co., Yellowstone National Park, Norris Geyser Basin N 44.728249 W 110.701643 2281 m 18-Oct-2019 JK & CR Nelson & family 12786 12793 104 Wypt 334norris photos: people & scenery 12793

12794 USA: WYOMING: Park Co., Yellowstone National Park, Artist Point, view to Lower Falls of the Yellowstone River N 44.720920 W 110.479266 2334 m 18-Oct-2019 JK & CR Nelson & family 12786 12794 104 Wypt 335artistpoint photos: people & scenery, Thai woman with an African Gray Parrot in her backpack in the snow 12794

12795 USA: WYOMING: Park Co., Yellowstone National Park, Upper Falls of the Yellowstone River, viewpoint from south river (east) N 44.712266 W 110.498328 2343 m 18-Oct-2019 JK & CR Nelson & family 12786 12795 104 Wypt 336upperfallssouth photos & video scenery 12795

12796 USA: WYOMING: Park Co., Yellowstone National Park, Mud Volcano area N 44.621045 W 110.434608 2394 m 18-Oct-2019 JK & CR Nelson & family 12786 12796 104 Wypt 337churningcaldron photos: Churning Caldron start of heavy snow photos: bison 0.5 mile south of parking lot 12796

12797 USA: WYOMING: Park Co.,
Yellowstone National Park, Fishing Bridge N 44.566620 W 110.382000 2344 m 18-Oct-2019 JK & CR Nelson & family 12786 12797 104 Wypt 338fishingbridge photos: scenery, snow falling photos: mallard duck, pied billed grebe 12797

12798 USA: WYOMING: Park Co., Yellowstone National Park, north end Yellowstone Park N 44.5522 W 110.408 2384 m 18-Oct-2019 JK & CR Nelson & family 12786 12798 104 iPhone Amy photos: big bull elk with snow on antlers 12798

12799 USA: WYOMING: Park Co., Yellowstone National Park, east side Craig Pass, Continental Divide N 44.448097 W 110.705437 2435 m 18-Oct-2019 JK & CR Nelson & family 12786 12799 104 iPhone Riley stuck on slippery snow our car hit by Martha Laree Garrity of Logan, Utah, drivers license #170921780 whit van Utah License Y18 4PA, jack knifed truck & trailer, we crept safely over the pass and saw police coming to help from Old Faithful. (7989 ft) 12799

12800 USA: WYOMING: Park Co., Yellowstone National Park, Old Faithful Area N 44.456172 W 110.83687 2234 m 18-Oct-2019 JK & CR Nelson & family 12786 12800 104 iPhone photo Amy videos by Todd and Amy. (7328 ft) grizzly bear with snow on its back 12800

12801 USA: WYOMING: Park Co., Yellowstone National Park, Old Faithful Area, Snow lodge N 44.456697 W 110.829762 2236 m 18-Oct-2019 19-Oct-2019 JK & CR Nelson & family 12786 12801 104 Wypt 339snowlodge made it safely to the lodge, watched Old Faithful in the dark at 7:51 pm, no photos; Wypt 340snowlodgemorning N 44.456675 W 110.829679 elev. 2242 m 12801

12802 USA: WYOMING: Park Co., Yellowstone National Park, Old Faithful viewing area N 44.459653 W 110.828746 2242 m 19-Oct-2019 JK & CR Nelson & family 12786 12802 104 Wypt 342oldfaithful photos: geysers, Old Faithful, Beehive Geyser 12802

12803 USA: WYOMING: Park Co., Yellowstone National Park, Madison River, Hwy 20, mi east of West Entrance N 44.669276 W 110.977124 2058 m 18-Oct-2019 JK & CR Nelson & family 12786 12803 104 Wypt 343lastbuffalo photos: last buffalo seen as exiting park on a dash to get out after snow had closed the roads and we had a gap between storms to get out. 12803

12804 USA: IDAHO: Bonneville Co., Ammon, Parker Home 2179 Stafford Circle N 43.478074 W 111.931921 1445 m 19-Oct-2019 JK & CR Nelson & family 12786 12804 104 Wypt 344ammonidaho spent night at Ben & Kristi Parker's house while they spent the night in ours. Big sleet/snow storm 12804

12805 USA: UTAH: Box Elder Co., I-15, Portage Exit N 41.978813 W 112.191388 1368 m 20-Oct-2019 JK & CR Nelson 12805 AV & WW Smith 104 Google Earth Our Toyota Highlander 2013 turned over 100,000 miles and we stopped to photograph it. 12805

12806 USA: UTAH: Salt Lake Co., Salt Lake City, Red Butte Gardens N 40.76680 W 111.82662 1501 m 24-Oct-2019 JK & CR Nelson & family 12806 Riley, Kaye, Amy, Todd, Wolf, Leah, Andrea, Jordan 105 iPhone photo Garden after dar, Wizard of Oz, ate dinner at Jordan and Andrea's house - 973 East 800 North 12806

12807 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 26-Oct-2019 JK & CR Nelson 12807 105 xxxx moved old canoe from Kent Wheeler's house to sawmill, moved facing rock from Lawrence's into mill shed started and charged battery of small four wheeler, unhooked culinary water line from cistern, plugged empty line so things don't crawl in. Checked irrigation tanks, all empty checked brown broken culinary line at gully crossing with Kaye and plugged broken uphill end. Unloaded firewood from Lawrence's stored big trailer in shed. Saw mountain chickadee, golden eagle 12807

12808 USA: UTAH: Utah Co., Provo, 4310 Timpview Drive N 40.290774 W 111.647975 1484 m 31-Oct-2019 CR Nelson 12808 105 Google Earth road kill wild turkey, given to M.L. Bean Museum 12808

12809 USA: UTAH: Utah Co., 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 01-Nov-2019 JK & CR Nelson 12809 105 Friday talked to Utah Department of Transportation officials about repairing right of way drainage and replacing fence destroyed by flood of 8 August 2019 along highway east of gate; photo: new soil line seen in roadxxxx about 2 1/2 - 3 feet of alluvium deposited on top of previous soil surface!; Talked with: Jordan King - local UDOT, Nelson - Salt Lake UDOT, McKay Jenson Coranite Construction 12809

12810 USA: UTAH: Utah Co., Provo, Ashby Home, 579 East 4750 North N 40.29616 W 111.65002 xxxx 04-Nov-2019 JK & CR Nelson 12810 105 Monday photo: Pat & Larry Ashby with scythe of Homes Petersen, Pat's father, of Delta, Utah, they gave it to me as a gift 12810

12811 USA: UTAH: Utah Co., Provo, BYU, steps near Life Sciences Building N 40.245521 W 111.648765 1409 m 05-Nov-2019 CR Nelson & Biology 100 class 12811 105 xxx photos: class arranged by height and frequency, photos taken by Mckinzie Meeks from my lab 12811

12812 USA: UTAH: Utah Co., Provo, Grow home, Alex and Annie Grow, 4435 North Canyon Road N 40.29241 W 111.65329 xxxx 06-Nov-2019 xxxx 12812 105 iPhone photos: Riley at Teachers Quorum, activity, pinball, Henry Grow, age 5? took these pictures 12812

12813 USA: UTAH: Utah Co., Provo, Locust Lane LDS Church, 965 North Locust Lane N 40.246728 W 111.635102 xxxx 07-Nov-2019 CR Nelson & Brian Woodfield with students 12813 Anna Eichert, Sam Bennett, Cass Bean, Hallie Simms, two more friends 105 xxxx Special Needs Activity Program, Insect Show - The Little things that run the world 12813

12814 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 09-Nov-2019 JK & CR Nelson, WW & LV Smith 12814 105 xxxx Granite Construction heavy equipment had cleared our entrance road inside the gate and built a berm with the scrapings on the west side to keep the Wheeler Sawmill, Canyon waters off our road; photos: Wolfgang, Leah, Kaye, and Rilet with D6 Caterpillar tractor and an excavator; photos: fossil bird footprints in Eocene 50 million years ago, Green River shale also crocodile tooth found by Wolfgang, I skinned my knee carrying slabs off the mountain. 12814

12815 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB N 40.245321 W 111.648794 1400 m 15-Nov-2019 Anna Eichert 12815 105 Wypt 083nelsonoffice birth of hissing roaches video 38 12815

12815.5 USA: UTAH: Utah Co., Provo, BYU, M.L. Bean Museum N 40.25333 W 111.64694 1432 m 21-Nov-2019 CR Nelson 12815.5 105 xxxx photos: bot fly larva scar on arm of Shawn Clark, healed from 2003 in Costa Rica 12815.5

12816 USA: UTAH: Millard Co., Meadow Hot Springs, 4 miles west of Meadow N 38.862152 W 112.505144 1442 m 27-Nov-2019 JK & CR Nelson, LV WW AL AT Smith, AJ Nelson & J. Christopher 12816 105 Wypt 346middlemeadow arrived 12:55 pm, left 1:55 pm; Riley swam, so did Wolf, who snorkeled for the very first time, photo: scenery, gathered white alkali sand Caught 18 African jewel fish cichlids in collapsible mirror trap, Hemichromis bimaculatus, photographed in home aquarium 2 Dec 2019, also saw large green & pied mollies and another large cichlid with a tail body and diagonally rising black spots from front of anal fin to top of caudal peduncle, other fins yellow; photos of jewel fish at home, jewel fish & tank fishs parrot cichlid, chocolate cichlid, Texas map turtle, photos taken on 2 December 2019; also tank fish: parrot cichlid silver dollar, photos taken on 13 Decemeber 2019 12816

12817 USA: UTAH: Kane Co., 1 mile north Bryce Zion Campground, Hwy 89 N 37.399997 W 112.557157 2074 m 27-Nov-2019 JK & CR Nelson & 12816 12817 105 Wyot 347 little bryce 5:15pm mud and pebbles from claron formation to use for Thanksgiving Art; later Kaye hit a deer, bumped it, on Hwy 89 near Mount Carmel near milemarker 73, the doe ran away easily and the right front bumper wasn't damaged. It was even hard to see where the mud on it was wiped off. On to 373 South 100 West, Kanab 12817

12818 USA: UTAH: Kane Co., Kanab, 373 South 100 West N 37.04178 W 112.530518 1497 m 28-Nov-2019 JK & CR Nelson & 12816 & AJ, AV, BD, & JR Nelson & dogs Pfeiffer and Haplo 12818 105 Wypt 348 Kanab Happy Thanksgiving saw 3 point buck out front window in the morning; photos on 28-29 Nov "wild turkeys" 12818

12819 USA: UTAH: Kane Co., Kanab, Cottonwood Trail N 37.022463 W 112.566536 1581 m 28-Nov-2019 CR Nelson 12819 105 Wypt 349kanabcliffs photo: scenery, watertank, Moenkopi shale for sand painting 12819

12820 USA: UTAH: Kane Co., Kanab Creek Canyon, Best Friends Animal Sanctuary anitop Dogtown Heights N 37.142819 W 112.554869 1691 m 30-Nov-2019 JK & CR Nelson & family 12820 105 wypt 350dogtownheights also ate on top at Angel Diner, overlook, Wypt 351angeldiner, N 37.141159 W 112.542968, elev. 1670 m, photos: scenery up canyon people cat & dog adoption center 12820

12821 USA: UTAH: Kane Co., Coral Pink Sand Dunes Ponderosa Grove Campground N 37.087085 W 112.671012 1923 m 30-Nov-2019 JK & CR Nelson & 12818 12821 105 Wypt 352ponderosagrove blowout area blowout area, photos: people and scenery; end, Wypt 353ponderosagrovecamp, N 37.089134 W 112.672287, elev. 1919m, campground area 12821

12822 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 10-Dec-2019 JK & CR Nelson 12822 105 xxxx photos: Noctuidae - moth, Salticidae Phiddipus audax? 12822

12823 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB N 40.245521 W 111.648765 1409 m 10-Dec-2019 CR Nelson 12823 105 xxxx photos: Sciaridae colony started, molting hissing roach, time lapse, video by Sam Bennett 12823

12824 USA: UTAH: Davis Co., Centerville, Parrish home xxxx xxxx 13-Dec-2019 JK & CR Nelson 12824 105 xxxx xxxx 12824

12825 USA: UTAH: Box Elder Co. Brigham City, Nelson home, 211 North 300 West N 41.515438 W 112.0202665 xxxx 14-Dec-2019 JK & CR Nelson 12825 105 xxxx photos: family photos, carpet on stairs, Kaye in stairway, Golden Book Encyclopedia of Natural Science, Volume 1 12825

12826 USA: UTAH: Box Elder Co. Brigham City, city center jet Main Street and Forest Street xxxx xxxx 14-Dec-2019 JK & CR & JF Nelson 12826 105 xxxx photos: War memorial, County Courthouse, store fronts on east Main toward 100 south, Nelson house 12826

12827 USA: UTAH: Utah Co., Provo, Edgemont Fields xxxx xxxx 16-Dec-2019 CR Nelson 12827 105 xxxx photos: flocks of Starlings in Johnsons Pastores- murmuration 12827

12828 USA: UTAH: Utah Co., Provo, Nelson Home, 500 E Foothill Drive N 40.29343 W 111.64922 1495 m 25-Dec-2019 JK & CR Nelson 12828 105 xxxx photos: snow on trees and bushes, kids at Christmas tree, Christmas dinner 12828

12829 USA: UTAH: Utah Co., Nelson Lab & Office, LSB 4118 & 2119 N 40.29343 W 111.64922 1409 m 26-Dec-2019 CR Nelson 12829 105 xxxx photos: test portraits with new iPhone light & tripod photo: cockroach with folded pronotum (photographed earlier during emergence) 12829

12830 USA: UTAH: Utah Co., Provo, 2230 North University Boulevard, Intramural Fields N 40.263504 W 111.658578 xxxx 26-Dec-2019 CR Nelson 12830 105 xxxx photos: blanket of clouds over Mount Timpanogos at sunset 12830

12831 USA: UTAH: Utah Co., Provo, Rock Canyon, near trail turnoff to Squaw Peak N 40.269027 W 111.601590 1885 m 27-Dec-2019 CR Nelson, P.B. Frandsen, and Clint Whipple 12831 105 Wypt 356chionea photos: people & scenery phoptos: caught Chionea male 12831

12832 USA: UTAH: Salt Lake Co., Draper, Loveland Living Planet Aquarium N 40.532514 W 111.894001 xxxx 03-Jan-2020 JK & CR Nelson & family 12832 Riley, Kaye, Amy, Wolfgang, Leah, Andrea 105 xxxx people: family, Alice Waldron, Mount Timpanogos, photos: Virgin River Chub, hump backed chub, otter, Jellyfish *Chrysora fuscescens*, Jellyfish moon Jelly, Gentoo penguins, giant isopods *Bathynomus* Sp., Pacific hagfish *Eptatretus stoutii*, Giant Japanese King crab - *Macrocheira kaempferi*, Quill back rockfish, *Metridium* anemone, Asian arowana (*Scleropages formosus*), Lemonfin barb (*Hypsibarbus wetmorei*), Finescale tigerfish *Datnioides* sp., Clouded leopard, hillstream loaches (*Atyopsis moluccensis*), bamboo shrimp, *Monodactylus*, Long horned cowfish (*Lactoria cornuta*), Giant clam (*Tridacna maxima*), Cockatoo rouge fish, Anemones & coral, *Arapaima*, *Cichla* (Tucunare), silver arowana, Electric eel, Green sea anemone (*Anthopleura xanthogrammica*), Purple sea urchin (*Strongylocentrotus purpuratus*), Ochne Sea star (*Pisaster ochraceus*), four eyed fish *Anableps*, Archer fish, strawberry anemone (*Corynactis californica*), scallops, Northern ronquil, Painted anemone (*Urticina crassicornis*), anemones with anemone/clownfish, horseshoe crab, stingrays (one with blue spots), blunt nosed skate?, zebra mantis shrimp (*Lysiosquilla maculata*), Epaulette shark eggs (*Hemiscyllium hallstromi*), Upside down jellyfish (*Cassiopea*), mixed coral/hydroid tank, coral propagation, green disk (my name), Lionfish, Goby in hole, American lobster, Shark tank, black tipped reef shark, gray reef shark, stingray, split fin flashlight fish 12832

12833 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 04-Jan-2020 JK & CR Nelson & family 12833 Riley Nelson, Kaye

Nelson, Todd Smith, Amy Smith, Wolfgang Smith, Leah Smith, Andrea Nelson, Jordan Christopher 105 xxxx people & snow fun, put in the winter ceiling robin, scrub jay 12833

12834 USA: UTAH: Utah Co., Provo, Nelson home, 500 E Foothill Drive N 40.29343 W 111.64922 1495 m 08-Jan-2020 CR Nelson 12834 105 xxxx photos: Pin siskins on nyjer seed rock 12834

12834.5 USA: UTAH: Utah Co., Nelson Lab, 4118 LSB N 40.245521 W 111.648765 1409 m 10-Jan-2020 CR Nelson 12834.5 105 xxxx photos: large Lucanidae larvae, Lucanus mazama, from eggs laid by adults caught 30? June 2019 CRN 12834.5

12835 USA: UTAH: Utah Co., Provo River, BYU Riverside Park, 2230 N 300 W near pavilion N 40.265070 W 111.664031 1415 m 11-Jan-2020 CR Nelson & Biology 100 class 12835 Anna Harris, Sophie Carter, Jared Jackson, Daniel Sitter, Gavin Metcalf, Noah Macedone, Leah Hawkins, Levi Hilton, Anthony DiNuzzo, Evan Conner, Mariah Brooks, Shsan Sweeren, Estelle Robbins, Elena Robbins, Luke Rainey, Logan Brian, Adam Boss, Jaden Leishman, Melissa robles, Bryce LeSueur, Peter Searle 105 xxxx Air temp. 7 degrees celsius, Water temp 3-4 degrees celsius; Velocities (10m): 5.9, 6.2, 6.5, 5.8, 6.0, 5.5, 6.0, 5.9, 6.2, 5.8, average 5.98 or 6.0 Baetis, Brachycentrus, earth worm, leech, Hydropsyche, Skwala, Isoperla, Chironomidae, Isopoda 12835

12836 USA: UTAH: Utah Co., Provo River, BYU Riverside Park downstream from Pavilion N 40.264776 W 111.663361 1412 m 11-Jan-2020 CR Nelson & Animal Diversity class 12836 Gillian Carter, Audrey Horn, Abigail Andros, Rachel Pixton, Anna Blight, Jessica Mangum, Jenna Jivek, Brooklynn Jentzsch, Vibalia Raj, Lucie Eppel, Brenna Croker, Jessica Thompson, Cedric Fajards, Jacob Spencer, Kailee Nelson, Jacob Sok, Michael Kerr, John Rippey, Peter seark, Forrest Dinkcock, Gregory Wilcox, Dyani Fuhrman 105 xxxx beaver trap & beaver cut logs, water temp 4 degrees celsius, Air temp 12 degrees celsius, Velocity: 6.8 sec/10m, 6.2, 6.4, 6.5, 7.5, 6.2, 6.7, 5.9, 6.8, 7.5, 6.65, 1.5 m/sec Baetis, Limnephilidae, Brachycentridae, Skwala, Isoperla, leech, earthworm, chironomidae 12836

12837 USA: UTAH: Utah Co., Provo, Canyon Crest Schoolyard N 40.298192 W 111.652389 xxxx 20-Jan-2020 CR Nelson & family 12837 Riley, Kaye, Andrea, Amy, Todd, Wolf, Leah 105 xxxx iphone photos: family 12837

12838 USA: UTAH: Utah Co., Provo, BYU, 106B Martin Building N 40.246911 W 111.649173 xxxx 22-Jan-2020 CR Nelson & Animal 12838 105 xxxx Diversity class, photos: giant jenga 12838

12839 USA: UTAH: Salt Lake Co., Salt Lake City, Natural History Museum at Utah N 40.764330 W 111.822777 xxxx 25-Jan-2020 CR Nelson & family 12839 Riley, Kaye, Amy,

Wolf, Leah, Andrea, Jordan 105 xxxx photos: family, backroom collections photos:
Dinofest, Ceratopsian Wall 12839

12840 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB N 40.245521 W 111.648765
1409 m 25-Jan-2020 CR Nelson & WW Smith 12840 105 CRN # saw some emerged 24
January 2020 photos: Scarabaeidae- Dynastes granti, larva, pupa, adults from eggs of
adults collected from Carmel Junction, Utah September 2015 12840

12841 USA: UTAH: Utah Co., Provo, BYU, Biology 100 Class, 120 Martin Building (MARB) N
40.246911 W 111.649173 xxxx 29-Jan-2020 CR Nelson & class 12841 105 xxxx photo:
scales of size of the universe in circular form 12841

12842 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W
111.26763 elev. 1829 msl 01-Feb-2020 JK & CR Nelson & family 12842 Riley, Kaye, Wolf,
Leah 105 xxxx photos: new driveway pipe, biking in snow 12842

12843 USA: UTAH: Utah Co., xxxx xxxx xxxx 24-Feb-2020 xxxx 12843 105 xxxx Libby Baum
Roundy, CR Nelson not present when collected by Libby on both white & black face sheep
photos: sheep keds - Hippoboscidae - Melophagus ovinus by CR Nelson on host wool in
the lab, 26 February 2020 with help from Paul Frandsen 12843

12844 USA: UTAH: Utah Co., 4118 LSB N 40.245521 W 111.648765 1409 m 26-Feb-2020
CR Nelson & P.B. Frandsen 12844 105 xxxx photo session in lab for sheep keds and two
tropical species of Embiidina from 12844

12845 USA: UTAH: Utah Co., Utah Lake, Lincoln Beach N 40.141304 W 111.801821 xxxx
29-Feb-2020 JK & CR Nelson & WW & LV Smith 12845 105 xxxx fishing, rock throwing
12845

12846 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 01-Mar-2020 JK & CR Nelson 12846 105 xxxx video walking barefoot in
the snow after church 12846

12847 USA: UTAH: Utah Co., 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 07-
Mar-2020 JK & CR Nelson, Lily Greyson, Sam Bennett 12847 105 xxxx photos: pond
building photos: dead mouse trapped in a fruit battle 12847

12848 USA: UTAH: Utah Co., Lindon, Castle Park, Reception Center N 40.339901 W
111.717513 xxxx 07-Mar-2020 JK & CR Nelson 12848 105 xxxx photos: wedding reception
for Rebecca Clement & Michael Maldonado with Samantha Smith (video eating
mealworms) & Hunter Standring (they got married in California a week later). McKall Morris,
Rachel Fuller Elsmore crossing of Machetes 12848

12849 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 08-Mar-2020 JK & CR Nelson 12849 105 xxxx Happy 64th birthday to Riley; photos: pond on 9 March 2020, 14 March 2020, lemon 14 March 2020, new sing 15 March 2020, crocuses is March 2020, Kaye, Leah, & Wolf with pond 16 March 2020 turtle sculpture in stake conference, dead mouse in a fruit jar with a Calliphoridae - Pollenia and a Trichoceridae, winter crane fly, Blue the cat; more fruit jar mouse 17 March 2020 12849

12850 USA: UTAH: Utah Co., Provo, BYU, Museum of Paleontology N 40.256926 W 111.657116 xxxx 19-Mar-2020 CR Nelson & Brooks Britt 12850 105 xxxx photo: Brooks demonstrating back stretch exercises 12850

12851 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 19-Mar-2020 JK & CR Nelson 12851 105 Riley cuts webbing between thumb and forefinger of right hand while trying to seat an axe head on a newly fit old handle, mashed/bruised and tore open with a ball peen hammer; photos: 20 March 2020, morning, evening, 21 March 2020 evening, 22 March 2020 goldfish 12851

12852 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m xxxx JK & CR Nelson 12852 105 xxxx picnic with Kaye 12852

12853 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 msl 22-Mar-2020 JK & CR Nelson 12853 105 xxxx photos: dead goldfish, flowers in yard 12853

12854 USA: UTAH: Utah Co., Provo, East Lawn Cemetery N 40.296384 W 111.649042 xxxx 22-Mar-2020 JK & CR Nelson 12854 105 xxxx photos: scenery, flag 12854

12855 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 28-29 March 2020 JK & CR Nelson 12855 105 xxxx (Mar 28)photos: with camera set on tripod, at window in home office log baited with sunflower seeds (Mar 28) black capped chickadee, house finch, scrub jay, dark eyed juncos, california quail; (29 March) house finch, scrub jay, dark eyed junco, white crowned sparrow 12855

12856 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 elev. 1829 msl 31-Mar-2020 JK & CR Nelson, WW & LV Smith 12856 105 xxxx conversion: height ft divided by 2.31=Xpsi; climbed to waterfall and reattached culinary pipe to spring. Good, steady flow of 20 seconds to fill a 12oz can = 0.28 gallons/minutes = 16.875 gallons/hour = 405 gallons/day at that rate it takes 59 hours to fill the 1000 gallon tank, water clear at cement vault tank. I ran it several hours then attached it to the vault, played in sand with Wolf and Leah at the tanks. Kaye and I jump started the smaller four wheeler and took the kids for rides. GPS elevation at waterfall-1895 m (6217ft), at tanks -

1869m (6102 ft), at cabin - 1829 m (6000 ft) from Google Maps; waterfall 1893m (6210 ft), Tanks 1877 m (6158ft), Cabin/pit 1843 m(6046ft), rop tank to cabin 112 ft=48 psi raven 12856

12857 USA: UTAH: Utah Co., University Blvd Jet Foothill Drive N 40.29757 W 111.65603 1455m 05-Apr-2020 JK & CR Nelson 12857 105 iphone GPS photos: Chrysomelidae. Gastrophysa sp on Rumex sp., adults with many eggs tried to shoot eggs hatching with timelapse, but not hatching; also collected on 11 April 2020 photos adults and eggs with Nikon D610, kept some in 100% ethanol 12857

12858 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 msl 10-Apr-2020 CR Nelson 12858 105 xxxx videos & photos: Hadrurus spedix, pet scorpion from last summer 12858

12858.5 USA: UTAH: Washington Co., Leeds Creek just before turnoff to Oak Grove Campground, 2 miles west of Leeds N 37.270519 W 113.380794 1223 m 19-Aug-2020 23-Aug-2020 M.L. Fisher & N.J. Dowdy 12858.5 105 xxxx caught also at home: photos: Pyrrhocopidae, Pyrrhocoris apterus (photographed 11 April 2020) 12858.5

12859 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 11-Apr-2020 JK & CR Nelson 12859 105 xxxx photos: Kaye saw Paracotalpa granicollis flying, several 12859

12860 USA: UTAH: Carbon Co., Mounds Reef Area, 8 miles east of Wellington, 1 mile east of Mounds Road, Oil Well Drane N 39.512562 W 110.588409 1695 m 11-Apr-2020 JK & CR Nelson 12860 105 Wypt 362trucksclammonite Wayne & Dianne Mathis skirted a mile past a Blue Knob, fouted the southeast and parked truck and walked into the drainage looking (and finding) ammonite pieces, calm shells, and selenite. Found scattered pieces of fossils as we walked NW and checked shelf rock at the heads of drains. No entire ammonites. Need go further north. Other GPS recordings, from photos: Kaye = pronghorn jam, N 39.514233 W 110.587833 elev. 1692 m; Riley & Kaye with big cuhkn ammonite, N 39.514850 W 110.590200 elev. 1702 m; (Google Earth, necessary) I walked further north and found good slabs at rock at heads of washes, but no ammonites at N 39.519294 W 110.594469 elev. 1716 m, need to go further north 12860

12861 USA: UTAH: Emery Co., Desert Lake Wildlife Management Area 2.5 miles Southeast of Elmo N 39.358241 W 110.788194 1712 m 11-Apr-2020 JK & CR Nelson, W & D Mathis 12861 105 Wypt 363desertlake Birding: snow geese 2, Canada geese 20, White pelican 1, Double crested cormorant 1, mallard duck, Gadwall, Pintail, American Wigeon, NOthern Shoveler, Green winged teal, Cinnamon teal, hesser scaup, Pied billed grebe, Great blue heron, White faced ibis, coot, Avocet; turkey vulture, Cool den Eagle (at Desert Lake and in

Elmo), red winged blackbird, magpie, ring necked pheasant, Collared dove, in Elmo, 23 species 12861

12862 USA: UTAH: Carbon Co., Price, Pioneer Park N 39.609139 W 110.808349 1727 m 11-Apr-2020 CR & JK Nelson 12862 105 Google Earth photos: group of four of us at lunch, social distancing due to coronavirus 12862

12863 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 14-Apr-2020 JK & CR Nelson, AJ Nelson, LV, WW, and AL Smith 12863 105 xxxx repaired culinary water line at a break near the upper waterfall. Secured line with 12 gauge wire to a juniper tree high on the hillside, water flowed to the gully in the pipe nearly to the house. Kaye, Andrea, Amy, and the kids dug out the upstream end of the broken 4 inch water line. Water flowed well there. We rearranged the beds in the house to use a new green bed and get rid of an old mattress we saw mountain bluebirds and heard red breasted nuthatches 12863

12864 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 17-Apr-2020 CR Nelson 12864 105 photos: white crowned sparrow 12864

12865 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 18-Apr-2020 JK & CR Nelson, AL & AT Smith 12865 105 cabin
*installed removable 4" cap and 1" diversion tee on uphill end of culinary line break in gully. Clamps on rubber union didn't hold the pressure. Popped off during the day; *Kaye and Todd dug out the upper pit of culinary valve box. This is a possible access for a sediment trap and clean out. *Kaye also dug out the red valve irrigation regulator valve near the lawn and the center lawn rainbird sprinkler riser which broke off in the flood of last fall. *At the tanks, Todd and I carefully cut down a cottonwood tree (10 in diameter) that tipped against the suspended culinary line and caused leaks. It was a tricky, somewhat dangerous job with a chainsaw, bow saw, and four wheeler for pulling down the tree. It is down. We didn't get hurt. Rained at the end of the work day. Sew muscles & backs. 12865

12866 USA: UTAH: Utah Co., Provo, Bonneville Shoreline Trail walked north "a mile" from Rock Canyon N 40.274095 W 111.63281 1600 m 19-Apr-2020 JK & CR Nelson 12866 105 iPhone we walked north as far as Amber and Jordan Pratley's house on a cul de sac of Piute Drive; photos: selfies mule deer, Utah astragalus, sweet pea, feral plums blooming, Erodium, magpie, scrub jay, raven, galvanized chain link fence decorated with dead branches

12866

12867 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 22-Apr-2020 CR Nelson, LV Smith 12867 105 Leah was excited to ride to the cabin in the truck. Talked about excavation & repair work with Trevor Erickson of Granite Construction. Hooked up big trailer to take home and haul ATV back tomorrow 12867

12868 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 23-Apr-2020 JK & CR Nelson, LV & WW Smith, AJ Nelson, J Christopher 12868 105 Thursday used ATV snowplow to clear dirt from entrance to Dog Sled (trailer storage); Todd, Jordan, and I experimented with smell dams just below the tall waterfall; Granite Construction built a 10 foot pile of boulders on the flats. It is our Mongolian Ovoo shrine. All slept at the cabin; Friday, 28 April 2020, Hank and Rexanne Pond came after breakfast and the families had left. Hank and I installed the 9 inch waterline and built a rock tower to support the heavy middle. Kaye and Rex went hiking. 25 April 2020 Saturday - Tower had fallen and pipe had sagged. I repaired both. Played with Leah and Wolf. 12868

12869 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 27-Apr-2020 JK & CR Nelson, AT LV WW Smith 12869 105 Monday Todd and I experimented with ways to support the 4' line across the 14' creek bed gully. We used two 16' pine poles and supported the pipe medical stretcher style with 12 gauge wire buffered with garden hose so the pipe wouldn't wear through Kaye worked and played with the kids. Saw *Paracotalpa granicollis* and caught one sagebrush lizard for Wolf and Leah to see in a bucket. 12869

12870 USA: UTAH: Utah Co., Orem, Smith Home, 75 North 900 West N 40.316801 W 111.717476 xxxx 29-Apr-2020 JK & CR Nelson, LV WW AL & AT Smith, AJ Nelson & J. Christopher 12870 105 xxxx photos: 60th birthday party for Kaye Nelson 12870

12871 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 29-Apr-2020 JK & CR Nelson 12871 Dawn Schmidt, Callie Mackay, Mary Lee, Denita Mortensen 105 xxxx photos: 60th birthday party for Kaye Nelson 12871

12872 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 01-May-2020 JK & CR Nelson, AT AL WW LV Smith, Jordan & Garret Christopher 12872 105 xxxx Hookup gulley pipes again, flushed through freeze drop faucet, attached pipe to waterfall dam, filling tall tanks! Took out winter ceiling Wolf caught his first lizards. Two sagebrush lizards, *Sceloporus graciosus* 12872

12873 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 03-May-2020 CR Nelson 12873 105 xxxx photos: yellow warbler at pond! mosquito larvae and pupae in pond 12873

12874 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 04-May-2020 JK & CR Nelson 12874 105 xxxx photos: black chinned humming birds, sagebrush lizards 12874

12875 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 05-May-2020 CR Nelson 12875 105 xxxx photos: black headed grosbeak 12875

12876 USA: UTAH: Salt Lake Co., Salt Lake City, Nelson-Christopher home, 973 East 800 South N 40.75216 W 111.863067 1323 m 05-May-2020 JK & CR Nelson & family 12876 Kaye Nelson, Riley Nelson, Andrea Nelson, Jordan Christopher, Todd Smith, Amy Smith, Wolfgang Smith, Leah Smith, Garret Christopher 105 iPhone Tuesday. photos: birthday party for May Leah Smith, born 5 May 1986, 34 years old photos: dogs staring through portholes in fence at corner house ganoid scales fossil, gar fish found by Jordan Christopher 12876

12877 USA: UTAH: Salt Lake Co., Salt Lake City, Liberty Park, Tracy Aviary N 40.74322 W 111.87476 1293 m 05-May-2020 JK & CR Nelson & family & 12876, minus Garret. Plus Debby Smith, for the beginning. 12877 105 iPhone photos: double crested cormorant swimming Chinese elm seeds on pond, Black wecked stilts on west & Wolfgang, American Avocets, blue winged teal duck male, white faced ibis, ruddy duck male, bufflehead duck 12877

12878 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 08-May-2020 JK & CR Nelson, AT WW LV Smith 12878 105 photos: gluing of culinary water line across gulley with no problems, hope it holds. Orange rocks for Smith backyard. Golden eagle flying overhead contractors installing fence, along Hwy 6, two strand barbed wire and graded sized field fence, sqaures up (?why) 12878

12879 USA: UTAH: Utah Co., Gosher Warm Springs (ponds), south of Utah Lake (several miles) N 39.959232 W 111.856192 xxxx 09-May-2020 JK & CR Nelson 12879 105 xxxx passed new locked gate at paved road. No Entry. No trespassing signs, large and official 12879

12880 USA: UTAH: Tooele Co., Wonderstone quarry, 4.5 miles east of Vernon on Hwy 36, then 2.1 miles north on dirt road on west side of railroad tracks. End of road is the quarry. N 40.103422 W 112.357821 1750 m 09-May-2020 JK & CR Nelson 12880 105 Wyp 364 wonderstone collected half a bucket of wonderstone - multicolored welded - vitric tuff, volcanic then altered by groundwater into magenta, white, and orange bands small chips (2-4") abundant, larger (10 inch) much less common ridges just north of quarry pit have

intact, hard layers. You would need at least a sledgehammer. photos: Kaye with claret cup cactus in bloom and Castilleja paintbrush in bloom 12880

12881 USA: UTAH: Tooele Co., Lookout Pass, Dog Cemetery N 40.115731 W 112.566026
xxxx 09-May-2020 JK & CR Nelson 12881 105 xxxx photos: cemetery with brush cleared from historical wall of Aunt Libby Rockwell's pet cemetery of 1888. Took a Juniper wood wedge to John Bennion.; changed our flat left front tire on Toyota Highlander in the parking area. Same spot as flat tire with INHUT several years ago. 12881

12882 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 11-May-2020 CR Nelson, Anna Laurie Eichert, Dyani Christina Fuhrman 12882 105 xxxx glued portion of pipe, 8 May 2020 leaks slightly, but holding pressure. Not bursting! No overflow at culinary tank. It isn't full. Tall tanks of irrigation water overflowing, through top relief tank but not draining out at yard: -"Ashton Grove" Sceloporus graciosus lizard 12882

12883 USA: UTAH: Utah Co., Sheep Creek, 0.25 miles north of old Cedar haven store and Hwy 6 on Rays Valley Road N 39.980672 W 111.335776 1761 m 11-May-2020 CR Nelson, A.L. Eichert, D.C. Fuhrina 12883 105 Wypt 365sheepcreek (view to traps from USFS gazebo) use this! iPhone photo at traps N 39.97768 W 111.33701 elev. 5728 ft = 1746m; set up Malaise trap, Lindgren funnel trap, open range, malaise trap over entrenched stream, 40 cm wide, very sparse willows, used barbed wire to secure tall head end pole to fence- need to secure a better pole! Trap easily viewed from the USFS map gazebo higher on the hill at roadside, park near gate on Ray's Valley Road. Old blue car chassis 12883

12884 USA: UTAH: Utah Co., Lake Fork Creek, Lake Fork Road, 1.5 mile Southeast of Thistle, and Hwy 89 N 39.98264 W 111.47312 1576 m 11-May-2020 CR Nelson & 12882 12884 105 Wypt 366lakefork blasted open creek in mature cottonwood grove riparian zone, set up malaise trap and Lindgren funnel trap next to stream in grove with long sight of small open pasture to the north. Park near rail fence 12884

12886 USA: UTAH: Utah Co., Nebo Creek, 2-3 miles south of Birdseye, Hwy 89 on Nebo Creek Trail N 39.89008 W 111.55225 1690 m 11-May-2020 CR Nelson & 12882, AL Eichert & DC Fuhrman 12886 105 Wypt 368nebo creek 3:33pm Ranch pasture near corrals, no burn at local area, some willows along clear flowing stream; set up malaise trap and Lindgren funnel trap in sparse willows of pasture 12886

12887 USA: UTAH: Utah Co., Little Diamond Fork Creek 150 m northwest of Diamond Fork Road, #029 N 40.06807 W 111.441289 1585 m 11-May-2020 CR Nelson, AL Eichert, DC Fuhrman 12887 105 Wypt 369tribdiamondfork 4:23 pm Thu site is called LDF, Lower Diamond Fork by Megafire crew of Ben Abbott could be called Little not Lower; set up

malaise trap and Lindgren Funnel trap in nice cottonwood riparian zone photos: Scolytidae, out of order on 12 May 2020, with Nikon D610 12887

12888 USA: UTAH: Utah Co., Right hand Fork Hobble Creek Jolleys Ranch Park N 40.16474 W 111.49625 1540 m 11-May-2020 CR Nelson, Al Eichert, DC Fuhrman 12888 105 Wypt 370hobblecreek jolleyranch 5:33pm urbanized park, near white barn, west of barn behind tree trimmings and old abandoned park tables more secluded riffle on stream; also photo of man in Old Coot tee shirt set up malaise trap and Lindgren Funnel trap along stream in boxelder riparian forest, *Smilacina stellata*? blooming, Solomon's seal 12888

12889 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 14-May-2020 CR Nelson & Jim Jurgens 12889 106 xxxx Jim's photos: Riley fixing pipe 12889

12890 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 16-May-2020 JK & CR Nelson 12890 106 xxxx iPhone photos: goldfish in pond, added 20 new small goldfish and hornwort plant to the two ponds; iPhone photos: Curculionidae, *Polydrusus formosus* green immigrant leaf weevil 12890

12891 USA: UTAH: Utah Co., Provo River, Provo River Trail junction Lakeshore Drive N 40.241750 W 111.711620 xxxx 16-May-2020 JK & CR Nelson, WW & LV Smith 12891 106 xxxx after this spot we bought Little Caesar's pizza and had an evening picnic at the BYU Botany Pond. photos: spawning June suckers, scenery Wolf and Leah on swing 12891

12892 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 18-May-2020 JK & CR Nelson 12892 106 xxxx photos: Kaye digging out valve pit of culinary water near house. She had a young rock squirrel run back and forth over her feet and squealed. I dug it out and lifted it by its tail out of the pit and it ran away. Flushed all of culinary water tank and lines through the frost drop faucets near the pit and the sawmill. wandering garter snake, lazuli bunting, raven, robins, sagebrush lizard, *Paracotalpa granicollis*. 12892

12893 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 19-May-2020 CR Nelson 12893 106 xxxx photos: Wilson's warbler bathing in waterfall of pond. 6:42 am; saw the first swallowtail of the year in the yard at 10:00am, *Papilio multicaudata* 12893

12894 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 21-May-2020 CR Nelson, PB Frandsen 12894 106 xxxx photos: people with trap, set up one malaise trap, two lindgren funnels at tanks sagebrush lizard 12894

12895 USA: UTAH: Utah Co., Sheep Creek, 0.25 miles north of old Cedarhaven store and Hwy 6 on Ray's Valley Road N 39.97768 W 111.33701 1746 m 21-May-2020 CR Nelson & PB Frandsen 12895 106 iPhone 11 May 2020 11:00am, Good catches; changed sample one malaise trap, one lindgren funnel, last changed 14 May 2020 12895

12896 USA: UTAH: Utah Co., Lake Fork Creek, Lake Fork Road, 1.5 miles southeast of Thistle and Hwy 89 N 39.98264 W 111.47312 1576 m 21-May-2020 CR Nelson & PB Frandsen 12896 106 Wypt 366lakefork Start 11:45am, left 12:00om, changed malaise trap, lindgren funnel, last changed 14 May 2020; photos: people & scenery 12896

12897 USA: UTAH: Utah Co., Blind Creek, 85 m north of Hwy 89, 1.75 miles north of Birdseye N 39.94828 W 111.53649 1640 m 21-May-2020 CR Nelson & PB Frandsen 12897 106 Wypt 367blindcreek Changed malaise trap and lindgren funnel trap. Last changed 14 May 2020. Photos: scenery and people 12897

12898 USA: UTAH: Utah Co., Nebo Creek, 2.3 miles south of Birdseye, Hwy 89 on Nebo Creek Trail N 39.89008 W 111.55225 1690 m 21-May-2020 CR Nelson, PB Frandsen 12898 106 Wypt 368nebocreek 12:30pm, 12:54pm, changed malaise trap, lindgren funnel, last changed 14 May 2020; knocked on house door and met landowner Vickie Mitchell and took her picture on her porch. Photots: people and scenery 12898

12899 USA: UTAH: Utah Co., Little Diamond Fork Creek, 150 m northwest of Diamond Fork Road, #029 N 40.06807 W 111.44129 1585 m 21-May-2020 CR Nelson & PB Frandsen 12899 106 Wypt369tribdiamondfork lunch 1:42pm, 2:20pm; changed malaise trap, lindgren funnel, last changed 14 May 2020, Happened to meet students Mitchell Greenhalgh and Brian, water samples from the Ben Abbott lab; photos: scenery and people Perlodidae Isoperla fulva male, short winged 12899

12900 USA: UTAH: Utah Co., Right Fork Hobble Creek, Jolleys Ranch Park N 40.16474 W 111.49625 1540 m 21-May-2020 CR Nelson & PB Frandsen 12900 106 Wypt 370hobblecreekjolleyranch 3:30pm, 3:37pm, emptied 1 malaise trap, emptied 1 lindgren funnel, last changed 14 May 2020, photos scenery and people 12900

12901 USA: UTAH: Utah Co., Orem, Suncrest Elementary School N 40.301064 W 111.711880 xxxx 22-May-2020 JK & CR Nelson, AT Al WW & LV Smith 12901 106 xxxx photos Kindergarten graduation for Wolfgang Winston Smith, then trip to the Wheeler Sawmill, big dust storm in Utah Valley. Knocked down malaise trap at Lake Fork, megafire site 12901

12902 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 23-May-2020 CR Nelson & WW smith 12902 106 xxxx photos: Wolfgang climbing in apple tree 12902

12903 USA: UTAH: Utah Co., Orem, Smith home, 75 North 820 West N 40.312857 W 111.715678 xxxx 23-May-2020 JK & CR Nelson, AT AL WW LV Smith, Debby Stmih, Lyman Moulton 12903 106 xxxx photos: Leah Valentine Smith's fourth birthday party 12903

12904 USA: UTAH: Utah Co., Lake Fork Creek, Lake Fork Road 1.5 miles southeast of Thistle and Hwy 89 N 39.98264 W 111.47312 1576 m 24-May-2020 JK & CR Nelson, WW & LV Smith 12904 106 Wypt 366lakefork Sunday reset malaise and lindgreen funnel, some alcohol still in both, after Mitchell Greenhalgh, reset without alcohol when blown down in dust storm on 22 May 2020 12904

12905 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 24-May-2020 26-May-2020 JK & CR Nelson, AT, WW, LV Smith, AJ Nelson, J Odean Christopher 12905 106 sunday, monday, tuesday; bottle fell off malaise trap set (12894), some alcohol still in bottle 25 May 2020: scrub jay, Lazuli bunting, chipping sparrow, robin, raven, magpie, wilsons warbler, yellow warbler, song sparrow, stellers jay, Golden eagle, Turkey vulture, red breasted nuthatch, cedar waxwing, blue gray gnatcatcher, brownheaded cowbird, mourning dove, black chinned hummingbird, Ash throated flycatcher, "dusky" flycatcher?, violet green swallow, mat blue penstemon, on top in PJ, dead raccoon on highway, dead deer near tanks, dead rabbit at house, killed by Pfeiffer the dog 12905

12906 USA: UTAH: Utah Co., Right Fork Hobble Creek, Jolleys Ranch N 40.16474 W 111.49625 1540 m 28-May-2020 JK & CR Nelson, WW & LV Smith 12906 106 Wypt 370hobblecreekjolleyranch photos: site, changed malaise trap and lindgren funnel trap, last changed 21 May 2020, good catc 12906

12907 USA: UTAH: Utah Co., Little Diamond Fork Creek, 150m northwest of Diamond Fork Road N 40.06807 W 111.44129 1585 m 28-May-2020 CR Nelson & 12906 12907 106 Wypt 369tribdiamondfork sites, changed malaise trap and lindgren funnel trap, last changed 21 May 2020, good catch saw, Laphria fernaldi, large female, Ichneumonidae megarhyssa large female 12907

12908 USA: UTAH: Utah Co., Sheep Creek, 0.25miles north of old cedarhaven stone & Hwy 6 N 39.97768 W 111.33701 1746 m 28-May-2020 CR Nelson & 12906 12908 106 xxxx changed malaise trap & lindgren funnel trap, good catch, last changed 21 May 2020 12908

12909 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, spring, 12 mi East of Thistle N 39.959 W 111.268075 1878 m 28-May-2020 CR Nelson & 12906 12909 106 iPhone photo changed malaise trap and lindgren funnel trap, good catch, started 21 May 2020; photos: Leah in spring valve box muddy culinary water running at house, cleared in 10-15 minutes, around 4:22pm 12909

12910 USA: UTAH: Utah Co., Lake Fork Creek, Lake Fork Road, 1.5 miles southeast of Thistle and Hwy 89 N 39.98264 W 111.47312 1576 m 28-May-2020 CR Nelson & family 12906 12910 106 Wypt 366lakefork near dusk, changed malaise trap and lindgren funnel trap, good catch, last changed 21 May 2020 12910

12911 USA: UTAH: Utah Co., Blind Creek, 85 m north of Hwy 89, 1.75 miles north of Birdseye N 39.94828 W 111.53649 1640 m 28-May-2020 CR Nelson & family 12911 106 Wypt 367blindcreek Changed malaise trap and lindgren funnel trap. Good catch. Last changed 21 May 2020. Near dusk. 12911

12912 USA: UTAH: Utah Co., Nebo Creek, 2.3 miles south of Birdseye, Hwy 89 on Nebo Creek Trail N 39.89008 W 111.55225 1690 m 28-May-2020 JK & CR Nelson & WW & LV Smith (family in 12906) 12912 106 Wypt 368nebo creek changed malaise trap and lindgren funnel trap, good catch, dusk, last changed 21 May ; took a picture after this site, in last light from car at Blind Creek at 8:42pm 12912

12913 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, spring 12 mi East of Thistle N 39.95883 W 111.26775 1860 m 04-Jun-2020 JK & CR Nelson, WW & LV Smith 12913 106 xxxx changed contents of malaise trap and two lindgren funnel traps, good catch, alcohol all evaporated away, last changed 28 May 2020; "changed" means emptied trap, If I were to meant that I changed exact location of trap I would say so explicitly; turned culinary water into house, Hot water line leaking at last year's repair under house, all ran muddy first then cleared after 15 minutes toilets worked fine, at end of day I left the winter drop valve closed for the summer but shut off house water in outside pit, and shut valve at cement vault tank up at spring. Gullerup Crossing still has minor leak; Dyani Fuhrman and Cheri Cuthrie changed the traps at the 6 Megafire sites by themselves for the first time on 6 June 2020. They did this because Mitchell Greenholgh of the Abbott Lab could not. He got stung. 12913

12914 USA: UTAH: Utah Co., Diamond Fork River, 0.2 miles east of Diamond Fork Group Campground N 40.07826 W 111.37399 1654 m 11-Jun-2020 JK & CR Nelson, WW & LV Smith 12914 106 iPhone Adults: Isoperla fulva, Pteronarcella badia, skins of Pteronarcys californica 12914

12915 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, spring N 39.95623 W 111.26763 1829 m 11-Jun-2020 JK & CR Nelson, WW & LV Smith 12915 106 xxxx changed traps with Leah: 1. malaise trap, 2. lindgren funnel traps, good catch, last changed 4 June 2020 12915

12916 USA: ARIZONA: Coconino Co., Jacob Lake, Jacob Lake N 36.714762 W 112.217331 2410 m 12-Jun-2020 JK & CR Nelson 12916 106 Wypt 375jacoblakeinn We checked into

our cabin and walked to the bird fountain then the desk staff found us and said we needed to leave because the Magnum Fire had turned and we were being evacuated. I took many fire photos at the lodge and before that the huge plume of smoke visible between Fredonic and the "rim" of the Kaibab Plateau. It was impressive. I photographed using both iPhone and Nikon D610, the iPhone has GPS metadata imbedded in them. After 45 minutes in Jacob Lake we were evacuated, asked to relocate, because of danger from the fire. We easily drove to Marble Canyon Lodge without any problems. We had a room there for the night. photos: red crossbills, kaibab squirrels, yellow rumped warbler, western tanager female, stellars jay, dark eyed junco. 12916

12917 USA: ARIZONA: Coconino Co.,
Marble Canyon Village, Hwy 89A N 36.816413 W 111.638078 1091 m 12-Jun-2020 13-Jun-2020 JK & CR Nelson 12917 106 iPhone morning photos of Highway 89A, blocked by government trucks 12917

12918 USA: ARIZONA: Coconino Co., Navajo Bridge, Hwy 89A at Marble Canyon N 36.817296 W 111.630323 1089 m 12-Jun-2020 JK & CR Nelson 12918 106 old photos: California condor #54 12918

12919 USA: ARIZONA: Mariposa Co., Phoenix, Nelson home, 2520 West Columbine Drive N 33.599312 W 112.113694 388 m 13-Jun-2020 17-Jun-2020 JK & CR Nelson, BD, JR, AV, AJ Nelson 12919 106 Wypt 376phoenixnelsonhome 13 June 2020 photos: people; 14 June 2020 Sunday photos: First rides! Artemis oedals her bike confidently and turns to the left! Morning & night. Photos: Artemis and Riley after first rides, then telling Kaye inside! More photos: Astrid, Jason, Kaye, & Artemis on couch, Astrid not liking something; 16 June 2020 photos: Artemis riding bike!; 13 June 2020 photos: Haplo the dog, jewelfish parents and babies; 14 June 2020 Sunday photos: encelia farinosa, mesquite, bermuda grass, blue palo, verde, Lactuca, globe mallow, creosote bush. More photos: Calliphoridae on creosote bush, jewelfish; 15 June 2020: house sparrows, house finch, photos: great tailed grackles woodpecker, white winged doves, mourning doves. Photos: inca ground doves. rock doves, peach faced lovebirds, verdin, starling; 16 June 2020: house sparrow, great tailed grackle, white winged dove, house finch, Rock dove, photos: verdin, inca ground dove, woodpecker, collard dove, mourning dove, rock (?) squirrel, hummingbird female; 17 June 2020 5:30am: white winged dove, great tailed grackle, house finch, starling, peach faced lovebird, house sparrow, collared dove, inca dove, mourning dove, rock dove, (6:00am) verdin, woodpecker, photos: Coreidae on mesquite 12919

12920 USA: ARIZONA: Mariposa Co., Phoenix, Moon Valley, Shaw Butte Chapel LDS church N 33.62517 W 112.07806 411 m 15-Jun-2020 JK & CR Nelson & family 12920 106 iPhone photo photos & video: Baptism of Artemis Valborg Nelson during Covid-19

Pandemic, baptized by father Jason Riley Nelson, confirmed by her grandfather Charles Riley Nelson. Those in attendance: Artemis Valborg Nelson, Brandy Dawn Nelson, Jason Riley Nelson, Astrid Josephine Nelson, Jill Kaye Nelson, Lindsay Begay/Spurlock (Brandy's sister), Bradley, Vivian, Bishopric Counselor, Bishop's wife, Primary, Amy Smith (by remote), chicken & fruit sala dinner afterwards common nighthawk 12920

12921 USA: UTAH: Kane Co., Grand Staircase, Hwy 89, milemarker 43 N 37.07731 W 112.16499 1724 m 17-Jun-2020 JK & CR Nelson 12921 106 iPhone photos: Magnum Fire on Kaibab Plateau 12921

12922 USA: WYOMING: Lincoln Co., Fossil Fish quarry, 10.5 miles west of Kenmerer, Tom & Tony Lindgren lease N 41.77416 W 110.73914 2147 m 20-Jun-2020 CR Nelson & J.O. Christopher & Gunthers 12922 106 iPhone quarried and split in lease of Tom & Tony Lindgren (Geodecor.com) with Gunther family (geo.tools.com); photos: people working; Val Gunther, Glade Gunther photos: people with Saturniidae, giant silk moths, fossil fish, fossil insect 12922

12923 USA: UTAH: Emery Co., Ferrow, LDS Church, 400 West 500 South N 39.08012 W 111.13943 1810 m 20-Jun-2020 JK & CR Nelson 12923 106 iPhone photos: baptism of Willow Madison Mead, photos: Kaye & Jan at Jan's house 12923

12923.5 USA: UTAH: Utah Co., Provo, Nelson Home N 40.29343+F8257 W 111.64922 1495 m 20-Jun-2020 CR Nelson 12923.5 106 xxxx masked hunter Tabanidae, Reduviidae Reduvius persanatus 12923.5

12924 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 elev. 1829 msl (Wheeler sawmill) 1829 m 23-Jun-2020 24-Jun-2020 JK & CR Nelson, WW & LV Smith 12924 106 xxxx changed malaise trap, good catch, changed 2 lindgren funnels small catch, day last changed June 2020, by 24 June 2020 photos & painting: view of cabin and sawmill, shadow of Riley - self-portrait yellow Eriogonum buckwheat, parching violet green swallows, lichens, box elder tree: Golden ancient sunbird place, cottontree - isolated hillside patch, conchoidal fractures in Green River shale, with cherries & people, Utah penstemon with Augochlora bee, Palmers penstemon with scraptiidae beetles. Spreading dogbane: Apocynum androsaemifolium with Chrysomelidae beetle, waterfall and capture bucket. Trichoptera: Rhyacophilidae? laying eggs, Tipulidae laying eggs narrow leafed, large Dolichopodidae on wall of waterfall. Cuterebridae dead in couch. 12924

12925 USA: UTAH: Utah Co., Orem, Scera Park, Childrens Playground N 40.28723 W 111.67894 1458 m 25-Jun-2020 26-Jun-2020 JK & CR Nelson (26 June 2020), Ben Abbott and kids (Henry, Caspian, & Naomi) 25 & 26 June 2020 12925 106 iPhone Ben Abbott &

kids (Henry(8 years old), Caspian (5), & Naomi (1)), found beetles evening of 25 June 2020 and gave them to Paul Frandsen. Riley & Kaye visited the park on evening of 26 June 2020 and serendipitously met Ben Abbott & kids at the playground, many beetles! ; Afternoon 26 June 2020 iPhone photo N 40.2329 W 111.65267 elev 1382 m, Paul & Christine Frandsen took videos of us talking about the beetles with Wally & Harvey in their Provo backyard. 333 East 100 south; 2 stage beetles - Lucanidae, *Lucanus mazama*, adults - sex ratio favoring males one larva found just below, dry wood chips of the play area in decomposed wood-found by 5 year old, took home to watch the transformation; photos: Coopers hawk in *Pinus sylvestris*; 28 June 2020, photographed adults and larvae at home, video too 12925

12926 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, spring & home N 39.95623 W 111.26763 1829 m 03-Jul-2020 05-Jul-2020 JK & CR Nelson, AS Nelson, JO Christopher, LV, WW, AL, & AT Smith 12926 106 xxxx 3 July: Anna Eichert and Chari Guthrie came on 3 July and changed bottles on malaise trap and lindgren funnels, alcohol of funnels (250 ml in 500ml bottles) had evaporated dry. ; 5 July 2020 photos: Wolf playing in the ashes of last nights fire. 4 July: During early morning walk with Wolf we saw small flowered *Mentzelia* on flats near ovoo rock pile. photos (11:30am): several Great Basin Rattlesnakes bear cabin, large, then another one, bright contrasting in color in the later afternoon. Ran mercury vapor lamp and collected caddisflies & cerambycidae. photos: bats that came to spots under caves after 10:00pm and roosted. West upper deck.; 5 July 2020 photos: winged parasitic fly from bat guano beneath last night's bat colony on the west upper deck. photos: Hippoboscidae (1 winged) on Andrea after she had cleaned up bat guano 12926

12927 USA: UTAH: Utah Co., Provo, BYU, west side Life Science Building N 40.245001 W 111.649822 1400 m 10-Jul-2020 CR Nelson 12927 106 Wypt 380plumflies photos & videos: Diptera larvae in ripe plums probably Tephritidae *Rhagoletis*; photos: also pupa from same spot collected by Anna Eichert a couple days ago; photos: 1 adult male? emerged 16 Aug 2020, photos taken 18 August 2020 on leaves of same plum tree two more adults emerged 20 Aug 2020 recovered 3 puparial skins 12927

12928 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle, springs N 39.958926 W 111.267968 1875 m 13-Jul-2020 14-Jul-2020 JK & CR Nelson 12928 106 Wypt 378tankcrossing photos & video: UV light trap, Limnephilidae, Rhyacophilidae, Hydropsychidae, Tipulidae, Asilidae, Therevidae Pherocera, Cerambycidae, Scarabaeidae Serica?, discarded Phyllophaga decimlineata, Chironomidae 12928

12929 USA: UTAH: Utah Co., Riverwoods area N 40.30163 W 111.65992 1456 m 14-Jul-2020 CR Nelson 12929 106 iPhone large patch of of showy milkweed, *Asclepias speciosa*, took some leaves to feed Andrea Nelson's monarch caterpillars at home, also noted that

her white lined sphinx pupa had emerged after it had been fed *Oenothera*; 28 July 2020
photos: newly emerged monarch female hanging on the skin of the chrysalis from which it
emerged one hour earlier as Andrea carried it down from her house to Todd & Amy's house
for a family party. 12929

12930 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W
111.64922 1495 m 15-Jul-2020 CR Nelson 12930 106 xxxx photos & video: Monarch
caterpillars on *Asclepias speciosa*, from Andrea, from eggs on milkweed in her yard. plants
from CRN12929; photos: white lined sphinx adult, reared by Andrea on *Oenothera* from
pupa - adult emerged 14 July 2020, staged on *Oenothera elata*(?); 16 July 2020 & 18 July
2020 photos orchid under sumacs *Epipactis*, 20 July 2020 photos: evening primrose,
Oenothera elata? 12930

12931 USA: UTAH: Millard Co., House Range, wheeler Amphitheater Udig trilobite beds N
39.354662 W 113.278569 2012 m 17-Jul-2020 CR Nelson, Val Gunther, Brokeston?
Gunther 12931 106 Wypt 381udigquarry photos: people splitting rocks looking for
Cambrian (507mya) trilobites; manager Robin, "Wilcox" family group, two ladies and 5-6
"teenagers" (8-15 years) Trilobites: *Elrathis Kingii* - many today, *Asaphiscus wheeleri* - not
so many today 12931

12932 USA: UTAH: Utah Co., Mapleton, Jurgens home N 40.112624 W 111.569713 1459 m
19-Jul-2020 JK & CR Nelson, Rona & Jim Jurgens 12932 106 Wypt 382jungens photos:
house finch, scrub jay, lazuli bunting, lesser goldfinch, collared dove, house wren; magpie,
ring necked pheasant 12932

12933 USA: UTAH: Wasatch Co., Midway, Pearson Home, West Switzer Drive N 40.51495 W
111.50411 1882 m 19-Jul-2020 Delbert Pearson 12933 106 iPhone CRN not present, but
photographed at home on 20 July 2020 photos: *Cerambycidae*, *Rosalia funebris*, small
male 12933

12934 USA: UTAH: Box Elder Co.,
Bear River Migratory Bird Refuge, 15 miles west of Brigham City N 41.479409 W
112.267388 1285 m 20-Jul-2020 JS Bennion, CR Nelson, Katie Ercanbrack (videographer)
12934 106 Wypt 383refugecrossroads (then photos with GPS on Autoroute) Tour of
Autoroute for Humanities in the Wild, 10:00am - 4:00pm no midges, very few mosquitos,
very few horseflies, carp abundant, counted birds starting at headquarters on the freeway;
Pied-billed Grebe (photo chick 2), western grebe (few), clarks grebe (few), American white
pelican (photos many), Double-crested cormorant (10), American bittern? (3), Great blue
heron (3), Black crowned night heron (20), snowy egret (10), white faced ibis (photos many),
canada goose (30), Gadwall (3), Ruddy duck (2), Turkey vulture (2), red tailed hawk (2), sora

(heard 1), American coot (2), photos Killdeer (few), spotted sandpiper (photo 2), greater yellowlegs (photo 2), Franklins gull (1), ring billed gull (few), California gull (photos few), Forsters tern (few), Collared dove (2), Western Kingbird (2), eastern Kingbird (photos few), Black billed magpie (5), common raven (5), cliff swallow (many), barn swallow (few), marsh wren (3), sparrow? (2), hosue sparrow (5), red winged blackbird (many), yellow headed blackbird (many-dull changlings), Western meadowlark (2), Black necked stilt (photos many), American avocet (few) 12934

12935 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Jul-2020 CR & JK Nelson 12935 106 Saturday 25 July 2020, photos: Blue the cat with a house mouse with Astrid. Video Sarcophagidae. Thursday 23 July 2020: Pogonomyrmex occidentalis videos from near corner of Timp View Drive, 20 m south next to sidewalk. I've seen thhis colony for 20 years. photos & video: snail in backyard, Helix aspersa. Friday 24 July 2020: photos: Artemis & Astrid with Kaye. Astrid in sumac tree. Sunday 26 July 2020: photos: pond & greenhouse plants, water hyacinth, water lettuce, Blue the cat in Frankenstein chair, papaya leaves, Pothos leaves. 12935

12936 USA: UTAH: Utah Co., Big Springs Park, 3 miles south of Vivian Park N 40.33344 W 111.52429 1747 m 25-Jul-2020 CR & JK Nelson 12936 JR, BD, AV, and AJ Nelson 106 wypt 384 bigspringspark photos: underwater in small clear creek, Neothremma larvae with GoPro8 camera. Photos: Astrid on pole fence. We also walked up the trail toward Big Spring as far as the trail divide 4.1 miles east of Cascade Saddle to about: N 40.32001 W 111.53555 elev. 1903 m 12936

12937 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 26-Jul-2020 27-Jul-2020 JK & CR Nelson 12937 26 July: Kaye Nelson, Riley Nelson, 24 July: Andrea Nelson, Jordan Christopher, 26 July: Brandy, Jason, Artemis, Astrid, Nelson, Todd Smith, Amy S mith, Wolfgang Smith, Leah Smith. Haplo the dog, Pfeiffer the dog start 24 July 2020. 106 Artemis and Astrid walk to cabin overlook and to malaise trap and lindgren funnels. Astrid in swing over "The Edge of Darkness." 26 July 2020, GoPro several timelapses of clouds. 26 July: Time lapse 1: starspin with comet. Start 10:41 pm 0078, end 1:45am 0652. Time lapse 2: start spin after setting of Big Dipper, 27 Jul 2020, 3:45?am = 3:36 am 0633, end 4:43 am 0745. Brandy & Jason helped prepare soil and plant clover. Brandy and Riley set forms on repaired red sandstone front step with concrete quickly before leaving because the sack of cement got wet in a quick rainstorm. Videos & photos: Great Basin rattlesnake about 28 inches long - at cabin north steps. 12937

12938 USA: UTAH: Salt Lake Co. Little Cottonwood Canyon, Albion Basin, Trail to Cecret Lake, start at Alta Ski Lodge, N 40.58881 W 111.63870 2605 m 29-Jul-2020 JK & CR Nelson 12938 Kaye Nelson, Riley Nelson, Andrea Nelson, Jason Nelson, Artemis Nelson, Astrid

Nelson, Brandy Nelson, Amy Smith, Wolfgang Smith, Leah Smith 106 Google Earth 7.6 miles round trip measured with two pedometers. Many plants photographed.

12938

12939 USA: UTAH: Salt Lake Co. Little Cottonwood Canyon, Cecret Lake above Albion Basin and Alta Ski Lodge N 40.570890° W 111.621915° 3014m 29-Jul-2020 JK & CR Nelson 12939 Kaye Nelson, Riley Nelson, Andrea Nelson, Jason Nelson, Artemis Nelson, Astrid Nelson, Brandy Nelson, Amy Smith, Wolfgang Smith, Leah Smith 106 Google Earth Photos: alpine scenery & Cecret Lake, watercolor painting of lake tiger salamanders, people family group, clarks nutcracker, golden mantled ground squirrel, ground squirrels

12939

12940 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 29-Jul-2020 CR & JK Nelson 12940 & family & Parkers (Jake, Alison, Tate, Lucy, Miles, Calvin, & Penelope) 106 photos: Parkers gave their small red eared slider turtles to us to give them more room to grow. They have had them for three years. Wendy (a male) is about 5 cm long (carapace) (2 Aug 2020 4.8 cm) and The Destroyer (probably a female) is about 7 cm long (carapace) (6.5 cm 2 Aug 2020). I took repeated photos and videos over the days ahead to sooth Penelope because she was crying at saying good bye to them. 12940

12940.2 USA: ARIZONA: Maricopa Co., Gilbert, Parker home 85296, 1571 Saratoga Court, N 33.33991 W 111.75613 641 m 28-Jul-2020 Alison & Jake Parker 12940.2 106 Google Earth Photos: Cenruroides sculpturatus, Arizon bark scorpions 12940.2

12940.5 USA: UTAH: Utah Co., Orem, Monarch Honda N 40.31251 W 111.70498 1453 m 30-Jul-2020 CR & AL Nelson 12940.5 106 Google Earth dead bot fly, Oestridae, Cuterebra sp. on porch of store. 12940.5

12941 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 30-Jul-2020 CR Nelson 12941 106 Thursday 30 July 2020 videos of red eared sliders Wendy and The Destroyer. Photos: Saturday 1 Aug 2020, Wendy and The Destroyer. Lucanidae: Lucanus mazama, 1 larva and 2 male. Pupae, 1 female pupa from last year CRN12663, North Park, Provo 12941

12942 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 30-Jul-2020 31-Jul-2020 JK & CR Nelson 12942 & family 106 Picture of repaired front step with corrugations of iron roof, cement laid on Monday 27 Jly 2020 by Brandy and Riley Nelson. Todd Smith prepared soil for more clover and planted a partial row. Thursday and Friday. Photos: wandering garter snake *Thamnophis elegans* vagrans. Photos: revived chipmunk that fell in bucket of water used to hold the form of the front

step. Astrid on ladder at tanks. One caddisfly at waterfall: N 39.95962 W 111.26776 1895 m. 12942

12943 USA: UTAH: Utah Co., Orem, Smith home, 75 North 850 West N 40.298721 W 111.716298, 1445 m 01-Aug-2021 JK & CR Nelson 12943 & family 106 Google Earth photos: water party at Amy & Todd Smith's. Group photo of whole family except Jordan Christopher. The party ended around 6:00pm. Jason and Brandy decided to drive back to Phoenix at night. They started (left our house) at 8:45pm and were home in Phoenix at 5:58am. Transit time 9 hours 13 minutes. 12943

12944 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 02-Aug-2020 JK & CR Nelson 12944 106 Finished planting 100 square feet of clover in ground prepared by Todd and Riley on 31 July 2020. Some clover seed planted on 27 July 2020 has sprouted already. The KCl, Potassium chloride aluminum tank is 6 feet tall and 12 feet in circumference. Volume = $\pi r^2 h$, so the tank can hold 68.8 cubic feet, since 1 cubic foot is 7.481 gallons, the tank hold 514 gallons. Photos: wandering garter snake *Thamnophis elegans vagrans*. Photos: revived chipmunk that fell in bucket of water used to hold the form of the front step. Astrid on ladder at tanks. One caddisfly at waterfall: N 39.95962 W 111.26776 1895 m. 12944

12945 USA: UTAH: Utah Co., Orem, Scera Park, Childrens Playground N 40.28723 W 111.67894 1458 m 02-Aug-2020 JK & CR Nelson 12945 106 iPhone stage beetles - Lucanidae, *Lucanus mazama*, adults. Photos Riley with stage beetles. 12945

12946 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 02-Aug-2020 CR Nelson 12946 106 3 August 2020 selfie on return from bicycle ride to Vivian Park on Provo River Trail. Photos: mosquito larvae and pupae in aquatic plant tubs in greenhouse. Larvae, pupae, and adults on 5 August 2020 and 6 August 2020. Time lapses pupae to adults 6, 7, and 8 August 2020 12946

12947 USA: UTAH: Utah Co., Provo River Trail, home to Riverwoods to Vivian Park and back N 40.31308 W 111.65667 1473 m 03-Aug-2020 CR Nelson 12947 106 Google Earth, Bridge at canyon mouth rode my bicycle about 14 miles. Start at home 7:36am, birdge at canhyon mouth 7:56, Vivian Park 8:15, start again at Vivian 8:25, bridge at canyon mouth 8:47, home 8:56. end body weight 196.5 lb Chokecherry fruit abundant on some sections. 12947

12948 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26763 1829 m 04-Aug-2020 JK & CR Nelson 12948 LV & WW Smith 106 photos: rainbows in sprinklers watering grass and clover. 12948

12949 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26764 1829 m 06-Aug-2020 JK & CR Nelson 12949 106 watered clover and sod. sagebursh lizards. Quick trip up and back between 4:00 - 8:00 pm. 12949

12950 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 07-Aug-2020 CR Nelson 12950 107 iphone photos: black witch moth fluttered out of periwinkle patch and landed on my blue spruce. Visitor from far south, Erebidae: Ascalapha odorata. Iphone photos: Lestidae, Archilestes grandis a first at my pond. Saturday 8 August 2020: photos garter snake in pond on wall. 12950

12951 USA: UTAH: Salt Lake Co. Salt Lake City, Gilgal Sculpture Garden N 40.75916 W 111.86939 1319 m 08-Aug-2020 JK & CR Nelson 12951 107 near noon, iphone photos: Kaye reading. Joseph Smith sphinx sculpture, Job 19:23-27, Arch of the Priesthood, spears into pruning hooks, hearts of the children to their fathers. Kaye and I had planned on going to Antelope Island and Perry Reservoir, then changed our minds and drove up Big Cottonwood Canyon over Guardsman Pass down to Midway then home. 12951

12952 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 09-Aug-2020 CR Nelson 12952 107 photos: garter snake in pond, Vespidae drinking water in water lettuce of pond. Polistes dominula. 12952

12953 USA: UTAH: Davis Co., Great Salt Lake Antelope Island, White Rock Bay, N 41.02093 W 112.26247 1280 m 10-Aug-2020 JK & CR Nelson 12953 107 iphone Riley and Kaye floating suspended. Wypt 388 antelope visitorc (good reading! Not for 386) N 41.05498 W 112.24053 elev. 1325 m. I needed to edit my GPS latitude bad reading, delete wypt 386 whiterockbay photos/videos: brine fly swarms at water's edge with GoPro8 and Nikon D610 cameras. Birds. Brine shrimp, Artemia salina, bison, large herds, most on east side, coyote, Neoscone spiders, burrowing owls, raven, collared dove, black necked stilt, redwinged blackbird, california gull, ring billed gull, franklin gull, gadwall duck, lesser scaup duck, wilsons phalarope, long billed curlew, willet, avocet, northern harrier, canada geese, whit pelican, eared grebe, barn swallow (many at visitor center, cliff swallow, chukar (visitor center), western weadowlark, loggerhead shrike, yellow headed blackbird, brown headed cow bird. 12953

12954 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6, 12 miles east of Thistle, N 39.953212 W 111.264956 1819 m 12-Aug-2020 JK & CR Nelson & WW & LV Smith 12954 107 played with kids in creek. Stayed overnight 11-12 August 2020. watched Perseid meteor shower evening and morning. Not many. Watered lawn. Gomphidae, adults and 1 nymph Erpetogomphus compositus, Tipulidae larva. Photos later: Cicindela adult. Corixidae. Hydrophilidae, Tropisternus adult. 12954

12955 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26764 1829 m 14-Aug-2020 16-Aug-2020 JK & CR Nelson & WW & LV Smith 12955 added AL & AT Smith 15-16 107 tanks not full, but adequate. 14 Aug play in Soldier Creek. Walked up creek to swimming hole, walked out through willow & thistles. Trip out a bad experience, especially for Leah. Morning 15 Aug Nikon time lapse stars movie (not interval timer) facing northwest with Polaris start 2:45am end with lightening morning iso 1600. exposure 30 sec f 2.8 DX fisheye 10.5 mm, interval 5 sec shooting time 4 hr battery died earlier than 6:45am, 1080p. Evening 15 Aug Nikon interval timer, focus bad facing north west with Polaris. start 10:18:31pm end 3:32:31am. battery died DSC_8889.jpg DSC_9203.jpg, iso: 1600, 30 sec f2.8, 10.5mm DX fisheye. 15 Aug GoPro8, night lapse photo series nearly flat on back, slight north of camera, start 10:53:07pm GO060326.jpg end 1:00:07 am GO060453.jpg, 9203-8889 = 314 frames, exposure slightly dark, lens wide interval 60s format photo output standard shutter 30s zoom 1.0x iso min 100 iso max 800 453-326 = 127 frames, battery died. sagebursh lizards. Quick trip up and back between 4:00 - 8:00 pm. 12955

12956 USA: UTAH: Utah Co., Scofield Dam, right side looking "upstream", non-spillway side N 39.78733 W 111.12057 2322 m 15-Aug-2020 JK & CR Nelson & family 12956 LV, WW, AT, and AL Smith 107 iphone evening fishing. Photos: people and fish Many Utah Chub on Panther Martin spinners one wiper bass - 8 inches. Saw people hand catching crayfish. Amy tried a trap they found yesterday at Strawberry Reservoirs, but caught none with cooked chicken bones bait in a short time (20 minutes).

12956

12957 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26764 1829 m 19-Aug-2020 JK & CR Nelson 12957 107 stopped and watered lawn on way to Bryce Canyon 12957

12958 USA: UTAH: Piute Co. Butch Cassidy boyhood home, Hwy 89, south of Circleville N 38.14388 W 112.30451 1865 m 19-Aug-2020 JK & CR Nelson 12958 107 iphone photos: pioneer cabins photos: milkweed Asclepias speciosus with Cerambycidae Tetraopes beetles, purple beeflower, Cleome. 12958

12959 USA: UTAH: Garfield Co., Bryce Canyon National Park, Sunset Viewpoint, N 37.62260 W 112.16672 2434 m 19-Aug-2020 JK & CR Nelson 12959 107 iPhone evening scenery and selfie. Also drove south to Farview Point. Spent the night at Ruby's Inn. 12959

12960 USA: UTAH: Garfield Co., Bryce Canyon National Park, Yovimpa & Rainbow View Areas N 37.47057 W 112.23545 2737 m 20-Aug-2020 JK & CR Nelson 12960 107 iPhone morning views, photos: Natural Bridge. herd of 10 buck mule deer, several were four points.

Photos: split pine trunk with Claron formation behind, mixed limber & bristlecone pines.
12960

12961 USA: UTAH: Garfield Co., Bryce Canyon National Park, Swamp Canyon Viewpot, trail
N 37.58612 W 112.21219 2383 m 20-Aug-2020 JK & CR Nelson 12961 107 Wypt
389swampcanyon photos: views to east from a few hundred meters down Swamp Canyon
Trail. Watercolor. Rained a bit. Kaye in manzanita manzanita 12961

12962 USA: ARIZONA: Coconino Co., Le Fevre Scenic Viewpoint, 17 miles southeast of
Fredonia, Hwy 89A N 36.83049 W 112.25414 2080 m 20-Aug-2020 JK & CR Nelson 12962
107 iPhone photos: views, much burned in the Magnum fire, but the viewpoint kiosk was
preserved although the old toilet was removed. regenerating oak sprouts. 12962

12963 USA: ARIZONA: Coconino Co., Kaibab Plateau, Jacob Lake Inn, N 36.71476 W
112.21706 2417 m 20-Aug-2020 21-Aug-2020 JK & CR Nelson 12963 107 iPhone Started
down Hwy 67 to go to the Grand Canyon. Got a flat tire 0.5 miles south of Jacob Lake.
Limped Highlander in to Kanab. Ramsey's Tire replaced all four worn tires, Cooper's brand.
\$136 each, total bill \$633. evening 20 Aug, photos: birds at fountain pool, chipmunk,
chipping sparrow, clarks nutcracker, white breasted nuthatch, mountain chickadee,
western bluebird, purple? Finch (no, Casins, det CR Nelson 1 Jan 2021), yellow rumped
warbler, stellers jay, junco, evening grosbeak. morning 21 Aug, photos: pygmy nuthatch,
whitebreasted nuthatch, yellow rumped warbler, dark eyed junco, robin, evening grosbeak,
red crossbill, purple? finch (no, Cassins, det changed 1 Jan 2021, C. R. Nelson), pink siskin,
clarks nutcracker, stellers jay, kaibab squirrel. Brewers blackbird, western bluebird, song
sparrow. 12963

12964 USA: ARIZONA: Coconino Co., Kaibab Plateau, Jacob Lake, near Kaibab RV Village
Trailer Park, N 36.70819 W 112.23187 2397 m 21-Aug-2020 JK & CR Nelson 12964 107
Wypt 390kaibabvillage Photos: pygmy nuthatch, red breasted nuthatch, Goshawk?
Uniform mottled gray, narrow tail (no photos), Lewis's woodpecker. 12964

12965 USA: ARIZONA: Coconino Co., Kaibab Plateau, Jacob Lake Campground, Hwy 89a,
N 36.71792 W 112.21473 2410 m 21-Aug-2020 23-Aug-2020 JK & CR Nelson 12965 107
iPhone 12965

12966 USA: ARIZONA: Coconino Co., Grand Canyon National Park, North Rim, Bright Angel
Trails near lodge N 36.19450 W 112.04982 2481 m 22-Aug-2020 JK & CR Nelson & family
12966 107 Wypt 391brightangel 11:36am. End 3174 12:37 pm. 12966

12967 USA: ARIZONA: Coconino Co., Grand Canyon National Park, Point Imperial, N
36.27894 W 111.97751 2679 m 22-Aug-2020 JK & CR Nelson & family 12967 107 Wypt
392imperial start 2:05 pm, end 3231 3:51:41 12967

12968 USA: ARIZONA: Coconino Co., Grand Canyon National Park, Cape Royal, N 36.11722 W 111.94871 2393 m 22-Aug-2020 JK & CR Nelson & family 12968 107 Wypt 394caperoyalvishnutemple 4:50pm, Wypt 393angelswindow, N 36.11997 W 111.94662 2405 m, 4:11 pm. 12968

12969 USA: ARIZONA: Coconino Co., Grand Canyon National Park, Walhalla Viewpoint, N 36.13629 W 111.94221 2433 m 22-Aug-2020 JK & CR Nelson & family 12969 107 iPhone ruins, 5:25 pm. Clock off Nikon 6:21 pm. Photos: scenery, indian ruins. 12969

12970 USA: ARIZONA: Coconino Co., Kaibab Plateau, Jacob Lake Fire Tower, N 36.69968 W 112.21367 2480 m 23-Aug-2020 JK & CR Nelson & family 12970 107 Wypt 395firetower 12970

12971 USA: UTAH: Kane Co., Zion National Park, east side, 1 mile west of Checkerboard Mesa, N 37.22376 W 112.89995 1663 m 23-Aug-2020 JK & CR Nelson 12971 107 iPhone photos: desert bighorn sheep 12971

12972 USA: UTAH: Washington Co., Zion National Park, east entrance of Zion Tunnel, N 37.21483 W 112.93896 1574 m 23-Aug-2020 JK & CR Nelson 12972 107 Google Earth photo: canyon north of Hwy 9; video: time lapse entering tunnel and descending switchbacks. 12972

12973 USA: UTAH: Washington Co., Zion National Park, old visitor center, archaeology museum, N 37.20923 W 112.98200 1224 m 23-Aug-2020 JK & CR Nelson 12973 107 Wypt 396zionoldvisitorcenter photos: building, time lapse up canyon. Also photos: my dormitory of 1981-1982. Wypt 397zionoldvctimelapse N 37.20949 W 112.97973 1220 m 12973

12974 USA: UTAH: Washington Co., Grafton, 2.4 miles west of Rockville, N 37.16753 W 113.08175 1120 m 23-Aug-2020 JK & CR Nelson 12974 107 Google Earth church/school. Photos: old buildings. Wypt 398endofroadgrafton N 37.16732 W 113.08415 1109 m. canyon wren 12974

12975 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26764 1829 m 28-Aug-2020 29-Aug-2020 JK & CR Nelson & family 12975 WW & LV Smith 107 ample water in tall tanks after I diverted more with a dam on 26 Aug 2020. Replaced clay soil with humus from under spruce trees and planted 5' x 30' more white clover. Levelled piles of clay moved to dike flash floods away from lawn. Took Wolf and Leah on four wheeler rides on this spot, named the Hilly Willy Trail. Taught Wolf of spots all over on cutthroat trout, buy no spots on lateral line in rainbows. Plestiodon skiltonianus western skink in porch, mountain chickadee, raven, robin (Wolf announced it had a white eye ring) 12975

12976 USA: UTAH: Utah Co., Provo, BYU, Life Sciences Building, west stream N 40.24498 W 111.65015 1406 m 01-Sep-2020 CR Nelson & Aquatic Entomology class 12976 Anna Eichert, Mallory DeFord, David Lariviere, Sam Bennett, Mitchell Greenhalgh, Jonas Hopper, Rachel Hadden, K. C. Rawlinson. 107 Wypt 399lsbwaterfall iPhone: N 40.24498 W 111.65015, elev. 4615ft = 1406m. Amazing! The same at MotionXGPS! Baetidae, Chironomidae 2 genera, Hydropsychidae, Lestidae Archilestes grandis adults, Acari, Annelida, Simuliidae, Tipulidae large creamy brown. This is quite diverse as this stream is turned off for the winter midOctober. 12976

12977 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26764 1829 m 02-Sep-2020 JK & CR Nelson 12977 107 Cool, late afternoon and evening. Watered plants. Cleome serrulata, Rocky Mountain bee plant, gathered seeds. Searched for green eyed monster, Diogmites angustipennis, none seen. Mountain chickadee, robin, sagebrush lizard 12977

12978 USA: UTAH: Cache Co., Cherry Peak Resort, 2.5 miles east of Richmond, N 41.92643 W 111.75662 1761 m 05-Sep-2020 JK & CR Nelson & friends 12978 Hank Pond, Rexanne Pond, Blair Parrish, Cynthia Parrish, Carly Parrish, Tracy Smith, Penny Smith 107 Wypt 400cherrypeak photos: Pieridae on wet spot of mud. 12978

12979 USA: IDAHO: Franklin Co., Bear River Crossing, Hwy 91, Bear River Massacre Memorials, N 42.14102 W 111.91116 1375 m 05-Sep-2020 JK & CR Nelson & friends Hank Pond, Rexanne Pond, Blair Parrish, Cynthia Parrish, Tracy Smith, Penny Smith 107 Photos: memorial offerings, quote on rock: Though the Saint of the day applauded it. The Saints of today are appalled by it. All are alike unto God. JB, KB, SK, BB, JJ, ET?, 2020. May darkness be transmuted to light. May the voice of the oppressed be heard. May this sacred ground rest. May generations gather here to heal. May all who come here be free. In remembrance of all lost in the Bear River Massacre. We also visited the memorial at the overlook site to the north off the highway.

12980 USA: IDAHO: Bannock Co., Red Rock Pass, Hwy 91, 4 miles northwest of Swanlake N 42.35426 W 112.048997 1462 m 05-Sep-2020 JK & CR Nelson & friends Hank Pond, Rexanne Pond, Blair Parrish, Cynthia Parrish, Tracy Smith, Penny Smith 107 iPhone Talked of draining Lake Bonneville 14,500 years ago. Photos: people walking.

12981 USA: IDAHO: Franklin Co., Bear River, Oneida Narrows Red Point Campground N 42.23446 W 111.75927 1449 m 05-Sep-2020 JK & CR Nelson & friends Hank Pond, Rexanne Pond, Blair Parrish, Cynthia Parrish, Tracy Smith, Penny Smith 107 Took obscure trail across road from campground entrance to high peninsula of rock "dam" that partially

wore away 100,000 years ago to allow the Bear River into the Great Salt Lake Basin, Bonneville Basin.

12982 USA: UTAH: Cache Co., Logan, USU, Aggie Ice Cream, 750 N 1200 E N 41.74910 W 111.81029 1459 m 05-Sep-2020 JK & CR Nelson & friends Hank Pond, Rexanne Pond, Blair Parrish, Cynthia Parrish, Tracy Smith, Penny Smith 107 Google Earth ate ice cream

12983 USA: UTAH: Cache Co., Logan, USU Campus, Old Main A and then elsewhere N 41.74125 W 111.81331 1453 m 06-Sep-2020 JK & CR Nelson & friends Hank Pond, Rexanne Pond, Blair Parrish, Cynthia Parrish, Carly Parrish, Tracy Smith, Penny Smith 107 Photos: in and around Old Main: stand on the A and kiss. Darwin Avenue Apartments of our college days together N 41.74414 W 111.81578 1452 m, nice group photos. Group photos with bull statue near football stadium N 41.74990 W 111.81355 1431 m. Photos of "Morm Dorms" where Tracy, Blair, Rexanne, and Hank all spent their freshman year in 1976? or so. Photos bare site of USU Trailer Park where Rexanne and Hank live in 1981 or so. Photos of deerhouse at Logan Temple N 41.73374 W 111.82709 1412 m.

12984 USA: UTAH: Cache Co., Logan, 319 North 100 West, former Nelson Apartment of 190-1983 N 41.73774 W 111.83754 1376 m 06-Sep-2020 JK & CR Nelson & friends Hank Pond, Rexanne Pond, Blair Parrish, Cynthia Parrish, Carly Parrish, Tracy Smith, Penny Smith 107 Photos: basement apartment of Kaye and Riley Nelson including renovation of coal bin, the window and room we added.

12985 USA: UTAH: Cache Co., Smithfield, east bench, 147 Hillside Drive, N 41.83978 W 111.80678 1475 m 04-Sep-2020 07-Sep-2020 JK & CR Nelson & friends Hank Pond, Rexanne Pond, Blair Parrish, Cynthia Parrish, Carly Parrish, Tracy Smith, Penny Smith 107 iPhone 6 Sep 2020 group photo on porch.

12986 USA: UTAH: Cache Co., Smithfield, Birch Creek east of town, N 41.84531 W 111.79994 1510 m 06-Sep-2020 JK & CR Nelson & friends D. Blair Parrish and C. Riley Nelson, also J. Kaye Nelson, Hank & Rexanne Pond. 107 iPhone walked up canyon half a mile. Photos: milkweed *Asclepias asperula*? also collected seeds, much *Asclepias speciosa* too, but none photographed or collected. Saw mayfly and stonefly Perlodidae nymphs in the stream.

12987 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 10-Sep-2020 CR Nelson 12987 107 Photos: Stratiomyidae, near pond, *Sargus cuprarius*?, sight ID det C. R. Nelson 2020. 12987

12988 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26764 1829 m 12-Sep-2020 13-Sep-2020 JK & CR Nelson 12988 AT, AL, WW, & LV

Smith 107 spent night of 12-13 Sep 2020. 12 Sep 2020: Birthday cake for Winston P. Nelson, he would have been 101. 13 Sep 2020, rock wren on ovoo. 12988

12989 USA: UTAH: Utah Co., Tie Fork Creek, jct Partridge Canyon N 39.99824 W 111.20109 2134 m 12-Sep-2020 CR Nelson 12989 AT Smith 107 photos: secener and the two of us. Low, deep crossing on Tie Fork of 1980s and before now has a large (6 foot?) corrugated pipe for a bridge. manzanita, Acrididae Trimeeritropis pallidipennis, Arphia, Dissosteira carolina, other with blue legs, rocky mountain juniper, aspen. 12989

12990 USA: UTAH: Carbon Co., Scofield Reservoir, Scofield State Park Mountain View Campground, N 39.78958 W 111.29311 2316 m 12-Sep-2020 13-Sep-2020 JK & CR Nelson & family 12990 AT, AL, WW, & LV Smith 107 evening 12 Sep Wolf with crawdad crayfish, rubber raft trollin to bay west of campground. 12 Sep 2020: saw fox & two deer on spur road home to cabin. Morning/day 13 Sep 2020: saw 1 female elk in early morning on spur road to lake. Todd & Riley trolling for fish with spinners: 24 bear lake cutthroat trout caught & released. 2 Utah chub. Gulls, osprey, great blue heron. Glassy morning water trolled south to east side of island then back along western shore. 12990

12991 USA: UTAH: Utah Co., Soldier Creek, Wheeler Sawmill, Hwy 6, 12 miles east of Thistle, N 39.95341 W 111.26499 1824 m 15-Sep-2020 CR Nelson 12991 107 Google Earth Video: aquatic collecting. Perlodidae: Isogenoides zionensis, Athericidae: Atherix, Hydropsychidae, Elmidae, Dryopidae, Tipulidae, Ceratopogonidae, Chironomidae, Brachycentridae, Heptageniidae Heptagenia elegantula, Baetidae, Ephemerellidae Drunella & Ephemerella, Dytiscidae Agabus & Stictotarsus?, Simuliidae, Gomphidae, Leptoceridae, Coenagrionidae. 12991

12992 USA: UTAH: Utah Co., Diamond Fork River, 5 miles north of Hwy 6, jct Little Diamond Creek, N 40.06745 W 111.43955 1572 m 15-Sep-2020 CR Nelson 12992 107 iPhone video: collecting aquatic insects Pteronarcyidae Pteronarcys californica, Pteronarcella badia; Perlodidae Isoperla, Perlidae Claassenia sabulosa, Baetidae, iPhone photos: Ephemerellidae Drunella grandis subimago, Leptophlebiidae, Athericidae Atherix, Tipulidae Hexatoma, Helicopsychidae, Brachycentridae, Limnephilidae, Glossosomatidae. 12992

12993 USA: UTAH: Utah Co., Little North Fork Creek, at Timp Lodge above Sundance Ski Area, N 40.38881 W 111.58775 1921 m 17-Sep-2020 CR Nelson 12993 107 iPhone Videos: GoPro underwater. I noted in book, "more like Google Earth N 40.38992 W 111.58714 1925 m. narrow canyon distorts GPS, still within 60 m. Ephemerellidae iphone photos, subimago Drunella grandis nymphs. Chironomidae, Uenoidae Neothremma, Tipulidae. 12993

12994 USA: UTAH: Utah Co., Little North Fork Creek, Hwy 92, 1.5 miles south of Sundance, N 40.38181 W 111.56773 1908 m 17-Sep-2020 CR Nelson 12994 107 iPhone Photos & video: GoPro underwater & iPhone. Using Google Earth to get in the narrow canyon the reading is more like N 40.38041 W 111.57024 1747 m (the pull out on the highway) considerably different elevation. Ephemerellidae *Drunella grandis* nymphs, Simuliidae *Simulium*, Uenoidae *Neothremma*. 12994

12995 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26764 1829 m 19-Sep-2020 20-Sep-2020 JK & CR Nelson & friends 12995 Blair & Cynthia Parrish, Hank and Rexanne Pond. 107 20 Sep 2020: photos with new Nikon Z7 camera. On *Ericameria nauseosus*: *Apis mellifera*, Halictidae, Lygaeidae. Photo: Rhopalidae *Boisea trivittata* on wood, green ash, and box elder tree. 12995

12996 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 21-Sep-2020 CR Nelson 12996 107 photos: first flash macros with Z7. Photos: *Collembola Sminthuridae* (more collected and microscope photographed on 22 and 23 Sep 2020, on water surface of indoor aquarium, sitting on hornwort *Ceratophyllum demersum* plant, abundant! May be feeding on TetraMin Flake fish food trapped in plant. Collected black widow spider. 24 September 2020: photos, yellow rumped warblers at pond. 12996

12997 USA: UTAH: Summit Co., Uinta Mountains, Mirror Lake Highway, Hwy 150, 1 mile south of Shady Dell Campground, N 40.58216 W 111.02229 2425 m 25-Sep-2020 CR Nelson 12997 107 iPhone Photos: small grouse species, ruffed?, dead fawn mule deer. 12997

12998 USA: UTAH: Summit Co., Uinta Mountains, Ponds Lake near Crystal Lake Trailhead (also known as Lily Lakes, west, N 40.68403 W 110.96405 3057 m 25-Sep-2020 CR Nelson 12998 107 Google Earth lake was low, dry summer, no salamanders, no lily pads, no overhand sedges for banks. Not as desirable collecting as a few years back with Kaye. Left side of trail to Clyde Lake Trail, Wall Lake, etc. Still, Aeshnidae, saw no Limnephilidae or Phryganeidae. Passed off live bulk sample to Mitchell Greenhalgh. tiny Dytiscidae in feeder spring run. 12998

12999 USA: UTAH: Summit Co., Uinta Mountains, Lily Lakes near Crystal Lake Trailhead, N 40.68379 W 110.96258 3054 m 25-Sep-2020 CR Nelson 12999 107 Google Earth Right hand side of trail to Clyde Lake Trail, Wall Lake, etc. You can see these lily ponds from the parking lot. Anna Eichert and Mal DeFord came and got live bulk sample at house in evening, specimens sorted in part by Wolf, Leah, and me. I'm tired. Lily pads beginning to decompose, winter isn't far. Photos in lab and at home 30 Sep 2020: Chaoboridae!

Abundant. Limnephilidae (NO! Phryganeidae) Limnephilus (NO! Agrypnia) with messy green sedge cases; Dytiscidae Acilius?, Agabus or larger; Phryganeidae, half grown, photos in lab: Agrypnia! burrowed into soft open silt! not on vegetation. Copepoda red, Libellulidae nymphs with three black belly stripes Corduliidae (NO! Libellulidae) Leucorrhinia hudsonica photos in lab 2 Oct 2020; Photos: Coenagrionidae Enallagma green and Ischnura brown. No salamanders. big leech. Stictotarsus? small Dytiscidae; photos in lab 2 Oct 2020: Baetidae, Callibaetis. 12999

13000 USA: UTAH: Summit Co., Uinta Mountains, Provo River Falls, Hwy 150, 1.5 miles south of Trial Lake Area, N 40.65701 W 110.94621 2832 m 25-Sep-2020 CR Nelson 13000 107 iPhone underwater photos with GoPro, slow shutter water shots with Nikon Z7 waterfall fauna: Ephemerellidae Drunella doddsi, Heptageniidae Epeorus, Baetidae, Blephariceridae! Two larvae Bibiocephala grandis. 13000

13001 USA: UTAH: Davis Co., Farmington Bay Wildlife Management Area, 1325 West Glovers Lane N 40.93191 W 111.94928 1281 m 26-Sep-2020 JK & CR Nelson & family 13001 AJ Nelson & JO Christopher 107 iPhone many great photos with new Nikon Z7 camera and Nikkor 200-500mm lens with 1.4 teleconverter. Nice. Photos: Tabanidae Hybomitra biting me. Photos: birds: killdeer, white faced ibis, snowy egret, cattle egret, great blue heron, american white pelican, house sparrow, swainsons hawk, red tail hawk, northern harrier, california gull, ring billed gull, wilsons snipe, raven, western meadowlark, american kestrel, starling, collared dove, gadwall duck, mallard duck, pintail duck, canada geese, greenwing teal, blue wing teal, cinnamon teal?, wood ducks, coot, pied bill grebe, clarks grebe, western grebe, eared grebe, lesser yellowlegs, spotted? sandpiper, red wing blackbird, brown headed cowbird, foresters tern, cormorant, northern shoveler, ringnecked pheasant, white crowned sparrow, barn swallow. 42 species. 13001

13002 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26764 1829 m 27-Sep-2020 JK & CR Nelson & WW & LV Smith 13002 WW & LV Smith 107 Sunday. The leaves, especially the maple leaves were bright at the mouth of Spanish Fork Canyon. They have been so for several weeks. Some are drying and dropping. Photos: people and scenery. We walked to the ovoo then to the box elder tree we call the Golden Ancient Sunbird Place. Then we climbed the slope and crossed the west gulley to get to the cabin. Wolf stepped on a cactus and cried. I pulled a spine out of his toe. photos: red naped sapsucker. The rabbitbrush is in full bloom at the cabin. Some has past. 13002

13003 USA: UTAH: Utah Co., Squaw Peak Road (road 027) between Hwy 189 and 2.3 miles south of Rock Canyon Campground, N 40.2757 W 111.59997 2300 m 29-Sep-2020 JK & CR Nelson 13003 107 iPhone Use iPhone Rock Canyon overlook. iPhone photos: evening ride to look at fall leaves. 1. Searching on road for trailhead to climb to Provo Peak, 2.3

miles on road south of Rock Canyon Campground, apex of trip: N 40.26222 W 111.57665 2249 m photos. 2. Steep road to east, 0.7 miles south of Rock Canyon Campground N 40.26688 W 111.57890 2207 m, not main trail to Provo Peak, photos. 3. road/trail east, 0.5 miles south of Rock Canyon Campground N 40.26714 W 111.57608, 2215 m, not trail to Provo Peak, photos. 4. Trailhead to Cascade Saddle on the ? to Big Springs N 40.26904 W 111.57912 2187 m, photos. 5. turnoff to Rock Canyon Campground, Google Earth, N 40.27224 W 111.58739, 2145 m, no photos. 6. Rock Canyon Overlook, iPhone photos panorama, N 40.2757 W 111.59997, 2300 m. 7. Squaw Peak Lookout (Orem Overlook) N 40.30137 W 111.62576, 2036 m, photos scenery and light of our house. Sub notes: We didn't reach Provo Peak Trailhead but it is a wide spot (Google Earth) at N 40.24235 111.57767 2545 m, It is 1.4 air miles south of the apex number 1 above. 2 air miles south Rock Canyon Campground but more than 3.7 miles on the road. 13003

13004 USA: UTAH: Utah Co., Provo, corner of Canyon Road and Foothill Drive, LDS Church, N 40.29426 W 111.65165 1472 m 04-Oct-2020 JK & CR Nelson & WW & LV Smith 13004 WW & LV Smith 107 Photos: bur oak acorns, leaves, trees, people. Used the iPhone app Seek to identify the tree as *Quercus macrocarpa*. We gathered many to share with y Biology class, for possible use in someone's Nature Experience. 13004

13005 USA: UTAH: Utah Co., Provo River, BYU Riverside Park, 2230 N 300 W near pavilion N 40.26496 W 111.66346 1414 m 06-Oct-2020 CR Nelson 13005 107 iPhone Monday. Photos: site. River velocity over 10 m segment: 9, 9, 9, 10, 9 = 1.09 m/sec. Five First 100 samples. 16 taxa sorted by Aquatic Entomolgy class in laboratory in afternoon 6 Oct 2020. Photos, microscope in lab, 7 Oct 2020: Hydropsychidae, Baetidae, Brachycentridae Brachycentrus. Photos in lab 8 Oct 2020: Oligochaeta, Lumbricus; Platyhelminthes, Polycelis; Simuliidae, Prosimulium. Acari, Photos 8 Oct 2020: Isopoda Asellus . Leptoceridae no photos; Limnephilidae get genus, Mallory DeFord keyed it. No photos. Gastropoda 3 spp. photos 8 Oct 2020: Potamopyrgus antipodarum, Fluminicola, Physella. Dryopidae Helichus photos 8 Oct 2020, Elmidae Optioservus photos 8 Oct 2020, Rhyacophilidae Rhyacophila photos 8 Oct 2020. Leech Dina sp. 13005

13006 USA: UTAH: Utah Co., Provo, BYU, 221 Martin Building, N 40.24691 W 111.64906 1419 m 07-Oct-2020 CR Nelson & studentss 13006 Sophie Carter, Megan Crow, and Hannah Stadler. 107 iPhone Riley Nelson at white board after scales lecture. 13006

13007 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 09-Oct-2020 10-Oct-2020 CR Nelson 13007 107 Photos: Friday 9 Oct 2020 Fall leaves around yard, snowy tree cricket, Gryllidae: Oecanthus sp. Females. Saturday 10 Oct 2020 photo robin at pond. 13007

13008 USA: UTAH: Utah Co., Provo River Inlet, Utah Lake, Utah Lake State Park, N 40.23662 W 111.74120 1368 m 10-Oct-2020 CR Nelson & Smiths 13008 AT, AL, WW, & LV Smith 107 iPhone photos: fishing in the inflatable boat. We put in at the Provo River Bridge on Center Street east of the park and picked up Amy later. We caught white. Bass, a yellow perch, and Wolf caught a 17 inch largemouth bass, a monster, all on yellow feather jigs. We looked for Nepidae Ranatra, water scorpions but found none. 13008

13009 USA: UTAH: Kane Co., Kanab Creek, 1.5 miles northeast of Best Friends Animal Sanctuary, N 37.14823 W 112.53738 1606 m 16-Oct-2020 JK & CR Nelson & friends 13009 John Bennion (BYU), Katie Ercanbrack videographer, AmiJo Comeford (Dixie State), Jaimi Butler (Westminster), Cora Butler & shih Tzu dog Rosco 107 iPhone Humanities in the Wild program. Walked in thick willows on unblazed trail to a spot to talk about, "To Die in Kanab" a novel by Jack Nelson with an Everett Ruess theme. Kaye and I revisited on 17 October 2020 to collect. Photos at home 18 Oct 2020: Baetidae Fallceon?, Hydropsychidae Ceratopsyche sp., Dytiscidae Agabus sp., Dryopidae Helichus sp., Gerridae Limnoporus sp., Cicindelidae Cicindela two spp. No photos Gerridae Aquarius and Limnogonus?, Simuliidae Simulium, Immature. Coenagrionidae Argia 17 Oct 2020. 13009

13010 USA: UTAH: Kane Co., Coral Pink Sand Dunes near eastern edge of park N 37.05000 W 112.71565 1841 m 16-Oct-2020 JK & CR Nelson & friends 13010 John & Karla Bennion 107 iPhone walked flat trail to edge of open dunes and sat and talked. I painted a watercolor. 13010

13011 USA: UTAH: Kane Co., Kanab, Parry Lodge, 89 East Center Street, N 37.04884 W 112.52758 1516 m 16-Oct-2020 17-Oct-2020 JK & CR Nelson 13011 107 iPhone Stayed Friday night. Nice, clean and cheap, \$80. instad of going rate of \$150 or more at full, newer motels. We loved the historical, famous movie star, fimmaker memories. photos at home 18 oct 2020: caught an earwig, an appreciated bonus, in the morning. Perhaps a new record for me of this widespread colonizing species: Spongiforidae? Labia minor. 13011

13012 USA: UTAH: Kane Co., Rim rock, top of Kayenta Formation, 3.4 miles north of Kanab, short walk from Port of Entry, N 37.08288 W 112.53682 1611 m 17-Oct-2020 JK & CR Nelson 13012 107 iPhone photos: selfies photos: dinosaur footprints. We counted 16. 13012

13013 USA: UTAH: Kane Co., Zion National Park, Hwy 9, bonsai ponderosa pine on hoodoo, 1 mile west of Checkerboard Mesa, N 37.22437 W 112.89642 1671 m, 17-Oct-2020 JK & CR Nelson 13013 107 iPhone Photos: scenery. We stp[[ed wjem we saw a herd of desert bighorn sheep, ewes, and lambs. They haddisappeared before I could photograph them. 13013

13014 USA: UTAH: Kane Co., Zion National Park, Hwy 9, 0.75 miles east of east entrance of Zion Tunnel and 0.75 miles west of east tunnel, N 37.21387 W 112.93380 1593 m 17-Oct-2020 JK & CR Nelson 13014 107 iPhone Photos: scenery. Photos: desert bighorn sheep, two nice rams, about five ewes and two lambs. Good photos! My best yet for this species. Two rams were lip curl smelling ewes, for estrus? They competed some. One larger than other one with blue tongue (smaller) and one with pink tongue (larger). Met Fred & Sima Marvastian, he from Iran, she from Austria. Fred and I were at Utah State University at the same time. He graduated in civil engineering, now they live in Washington, D. C. 13014

13015 USA: UTAH: Washington Co., Virgin, Virgin River, Virgin Falls Park, Sheep Bridge, N 37.19867 W 113.20870 1043 m 17-Oct-2020 JK & CR Nelson 13015 107 iPhone Saturday, photos: scenery. Called Nathan St. Andre in St. George for directions to this spot he had shown me photographs of. He nearly came from St. George to collect with me, but his wife needed help at home. Corydalidae, *Corydalus texanus* larvae photos at home 18 Oct 2020, several with rotifers and Chironomidae growing on them. Veliidae, *Rhagovelia* sp. Photos at home 18 Oct 2020. Baetidae, two genera (No! three genera) *Paracloeodes*, *Camelobaetis*, *Centroptilum* sp. photos 19 Oct 2020. Philopotamidae *Chimarra*; maybe *Leptophlebiidae* NO! probably saw an odd *Heptagenia*; saw crayfish, none kept. *Coenagrionidae*: *Argia* striped eyes photos at home 18 Oct 2020. Gomphidae: *Erpetogomphus* photos at home 18 Oct 2020. *Heptageniidae* *Heptagenia elegantula*, *Libellulidae* *Brechmorhoga mendax*, *Dryopidae* *Helichus* sp. 13015

13016 USA: UTAH: Utah Co., Provo, East Lawn Cemetery N 40.29796 W 111.64951 1541 m 18-Oct-2020 JK & CR Nelson & friends 13016 Aicha Roshdi & Todd Chandlee 107 iPhone Walk from Nelson home to East Lawn Cemetery to see fire between mouth of Provo Canyon and Mount Baldy on Mount Timpanogos that started yesterday. It has already burned 3000 acres and is not under control. Photos, video. 13016

13016.5 USA: UTAH: Utah Co., Provo River, BYU Riverside Park, 2230 N 300 W near pavilion N 40.26496 W 111.66346 1414 m 19-Oct-2020 CR Nelson 13016.5 107 Kick samples containing *Hydropsychidae* *Hydropsyche*, *Baetidae* *Baetis*, *Brachycentridae* *Brachcentrus*, collected and put in a flow aquarium for photos and as food for the *Corydalus* caught at Virgin Falls on Saturday. Took apart tank on 22 Jan 2021 and put in *Corydalus* from Virgin Falls. Photos taken 27 October 2020 in BYU lab. 13016.5

13017 USA: UTAH: Utah Co., Provo, BYU, 221 Martin Building, N 40.24691 W 111.64906 1419 m 19-Oct-2020 CR Nelson 13017 Sophie Carter, Megan Crow, and Hannah Stadler. 107 iPhone Photos: silly photos of hellgrammites CRN 13015 hanging on ears of Hannah Stadler and C. R. Nelson, also with Sophie Carter and Megan Crow. 13017

13018 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26764 1829 m 23-Oct-2020 25-Oct-2020 JK & CR Nelson & family 13018 Riley, Kaye, Andrea, Jordan, Amy, Todd, Wolf, and Leah. 107 photos: Fall Fling Fun Party, jack-o-lanterns; The Legend of Minnow Mike is born. Adult flea on belly of Lupine the dog. 13018

13019 USA: UTAH: Carbon Co., Scofield Reservoir, between outlet and island, N 39.77573 W 111.14741 2319 m 24-Oct-2020 CR Nelson & family 13019 Riley, Todd Smith, Jordan Christopher 107 photos: fishing on the lake; bag of beach gravel. Stopped at store at south end of lake in Scofield for fishing tackle. The store owner, who we dubbed Minnow Mike sold us some dead redbreasted minnows and artificial maggots for bait. He swore vehemently by them. They worked. We caught seven cutthroat trout trolling. Brand name: Berkley Gulp! artificial maggots. What a world! Artificial maggots. 13019

13020 USA: UTAH: Utah Co., Provo, BYU lab, 4118 LSB N 40.245293 W 111.649165 1407 m 27-Oct-2020 CR Nelson 13020 107 Photos of specimens from CRN13016.5: Hydropsychidae in silk webs, Brachycentridae attached with silk to glass and rocks, Baetidae grazing on rocks. !Also, Petaluridae Tanypteryx hageni, dragonfly nymphs express mailed to Paul Frandsen from California: USA: CALIFORNIA: Butte Co., Lassen National Forest, Butte Creek, meadows near Cherry Hill Campground, N 40.10145 W 121.50123 elev. 1417 m, 26 October 2020, Chris Beatty. Photographed on Najas guadalupensis and gravel from Little North Fork, Utah. Not the substrate of a fen from which they were collected. 13020

13021 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26764 1829 m 06-Nov-2020 07-Nov-2020 JK & CR Nelson 13021 107 Arrived after dark on Friday night. Watched the movie Arachnophobia. Saturday: walked to cabin overlook, winterized upper cabin water pit, buried exposed pvc line, improved door casing latch upstairs. photos: blue gray gnatcatcher. 13021

13022 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 08-Nov-2020 JK & CR Nelson 13022 107 Sunday photos at feeder: house finch, dark eyed junco, scrub jay, black capped chickadee, rufous sided towhee, eurasian collared dove, california quail, house sparrow, white crowned sparrow (many) with excellent photo of adults and juveniles. Mosquitoes in plant water taken to the lab. 13022

13022.5 USA: UTAH: Utah Co., Provo, Utah Valley Hospital, N 40.42811 W 111.66586 1399 m 16-Nov-2020 CR Nelson 13022.5 & radiologist 107 Google Earth photos: MRI of spine. Sagittal and axial sections for ruptured disk at Lumbar 5 Sacral 1. The rupture has retracted

much from two years ago. Good news. It is no longer as big a threat to the spinal cord.
13022.5

13023 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 18-Nov-2020 CR Nelson & LV Smith 13023 Leah Valentine Smith 107
Photos and videos: fighting males of hissing roaches, *Gromphaderhina portentosa* (Schaum), and mites on roach bodies, especially head and mouthparts, *Gromphadorholaelaps schaeferi*. 13023

13024 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26764 1829 m 21-Nov-2020 JK & CR Nelson & family 13024 WW & LV Smith 107
photos: eating meat on a stick. museum specimen: bushy tailed woodrat, large with great coat. *Neotoma cinerea*. 13024

13025 USA: UTAH: Utah Co., Provo, Utah Valley Hospital, N 40.44784 W 111.66621 1390 m 24-Nov-2020 JK & CR Nelson 13025 107 iPhone Photos: Lumbar epidural for pain relief to Riley Nelson where the disk between vertebra Lumbar 5 and vertebra sacral 1 has ruptured on my left side. Dr. S. Doug Brown administered the lidocaine & steroid injection and allowed the pictures to be taken by me and nurses assisting in the procedure. My last epidural was February 2020. I had an MRI last week that showed the ruptured disk has "healed" (dried up) and no longer is pressing so hard on the spinal cord, as it was in May 2018. Good news. 13025

13026 USA: UTAH: Utah Co., South Fork Creek, 1.5 miles, South of Vivian Park & Hwy 189, and further upstream, N 40.34775 W 111.54697 1664 m 28-Nov-2020 JK & CR Nelson 13026 107 iPhone photo Kaye and I drove to the back of South Fork, to the end of the public road near the Shingle Mill Trailhead. We went in the late afternoon so the canyon was in the half light. Vivian Park was in the dusk dark, but Shingle Mill was in bright sun. We saw flocks of turkeys in several places, probably more than 100. We live in a beautiful place. It was cold and I didn't feel like walking. Nor did Kaye. 13026

13027 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 02-Dec-2020 CR Nelson 13027 107 and downy woodpecker. 13027

13028 USA: UTAH: Utah Co., Provo River, Provo Canyon, Hwy 189, Bridal Veil Falls, N 40.34056 W 111.60313 1562 m 10-Dec-2020 CR Nelson 13028 107 iPhone Photos: falls, some near noon, others near 4:00 pm. After falls protected last night by a conservation easement. 13028

13029 USA: UTAH: Utah Co., Provo, Canyon Road, The Preserve Subdivision, N 40.29815 W 111.65375 1483 m 10-Dec-2020 CR Nelson 13029 107 iPhone photos: sign for "The Preserve", ironic because it is a development. 13029

13030 USA: UTAH: Utah Co., Provo River, Provo Canyon, Hwy 189, Bridal Veil Picnic Area, N 40.33858 W 111.60814 1551 m 10-Dec-2020 CR Nelson 13030 107 iPhone Photos and video: Provo River. Stream sample: Hydropsychidae Arctopsyche & Hydropsyche; Brachycentridae Brachycentrus americanus; Perlodidae Isoperla fulva and Skwala americana; Nemouridae Zapada?; Asellidae Asellus aquaticus; Oligochaeta; Athericidae Atherix pachypus; Rhyacophilidae Rhyacophila; ! Pteronarcyidae, Pteronarcys californica! one nymph about 2.5 cm long! Good news, they still exist. 13030

13031 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26764 1829 m 20-Dec-2020 22-Dec-2020 JK & CR Nelson & family 13031 Kaye, Riley, Andrea, Jordan, Todd, Amy, Wolfgang, and Leah 108 20 Dec: photos of painting of duck hunters in Springville, Utah by "S. J." 21 Dec 2020 photos walk to Glass Cliffs, then sledding near cabin, sunset of solstice on ovoo, the Mongolian rock shrine. Photos: Moon, and conjunction of Jupiter and Saturn, just after dusk. Four moons of Jupiter all in a line running in frame from 11 o'clock to 5 o'clock. Photos: the solstice burning of the wooden rattlesnake (made by Andrea and Amy) and reading of poetry. 13031

13032 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 22-Dec-2020 CR Nelson 13032 108 Photos: just after sunset, moon, Jupiter and its moons with Saturn. With combinations of 200-500 mm Nikon lens and 2.0 Nikon teleconverter and 1.4 Nikon teleconverter. 13032

13033 USA: UTAH: Salt Lake Co., Salt Lake City, Liberty Park, Tracy Aviary N 40.74367 W 111.87541 1302 m 30-Dec-2020 JK & CR Nelson & family 13033 Kaye, Riley, Andrea, Jordan, Todd, Amy, Wolfgang, and Leah 108 iPhone Photos: ruddy duck, common goldeneye, barrows goldeneye, hooded merganser, andean condor hatched 1959, bald eagle (wild), southern ground hornbill, superb starling, white headed buffalo weaver, bearded barbet, laughing kookaburra, kea, masked lapwing, trumpeter swan, mallard duck, blue winged teal, black necked stilt, canvasback duck, bufflehead duck, northern shoveler duck, coot, white faced ibis, willet, pintail, franklin gull changeling, turkey vulture, edwards pheasant, black naped fruit dove, violet turaco, bali mynah, raggiana bird of paradise, barred owl, burrowing owl, long eared owl, toco toucan, scarlet ibis, troupial, sun bittern, blue crowned motmot, guira cuckoo. 13033

13034 USA: UTAH: Salt Lake Co., City Creek Canyon, tall tree in picnic area 12, N 40.80663 W 111.85789 1548 m 10-Jan-2021 JK & CR Nelson & family 13034 Andrea J. Nelson and Jordan O. Christopher 108 iPhone photos: people & scenery, ice on creek photos: acorn woodpeckers. An odd southern bird wintering up north. 13034

13035 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 mi East of Thistle N 39.95623 W 111.26764 1829 m 15-Jan-2021 16-Jan-2021 JK & CR Nelson & family 13035 Kaye, Riley, Andrea, Jordan, Todd, Amy, Wolfgang, and Leah 108 bushy tailed woodrat, packrat, live upstairs and released at the ovoo. Photos: Pfeifferhorn the dog on ovoo. Scrub jays, juncos, golden eagle. 13035

13036 USA: UTAH: Utah Co., Provo River, BYU Riverside Park, 2230 N 300 W near pavilion N 40.29331 W 111.64892 1494 m 23-Jan-2021 CR Nelson 13036 108 iPhone iPhone reading from today, the elevation is high! Photos: scenery of river. An hour or so earlier my TAs (Megan Crow and Hannah Stadler), lab student (Mitchell Greenhalgh), and two Biology students (Aaron Brown and Amanda Clark) took 5 first 100 samples. It was snowing and about 34 deg F. The Provo River was flowing at a "usual" low winter flow, exposing a third of the riffle wide as bare cobble, so the estimated speed was 1.1 m/sec 13036

13037 USA: UTAH: Utah Co., Provo, BYU, 2119 Life Sciences Building, N 40.24510 W 111.64863 1396 m 26-Jan-2021 CR Nelson 13037 108 iPhone Photos: screen shots of computer University Forum of David Epstein speaking of his book, "Range" on the role of generalists in society. He used pictures of a Dolichopodidae fly when talking of the wide view eyes of dragonflies that integrate into an image in its brain. Irony: specialist/generalist knowledge needed. Riley the nit picker. Very good talk! 13037

13038 USA: UTAH: Utah Co., South Fork Creek, 1.5 miles, South of Vivian Park & Hwy 189, N 40.34770 W 111.54757 1640 m 30-Jan-2021 JK & CR Nelson 13038 108 Kaye looking for winter stoneflies, scenery, and creek. Kaye took some pictures of me too. *Capnia gracilaria* 6m 19f plus more females alive to show class, *Capnia nana* 1m 1f, Baetidae subimagos, Chironomidae. 13038

13039 USA: UTAH: Utah Co., Little Diamond Fork Creek, 150 m northwest of Diamond Fork Road, #029, 5 miles north of Hwy 6 N 40.29343 W 111.64931 1488 m 06-Feb-2021 C. R. Nelson 13039 Erika Frandsen, Hannah Stadler, Chari Guthrie, Brenna Croker, Anna Eichert, Alex Hickey, Mallory Deford, Mitchell Greenhalgh 108 iPhone today Good snow, cold then warm. Photos: scenery and people. lichen, flatworms, skins of *Isoperla* and *Isogenoides* under bridge. Swallow nests from last year. 13039

13040 USA: UTAH: Utah Co., Diamond Fork River, 5 miles north of Hwy 6, jct Little Diamond Creek, N 40.06745 W 111.43955 1572 m 06-Feb-2021 13040 Erika Frandsen, Hannah Stadler, Chari Guthrie, Brenna Croker, Anna Eichert, Alex Hickey, Mallory Deford, Mitchell Greenhalgh 108 iPone 15 Sep 2020 photos: people & scenery No adult stoneflies seen. Glossosomatidae, Claassenia, Hydropsychidae, Brachycentridae, Pteronarcys,

Pteronarcella, Isogenoides zionensis, Drunella, Rhithrogena, Atherix, Dryopidae, Chironomidae, Hesperoperla, Baetidae, Leptophlebiidae, Helicopsychidae, Physella.
13040

13041 USA: UTAH: Utah Co., South Fork Creek, 1.5 miles, South of Vivian Park & Hwy 189, N 40.34770 W 111.54757 1640 m 06-Feb-2021 C. R. Nelson 13041 Erika Frandsen, Hannah Stadler, Chari Guthrie, Brenna Croker, Anna Eichert, Alex Hickey, Mallory Deford. 108 Adults: Capnia gracilaria videos, Capnia nana, Zapada cinctipes. In water: Capnia, Zapada, Rhyacophila, Sweltsa, Drunella doddsi, Rhithrogena, Paraleptophlebia, Oligophlebodes, Neothremma, Diamesinae and other Chironomidae, Hesperoperla pacifica, Tipula videos in mouth of Riley Nelson, Elmidae, Baetidae & subimago photos at home 7 Feb 2021. Black capped chickadee, Mountain chickadee, dipper. 13041

13042 USA: UTAH: Utah Co., South Fork Creek, 1.5 miles, South of Vivian Park & Hwy 189, N 40.34770 W 111.54757 1640 m 11-Feb-2021 C. R. Nelson 13042 108 Photos: Baetis, Drunella doddsi, Skwala americana, Hesperoperla pacifica, Zapada cinctipes, Chironomidae silt patches pupa larvae. 13042

13043 USA: UTAH: Utah Co., Orem, Americas Best Contacts and Eyeglasses store, 1353 South State Street, N 40.23250 W 111.68242 1449 m 11-Feb-2021 C. R. Nelson 13043 108 photos: retinas of both eyes by optometrist 13043

13044 USA: UTAH: Utah Co., Provo, East Lawn Cemetery N 40.29796 W 111.64951 1541 m 14-Feb-2021 JK & CR Nelson 13044 108 Photos: scenery, lake, mountains, and trees
13044

13045 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB N 40.24517 W 111.64909 1404 m 23-Feb-2021 C. R. Nelson 13045 108 Photos: Dolichopodidae: assortment from USA: UTAH: Utah Co., Little Diamond Creek, 150 m W of Diamond Fork River, N 40.06807 W 111.44129, elev. 1585 m, 7-13 August 2020, A. L. Eichert, malaise trap, in 95% ethanol. Also, 24 Feb 2021: photos small green wasp from same sample as above sorted by T. Broberg, H. ____, and Anna Eichert. Eucharitidae? 13045

13046 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB N 40.24517 W 111.64909 1404 m 23-Feb-2021 24-Feb-2021 C. R. Nelson 13046 A. L. Eichert and T. Broberg 108 Photos: Dynastes granti, adult and pupae emerged 23 Feb 2021 from adults/eggs of CRN 12030. Also cool green wasp from Lytle Ranch CRN 10406, photographed 25 Feb 2021.
13046

13047 USA: UTAH: Wasatch Co., Soldier Hollow Nordic Center, N 40.48299 W 111.50546 1760 m 27-Feb-2021 JK & CR Nelson & family 13047 Andrea J. Nelson, Wolfgang Smith,

and Leah Smith 108 iPhone Photos: family on tubing hill with "magic carpet? Escalator, Edgemont 10th Ward activity 13047

13048 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 28-Feb-2021 C. R. Nelson 13048 108 Photos: downy woodpecker, spotted towhee, black capped chickadee 13048

13049 USA: UTAH: Utah Co., Bear River Migratory Bird Refuge, Visitor Center and trails, West Forest Street, Brigham City N 41.50771 W 112.06912 1288 m 06-Mar-2021 JK & CR Nelson & family 13049 Riley, Kaye, Andrea, Jordan, Amy, Todd, Wolfgang, Leah, Pfeiffer the dog, Lupine the dog. 108 Google Earth Photos: people Canada geese, house sparrows, starlings, We walked paved and more southern unpaved trails. 13049

13050 USA: UTAH: Utah Co., Bear River Migratory Bird Refuge, road from I-15 Visitor Center and on to round of autoroute tour N 41.44805 W 112.33136 1283 m 06-Mar-2021 JK & CR Nelson & family 13050 Riley, Kaye, Andrea, Jordan, Amy, Todd, Wolfgang, Leah, Pfeiffer the dog, Lupine the dog. 108 Google Earth GPS at flock of swans 34 species of birds: canada geese 32, tundra swan 1500, cinnamon teal 6, northern shoveler 12, gadwall 3, american wigeon 1, mallard 2, northern pintail 24, green wing teal 2, lesser scaup 2, bufflehead 3, common goldeneye 80, hooded merganser 2, common merganser 3, ruddy duck 6, pied billed grebe 6, western grebe 1, clarks grebe 3, american coot 60, sandhill crane 2, ring billed gull 6, california gull 80, double crested cormorant 9, great blue heron 17, northern harrier 6, bald eagle 2, american kestrel 1, black billed magpie 2, common raven 8, marsh wren 6, european starling 14, mountain bluebird 2, house sparrow 5, red winged black bird 8. 34 species total. 13050

13051 USA: UTAH: Utah Co., Utah Lake, Provo Airport and Utah Lake State Park, N 40.23215 W 111.78692 1368 m 07-Mar-2021 C. R. Nelson 13051 108 Google Earth Raven, collared dove, cinnamon teal, Canada goose, mallard duck, northern shoveler duck, starling, bald eagle, killdeer, coot, California quail, magpie. 13051

13052 USA: ARIZONA: Maricopa Co., Cave Creek Park, Phoenix near 2520 Columbine Drive, N 33.60301 W 112.11168 392 m 12-Mar-2021 13-Mar-2021 JK & CR Nelson & family 13052 108 iPhone 12 March morning: vermilion flycatcher males & females, common? Grackle, curve billed thrasher, white crowned sparrow, Costa's hummingbird, mockingbirds, phainopepla, verdin. 13 March morning: MacGillivray's warbler, boat tailed grackle, phainopepla, vermilion flycatcher, white crowned sparrow, abert's towhee, curve billed thrasher, Costa's hummingbird. 13052

13053 USA: ARIZONA: Pinal Co., Boyce Thompson Arboretum, 3 miles west of Superior, N 33.27745 W 111.1605 728 m 12-Mar-2021 CR Nelson & family 13053 Riley, Kaye, Andrea,

Brandy, Artemis, and Astrid Nelson; Leah and Wolfgang Smith; Jake, Alison, Lucy, Miles, Calvin and Penny Parker and friend. 108 iPhone photos: vermilion flycatcher males and females, common grackle, curve billed thrasher, white crowned sparrows, Costa's? hummingbird, mockingbirds, Phainopepla, verdin. 13053

13053.5 USA: UTAH: Washington Co., Zion National Park, lower Pine Creek pullout, N 37.21656 W 112.9655 1241 m 14-Mar-2021 JK & CR Nelson & family 13053.5 Riley, Kaye, Andrea Nelson; Wolfgang and Leah Smith 108 iPhone Photos: view to West Temple Photos: mallard duck pair, scrub jay, desert bighorn sheep 13053.5

13054 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 17-Mar-2021 CR Nelson & family 13054 Riley, Wolfgang, and Leah 108 Photos: centipedes: *Lithobius forficatus* Nikon Z7 photos taken 19 March 2021, millipedes, isopods, all under logs on wet soil. 13054

13055 USA: UTAH: Utah Co., Provo, BYU, south hill, upper pond, Chestnut Bench, N 40.24510 W 111.65058 1412 m 25-Mar-2021 C. R. Nelson 13055 108 iPhone self portraits for Slate Canyon webpage 13055

13056 USA: UTAH: Utah Co., Provo, BYU, 2119 Life Sciences Building, Nelson Office N 40.24503 W 111.64871 1428 m 25-Mar-2021 C. R. Nelson 13056 108 iPhone photo: Riley Nelson portrait at office door photos: *Platypus* skeleton replica near 2017 LSB N 40.24529 W 111.64980 elev. 1405 m. Both are actually the same elevations, so this indicates margin of error. 13056

13057 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 03-Apr-2021 JK & CR Nelson 13057 108 replaced destroyed lock on gate. Ran four wheeler and repaired culinary water line crossing Wheeler Sawmill Creek above tanks, gathered flat rocks for use in my fish pond at home to support aquatic plants in pots. Inspected holdings and found no evidence of things being stolen. Hooked four wheeler trailer to truck, left homenear noon and started back home at 4:15 pm. saw: *Tachinidae* outside on flats, *Calliphoridae* in cabin, *Rhopalidae*, *Boisea* in cabin, *Alucitidae* *Alucita* in cabin. 13057

13058 USA: UTAH: Utah Co., Provo, mouth of Slate Canyon, N 40.22318 W 111.62619 1481 m 10-Apr-2021 JK & CR Nelson & family 13058 Wolfgang Winston and Leah Valentine Smith; Paul Bryan Frandsen and Harvey B. Frandsen and Sawyer Redden Frandsen 108 iPhone Insect collecting trip. Nerf bullets. Photos: *Pseudoscorpion*, moths. Wolf caught a *Sphecidae*? Near *Podalonia*. Sawyer caught a *pseudoscorpion* and *Vespidae* *Polistes fuscatus*. Harvey caught termites, including soldiers *Reticulitermes hesperus*. Paul and others *Bombyliidae* *Bombylius* or *Anasystoechus*. 13058

13059 USA: UTAH: Utah Co., Provo, BYU, 4118 Life Sciences Building, Nelson lab N 40.24517 W 111.64909 1404 m 12-Apr-2021 C. R. Nelson 13059 108 iPhone Photos: Drosophila colonies declining, fro Bio 100. 13059

13060 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 13-Apr-2021 17 April 202 C. R. Nelson 13060 108 Photos: house finch pair sharing food, white crowned sparrow, dark eyed junco in waterfall, scrub jay. 15 April 2021 photos: whhite crowned sparrow, California quail, house finch. 17 April 2021 photo: Cassin's finch, house finch, white crowned sparrow. 13060

13061 USA: UTAH: Salt Lake Co., Salt Lake City, Red Butte Gardens N 40.76543 W 111.82397 1469 m 19-Apr-2021 JK & CR Nelson & family 13061 Riley, Kaye, Amy, Wolfgang, Leah, Andrea 108 photos: cactus blossoms, Wolf and Leah, magpie, mouse. 13061

13062 USA: UTAH: Utah Co., Provo, Bicentennial Park, N 40.21432 W 111.63024 1388 m 22-Apr-2021 JK & CR Nelson 13062 108 photos: bird show with ...; barn owl, some hawk, and hawk eagle. 13062

13063 USA: UTAH: Utah Co., Provo, mouth of Slate Canyon, N 40.22413 W 111.62461 1511 m 24-Apr-2021 JK & CR Nelson 13063 Rebecca Clement Maldonado, Anna Eichert, Brenna Croker, Tyler Broberg, and Teagan Mulford. 108 Earth Day Celebration. Photos: Isoptera: termites, Rhinotermitidae, Reticulitermes hesperus. Photos 25 April 2021: Scolopendra? Centipede, Pheidole ants, people, galls on big sagebrush, Polistes dominula on nest under rock, Bombylius major. 13063

13064 USA: UTAH: Sanpete Co., Manti, snow on Skyline Drive, N 39.27350 W 111.63595 1702 m 27-Apr-2021 JK & CR Nelson 13064 108 Google Earth photos: views in rain, snow on the mountain, Manti Temple. 13064

13065 USA: ARIZONA: Coconino Co., Le Fevre Scenic Viewpoint, 17 miles southeast of Fredonia, Hwy 89A N 36.83064 W 112.25465 2095 m 28-Apr-2021 JK & CR Nelson 13065 108 iPhone Photos: panoramas of Grand Staircase. 13065

13066 USA: ARIZONA: Coconino Co., Kaibab Plateau, Jacob Lake Inn, Hwy 89a, N 36.71482 W 112.21700 2416 m 28-Apr-2021 JK & CR Nelson 13066 108 Google Earth Photos: birding water pond. 13066

13067 USA: ARIZONA: Coconino Co., Vermilion Cliffs National Monument, House Rock Valley Road, 1065 Road Condor viewing area, N 36.77111 W 112.05642 1661 m 28-Apr-2021 JK & CR Nelson 13067 108 Photos: California condor viewing area, white stain from droppings. 13067

13068 USA: ARIZONA: Coconino Co., Colorado River, Marble Canyon, Hwy 89A, Navajo Bridge, N 36.81810 W 111.63217 1076 m 28-Apr-2021 JK & CR Nelson 13068 108 Photos: California condor "XO", raven, scenery, clear waters of the Colorado River below Glen Canyon Dam. 13068

13069 USA: ARIZONA: Coconino Co., 3.5 miles south of Bitter Springs, Hwy 89, N 36.57781 W 111.64514 1601 m 28-Apr-2021 JK & CR Nelson 13069 108 iPhone Photos: hogan, south of Bitter Springs Photos: horses on horizon. 13069

13070 USA: ARIZONA: Coconino Co., Oak Creek Canyon, Bootlegger Picnic Area, N 34.97053 W 111.75072 1588 m 28-Apr-2021 JK & CR Nelson 13070 108 Photos: scenery, Painted redstart, bridled titmouse, Kaye on a rock. 13070

13071 USA: ARIZONA: Maricopa Co., Phoenix, Cave Creek Park, near Cactus Road, N 33.60509 W 112.11060 390 m 28-Apr-2021 02-May-2021 JK & CR Nelson 13071 family 108 28 April: photos: boat tailed grackle, vermilion flycatcher female, finch, mockingbird, gambels quail, rosy faced lovebird, yellow rumped warbler, starling, chipping sparrow, and mallard? duck. Inca dove, white winged dove, mourning dove, curve billed thrasher, house sparrow. 2 May 2021: rosy faced lovebird, starling. 13071

13072 USA: ARIZONA: Maricopa Co., Phoenix, 2520 West Columbine Drive, Nelson Home N 33.59939 W 112.11367 390 m 28-Apr-2021 02-May-2021 JK & CR Nelson 13072 family 108 house sparrow, boat tailed grackle, killdeer, rock pigeon, starling 13072

13072.5 USA: ARIZONA: Maricopa Co., Gilbert, Nancy and Pat Spurlock home, N 33.33765 W 111.72674 295 m 01-May-2021 JK & CR Nelson & family 13072.5 108 party at swimming pool 13072.5

13073 USA: ARIZONA: Coconino Co., Meteor Crater Natural Area, N 35.03235 W 111.02145 1636 m 02-May-2021 JK & CR Nelson 13073 108 Photos: scenery of meteor crater, several panoramas, selfies. 13073

13074 USA: ARIZONA: Navajo Co., Winslow, N 35.02339 W 110.69833 1481 m 02-May-2021 JK & CR Nelson 13074 108 Photos: town, people, selfies. On corner of Winslow, Arizona like in the Eagles song, with statues of guy in song and of singer Glenn Frey. 13074

13075 USA: ARIZONA: Navajo Co., Holbrook, Wigwam Motel, N 34.9024 W 110.1685 1548 m 02-May-2021 03-May-2021 JK & CR Nelson 13075 108 Google Earth Photos: wigwams and old cars of motel 13075

13075.5 USA: ARIZONA: Navajo Co., East of Holbrook, N 34.8 W 109.9 1675 m 03-May-2021 JK & CR Nelson 13075.5 108 Google Earth, estimate picked up some pretty roadside rocks, maybe agate. 13075.5

13076 USA: ARIZONA: Navajo Co., Petrified Forest National Park, Rainbow Forest, N 34.81553 W 109.86691 1704 m, 03-May-2021 JK & CR Nelson 13076 108 iPhone photos: scenery, first place we stopped in the park. Nikon, many logs and scenes, including at "Old Faithful" a large lag where Elsa and Albert Einstein posed in 1931. Photos: petrified wood, 13076

13077 USA: ARIZONA: Navajo Co., Petrified Forest National Park, Crystal Forest, N 34.81554 W 109.87057 1691 m, 03-May-2021 JK & CR Nelson 13077 108 iPhone Photos: scenery; watercolor painting of badlands and petrified wood. 13077

13078 USA: ARIZONA: Navajo Co., Petrified Forest National Park, Jasper Forest, N 34.88886 W 109.80745 1704 m, 03-May-2021 JK & CR Nelson 13078 108 iPhone Photos: scenery and logs 13078

13079 USA: ARIZONA: Navajo Co., Petrified Forest National Park, Agate Bridge, N 34.89235 W 109.79434 1703 m, 03-May-2021 JK & CR Nelson 13079 108 iPhone Photos: log bridge and scenery 13079

13080 USA: ARIZONA: Apache Co., Petrified Forest National Park, Puerco Pueblo, N 34.97454 W 109.79386 1632 m, 03-May-2021 JK & CR Nelson 13080 108 iPhone Photos: petroglyphs and ruins 13080

13081 USA: ARIZONA: Apache Co., Petrified Forest National Park, Painted Desert, N 35.08149 W 109.80165 1794 m, 03-May-2021 JK & CR Nelson 13081 108 iPhone Photos: scenery, panoramas. 13081

13082 USA: UTAH: San Juan Co. Monument Valley, west, Hwy 163, N 37.02407 W 110.13290 1624 m, 03-May-2021 JK & CR Nelson 13082 108 iPhone Photos: scenery, including two time lapse. 1. DSC_6433 - DSC_6582 and 2. DSC_6583 - DSC_6865. I would have loved to have taken many more. The clouds and rocks were fantastic with approaching alpen glow. I could also have taken more, facing east by going further north. Ran out of time as we sought to get to Bluff for the night. 13082

13083 USA: UTAH: San Juan Co. Bluff, San Juan River, Recapture Lodge, N 37.27235 W 109.55680 1312 m, 03-May-2021 04-May-2021 JK & CR Nelson 13083 108 iPhone Photos: San Juan River at dark. The GPS is from the river's edge. Notes from phone calls to Hal Black and his sister Patsy on 17 May 2021: Blacks had a hotel in Blanding, Utah called "The Gateway Motel". A few years back I stayed in another motel there run by Hal's friend, Lawrence Guyman. My "Granny Bluff" of stories on a collecting trip in the 1980s with Richard Baumann, Jack Sites, and students are memorable. I hope I write them down somewhere. But "Granny Bluff" was not the mother of Faye Belle Gaines. There are stories of Faye Belle hiring a hit man to kill a husband?. Hal's sister Patsy still lives in the area. I

called her at 435-678-2564 and we had a lovely conversation about Blanding and Bluff. She knew that Granny Bluff wouldn't have been Faye Belle's mother. She laughed and said she had no idea whether the "hit man" idea is true. My aunt Barbara Young came to know Faye Belle in the 1980s or 1990s and visited her regularly as she looked for turquoise jewelry made by people in that area. 13083

13084 USA: UTAH: San Juan Co. San Juan River, Sand Island Campground, 3 miles SW of Bluff, N 37.26424 W 109.60341 1320 m, 04-May-2021 JK & CR Nelson 13084 108 iPhone photos: petroglyphs, including "mammoth". We met a family from Pueblo, Colorado on our walk. Perhaps his name is elsewhere, a retired Forest Service biologist, I think, with an art photography web page. I found his email, Al & Sheri Trujillo, Pueblo, Colorado: astrujillo@comcast.net <astrujillo@comcast.net> ; <https://www.facebook.com/pages/category/Photographer/F8-Images-by-Al-Trujillo-104053224454230/> 13084

13085 USA: UTAH: San Juan Co. Butler Wash, Wolfman Petroglyphs and cliff dwellings, N 37.27450 W 109.64629 1354 m, 04-May-2021 JK & CR Nelson 13085 108 iPhone photos: blackbrush, slickrock, "owl" pteroglyph panel, with jellyfish/squid, curl top humans; and claret cup cactus, indian ruins, Kaye climbing with broken toe, Castilleja, indian paintbrush C. chromosa, Kaye in narrow slot, broad view, moss "pig with babies" (my interpretation). 13085

13086 USA: UTAH: San Juan Co. Goosenecks of the San Juan River, State Park, N 37.27667 W 109.64283 1383 m, 04-May-2021 JK & CR Nelson 13086 108 iPhone Photos: scenery, panoramas, Kaye portraits, Riley and Kaye jumping. Restore Bears Ears sticker. Photos: dead lizard, ravens in flight, Asteraceae. 13086

13087 USA: UTAH: San Juan Co. Moki Dugway switchbacks, Hwy 261, Cedar Mesa, N 37.27531 W 109.93806 1844 m, 04-May-2021 JK & CR Nelson 13087 108 iPhone Drive up switchbacks behind a knothed RV driver hauling a boat. Too long for the road, as noted on many signs! He made it. 13087

13088 USA: UTAH: San Juan Co. Natural Bridges National Monument, bridges loop road N 37.59739 W 110.02831 1832 m, 04-May-2021 JK & CR Nelson 13088 108 iPhone Photos: bridges loop road, used Kachina Bridge as central GPS, many GPS readings, at each overlook with photos with iPhone. Then continued drive in White Canyon, across Hite Bridge, Hanksville, through Capitol Reef National Park, stopped at Sunglow Café in Bicknell for dinner. Ate pinto bean pie and sweet pickle pie. 13088

13089 USA: UTAH: Wayne Co., Bicknell, Sunglow Café, N 38.34073 W 111.54266 2170 m, 04-May-2021 JK & CR Nelson 13089 108 iPhone Photos: sweet pickle pie, pinto bean pie,

Malibu Chicken, garden salad. Took photos of 1987 Salt Lake Tribune article about Cula Ekker making pies. Continued through Loa near sunset up past Koosharem to Salina for gas, back to Aurora across to Scipio and home to Provo by 11:00pm. 1723 miles roundtrip on our way. 13089

13090 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 07-May-2021 08-May-2021 JK & CR Nelson & family 13090 Riley, Kaye, Andrea, Jordan, Amy, Todd, Wolfgang, and Leah. 108 Wayne and Dianne Mathis visited briefly around 5:00 pm on Saturday 8 May 2021 on their way home to Price. I pulled trailer with snow plow four wheeler up from home for the summer. scrub jay, spotted towhee. Photos: 40 bats under eaves of west chimney. They disappeared by morning. 13090

13091 USA: UTAH: Utah Co., Provo, East Lawn Cemetery N 40.29858 W 111.64787 1558 m, 10-May-2021 JK & CR Nelson 13091 108 people nearby: Cheryl Loveless, Grace Berrett, Anne Luthy, and Salvador. photos: great horned owls, parents and one large baby. 13091

13092 USA: UTAH: Utah Co., Provo River, Provo, Riverview Park, N 40.29459 W 111.66281 1449 m, 10-May-2021 C. R. Nelson and friends 13092 Riley Nelson, Jackson Birrell, father Mark Birrell, mother Jennifer Birrell, sister Tiana Birrell, brother Jeremy Birrell 108 Google Earth HIGH FLOW! Dangerous access this time of spring. I think the flow is replacement water from Diamond Fork! Not runoff, water was low higher up on the Provo River. Good collecting but no giant stoneflies, immatures: Hydropsychidae Arctopsyche?, Rhyacophilidae Rhyacophila, Limnephilidae Hesperophylax, Brachycentridae Brachycentrus, Pteronarcyidae Pteronarcella badia, Perlodidae Isoperla fulva, Perlidae Hesperoperla pacifica, Asellidae, Baetidae. 13092

13093 USA: UTAH: Utah Co., Provo River, Canyon View Park, N 40.32456 W 111.64417 1491 m, 10-May-2021 C. R. Nelson and friends 13093 Riley Nelson, Jackson Birrell, father Mark Birrell, mother Jennifer Birrell, sister Tiana Birrell, brother Jeremy Birrell 108 Google Earth Low flow! Silty. Immatures: Perlodidae Isoperla fulva, Perlidae Hesperoperla pacifica, Pteronarcyidae Pteronarcella badia, Hydropsychidae Arctopsyche and Hydropsyche, Limnephilidae Hesperophylax, Big black leech Dina? 13093

13094 USA: UTAH: Utah Co., Provo River, Upper Falls Picnic Area, east of Bridal Veil Falls, N 40.34618 W 111.59380 1573 m, 10-May-2021 C. R. Nelson and friends 13094 Riley Nelson, Jackson Birrell, wife Alex, and newborn Summit!, father Mark Birrell, mother Jennifer Birrell, sister Tiana Birrell, brother Jeremy Birrell 108 iPhone Photos: people and scenery, photos of Birrell's with Riley, especially with young Summit! scant insects in water (?). Immatures: Perlodidae Isoperla fulva, Perlidae Hesperoperla pacifica, Rhyacophilidae

Rhyacophila, Limnephilidae Hesperophylax, Hydropsychidae, Athericidae Atherix, Chironomidae large, big black leech Dina? PHOTOS: American dipper with a sculpin. I watched it catch it! 13094

13095 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 10-May-2021 C. R. Nelson 13095 108 photos: black headed grosbeak 13095

13096 USA: UTAH: Utah Co., Provo River, Upper Falls Picnic Area, east of Bridal Veil Falls, N 40.34618 W 111.59380 1573 m, 12-May-2021 C. R. Nelson 13096 108 Photos: American dipper adults feeding sculpin fish and Hydropsychidae Arctopsyche to full sized fledged chicks on the rocks. Photos: pair of mallard ducks foraging on bottom of swift water in the river. Photos: hidden song sparrow in the willows. 13096

13097 USA: UTAH: Utah Co., Provo, East Lawn Cemetery N 40.29858 W 111.64787 1558 m, 13-May-2021 C. R. Nelson 13097 108 photos: great horned owls, one adult and one large baby. 13097

13098 USA: UTAH: Utah Co., Provo, Edgemont North White Chapel, 4300 North Canyon Road, pavilion, N 40.28954 W 111.65458 1466 m, 15-May-2021 JK & CR Nelson 13098 108 Google Earth Edgemont 10th Ward Picnic and dessert auction. Photos of many people: Jan Billings, Bev & Kathy Koller, Nate Crellin, Spencer Smith, Young Men serving food, Shane Wright, Bishop Mark Wadsworth, Summer Luke, Trish & Maeve Clark, Ari Foster, Mel Luthy, Boyd Blake, Jamie Morgan, one photos of Kerry Wadsworth, Julia Blake, Taylor Wadsworth, & Sophie Dorton; John Bennion, Matt Faulconer, Louis Midgley, Cheryl Loveless, Stephen & Wendy Jones, Yvonne Russell, Jenna Crellin, Jayme & Brandon Boyd & girls; Skeeter Hudgens & Sean Foster; Grace Berrett and Judy Fletcher; Jerolyn Stringham, Doug Baird & Kristine Baird; Kimberley Carter, Scott Esplin, Alex & Becky Loveless; Jacob Schumann, Roland Henrie, Jackie DeGaston & Spencer Hutchings; Alyssia Henrie, Brian Hollingworth & Kathy Carter; Sean Foster and Jake Foster; Wayne Hamilton, Steve Clark, Lauren & Jake Foster; Hudson Luke & Nathan Esplin. 13098

13099 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 20-May-2021 22-May-2021 JK & CR Nelson 13099 108 Trip for night of 20-21 May 2021 so we could be at cabin early when plant surveyors were to be on the property at 9:00 am on 21 May 2021. We didn't see them, they accessed on the north Forest Service road. I brought home some marsh buttercups from the cat tails area to grow near my home pond. I built a dam near the waterfall for irrigation water. Culinary water was full past the faucet at the Wheeler sawmill Creek crossing. I forgot my phone on 21 May and made a quick morning trip up on 22 May 2021. Photos: Ranunculus sp. 13099

13100 USA: UTAH: Utah Co., Provo River, Provo, Lakeshore Drive bridge and upstream, N 40.23970 W 111.71203 1373 m, 24-May-2021 C. R. Nelson and friend 13100 Mark Hutchings 108 Photos: scenery, portraits of Mark Hutchings and Riley Nelson Photos: june suckers spawning, brown trout eating their eggs. 13100

13101 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 26-May-2021 JK & CR Nelson 13101 108 Photos: total lunar eclipse, nearly southwest sky 4:45 am to 5:30 am. Sometimes lost in thin clouds and fading with rising sun. Moon nearing the horizon, 30 degrees or so. Best photos early in series. Also: 1 June 2021: Raphidioptera, snake fly. 13101

13102 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 26-May-2021 C. R. Nelson 13102 108 I got the irrigation water running in the sprinklers and ran the culinary water outside to purge the storage tank and pipes. blackheaded grosbeak, scrub jay, black chinned hummingbirds at feeders I filled. One female came to the dish as I was holding and filling it. It was a magical moment. 13102

13103 USA: UTAH: Utah Co., Diamond Fork River, Dry Fork Trailhead, 9 miles north of Hwy 6, N 40.07979 W 111.36315 1722 m 29-May-2021 C. R. Nelson and students 13103 Mitchell Greenhalgh, Anna Eichert, Alex Hickey 108 iPhone Photos: people and scenery Photos: Pteronarcys californica adults, Isoperla fulva adults, large perlodid female with darkened wing tips, later identified as Isogenoides zionensis. Also short winged male of same. I first thought the male was Pteronarcella badia but the photo shows it is not. More photos on Sunday 30 May 2021 at home. 13103

13104 USA: UTAH: Salt Lake Co., Salt Lake City, Social Axe Throwing, 1154 South 300 West, N 40.74358 W 111.90041 1290 m, 29-May-2021 JK & CR Nelson & friends 13104 Rexanne & Hank Pond; Cynthia & Blair Parrish 108 iPhone Photos: people 13104

13105 USA: UTAH: Utah Co., Orem, Smith home, 75 North 850 West N 40.29870 W 111.71644 1444 m, 31-May-2021 JK & CR Nelson & family 108 iPhone Photos: Wolfgange Winston Smith's 7th birthday party

13106 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 02-Jun-2021 C. R. Nelson and student 13106 Ethan Tolman 108 Irrigation tanks full and overflow running to Paul Ashton Grove. Small leak in irrigation line under spruce by faucet under spruce on west edge of Ashton Grove. Culinary water line separated above tanks, flowing at 35 sec per 12 oz can = 10 gallons per hour 13106

13107 USA: UTAH: Utah Co., Diamond Fork River at winter gate, 1.6 miles east of Red Ledges Picnic Area, N 40.07829 W 111.37384 1655 m, 02-Jun-2021 13107 Ethan Tolman

108 Took home live *Pteronarcys* adult to photograph. Took home nymphs of *Pteronarcys* & *Pteronarcella* to stock Living Stream aquarium. Photographed adult *Pteronarcys californica* adults 3 June 2021 with Leah Smith then later Wolfgang and Amy Smith still surviving at 60 degree F on 4 June 2021. Still surviving on about 1 August 2021. Abundant stoneflies. Photos: abundant *Pteronarcys californica* adults and nymphs, a few *Isogenoides zionensis* adults and nymphs, a few *Isoperla fulva* adults, a few *Pteronarcella badia* adults and nymphs, abundant *Drunella grandis* nymphs, abundant *Helicopsyche* larvae, a few *Hydropsyche*, a few *Parapsyche*?. 13107

13108 USA: UTAH: Utah Co., Spring Lake Recreation Area, south of Payson, N 40.00636 W 111.74431 1439 m, 06-Jun-2021 JK & CR Nelson & family 13108 Riley, Kaye, Jason, Brandy, Artemis, Astrid, Wolf, and Leah 108 Google Earth Photos: fireflies, Lampyridae: *Pyractomena* 13108

13109 USA: UTAH: Davis Co., Farmington, Lagoon Amusement Park, N 40.98472 W 111.89648 1310 m, 09-Jun-2021 JK & CR Nelson & family 13109 Riley, Kaye, Jason, Brandy, Artemis, Astrid, Andrea, Amy, Wolf, and Leah 108 iPhone ; Bought a caricature of Riley Nelson for 65th birthday by Kaitlyn Ferguson of North Ogden, Utah, a medical laboratory science major at the University of Utah. 13109

13110 USA: UTAH: Utah Co., Diamond Fork River and Sixth Water Creek at Three Forks Trailhead, N 40.08406 W 111.35479 1692 m, 10-Jun-2021 CR Nelson & family 13110 Riley Nelson and A. Todd Smith 108 iPhone Photos: scenery Photos: Ichneumonidae *Megarhyssa*, Cimbicidae *Cimbex*. *Pteronarcyidae* *Pteronarcys californica* adults and nymphs, *Pteronarcella badia* adults and nymphs, *Isogenoides zionensis* adults, *Isoperla fulva* adults. Videos: slow motion videos at cabin on 12 June 2021. 13110

13111 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 11-Jun-2021 12-Jun-2021 JK & CR Nelson & family 13111 The whole Nelson family, family reunion. Riley, Kaye, Jason, Brandy, Artemis, Astrid, Andrea, Jordan, Amy, Todd, Wolfgang, and Leah. 109 turned water into house, no problems. saw *Laphria fernaldi*, caught *Cophura*, a large species, at first I thought it was a *Heteropogon*. Riley and Todd used a high speed digital video camera to film salmonflies from Diamond Fork, CRN 13110. 13111

13112 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 17-Jun-2021 19-Jun-2021 JK & CR Nelson & friends 13112 Riley and Kaye Nelson, Cynthia and Blair Parrish, and Rexanne Mackay Pond and William Henry "Hank" Pond. 109 This was a state parks expedition by our group of USU friends. Watered lawns. 18 June 2021 8:00 am solstice lining up of rocks, line of ovals to first tall fence post

east of gate. Photos: 19 June 2021, sunrise at fence looking across ovoo to east ridge.
7:20am, adjusted line of tops with sunrise point and top of ovoo. Draft of painting of view
est, finished watercolor 20 June 2021 at home. Asilidae: Negasilus? And Cophura? 13112

13113 USA: UTAH: Carbon Co., Scofield State Park, north unit, N 39.81011 W 111.13511
2333 m 18-Jun-2021 JK & CR Nelson & friends 13113 Riley and Kaye Nelson, Cynthia and
Blair Parrish, and Rexanne Mackay Pond and Wiliam Henry "Hank" Pond. 109 then south
unit Photos: american pelicans 13113

13114 USA: UTAH: Sanpete Co., Mia Shalom Girls Camp, Forest Road 225, N 39.67622 W
111.26158 2788 m 18-Jun-2021 JK & CR Nelson & friends 13114 Riley and Kaye Nelson,
Cynthia and Blair Parrish, and Rexanne Mackay Pond and Wiliam Henry "Hank" Pond. 109
Google Earth quick drive around the lake 13114

13115 USA: UTAH: Sanpete Co., Skyline Drive, Beaver Dam Lake, Road 264, N 39.65534 W
111.29670 2674 m, 18-Jun-2021 JK & CR Nelson & friends 13115 Riley and Kaye Nelson,
Cynthia and Blair Parrish, and Rexanne Mackay Pond and Wiliam Henry "Hank" Pond. 109
Google Earth Photos: lake, I though this might be the Grandma Poluson painted. Probably
not. 13115

13116 USA: UTAH: Sanpete Co., Huntington Reservoir, Hwy 31, Mammoth site, N
39.58557 W 111.25958 2763 m, 18-Jun-2021 JK & CR Nelson & friends 13116 Riley and
Kaye Nelson, Cynthia and Blair Parrish, and Rexanne Mackay Pond and Wiliam Henry
"Hank" Pond. 109 Lunch spot saw Raphidiidae, Cerambycidae: Monochamus. 13116

13117 USA: UTAH: Emery Co., Mill Site State Park, reservoir, 4 miles west of Ferron, N
39.09297 W 111.19223 1896 m, 18-Jun-2021 JK & CR Nelson & friends 13117 Riley and
Kaye Nelson, Cynthia and Blair Parrish, and Rexanne Mackay Pond and Wiliam Henry
"Hank" Pond. 109 very low water levels 13117

13118 USA: UTAH: Emery Co., Castle Dale, gas station, N 39.21162 W 111.01417 1710 m,
18-Jun-2021 JK & CR Nelson & friends 13118 Riley and Kaye Nelson, Cynthia and Blair
Parrish, and Rexanne Mackay Pond and Wiliam Henry "Hank" Pond. 109 iPhone Photo: "We
support coal." sign. 13118

13119 USA: UTAH: Emery Co., The Wedge, Little Grand Canyon of the San Rafael River,
overlook, N 39.09586 W 110.74919 1952 m, 18-Jun-2021 JK & CR Nelson & friends 13119
Riley and Kaye Nelson, Cynthia and Blair Parrish, and Rexanne Mackay Pond and Wiliam
Henry "Hank" Pond. 109 iPhone Photos: scenery 13119

13120 USA: UTAH: Emery Co., Little Grand Canyon of the San Rafael River, overlook, N
39.09565 W 110.74905 1898 m, 18-Jun-2021 JK & CR Nelson & friends 13120 Riley and

Kaye Nelson, Cynthia and Blair Parrish, and Rexanne Mackay Pond and Wiliam Henry "Hank" Pond. 109 Google Earth Photos: scenery and people. Group shot! 13120

13121 USA: UTAH: Emery Co., Buckhorn Wash, dinosaur footprint, N 39.16086 W 110.72946 1687 m, 18-Jun-2021 JK & CR Nelson & friends 13121 Riley and Kaye Nelson, Cynthia and Blair Parrish, and Rexanne Mackay Pond and Wiliam Henry "Hank" Pond. 109 Photos: dinosaur track 13121

13122 USA: UTAH: Emery Co., San Rafael Swell, Buckhorn Wash, rock art panel N 39.12339 W 110.69440 1651 m, 18-Jun-2021 JK & CR Nelson & friends 13122 Riley and Kaye Nelson, Cynthia and Blair Parrish, and Rexanne Mackay Pond and Wiliam Henry "Hank" Pond. 109 Photos: petroglyphs and pictographs. 13122

13123 USA: UTAH: Utah Co., Provo, mouth of Slate Canyon, N 40.22370 W 111.62636 1570 m, 26-Jun-2021 C. R. Nelson 13123 & Conserve Utah Valley. 109 iPhone people: George Handley, group: Steve Leavitt, Otto Van Graf (PWS grad student of bristlecone pine); Insect walk with about 20 people families including Lance & wife Larsen BYU poet, Derrick Larsen former CRN student at BYU, Sarah and Bill Taylor BYU Accounting professor. man in kilt Plateau whiptail lizard, Sagebrush lizard, black chinned hummingbird, Diptera Asilidae *Efferia benedicti*, Coleoptera, Hymenoptera, Archeognatha, Orthoptera, Mantodea, and Hemiptera. Led the public on a bug walk. 13123

13124 USA: UTAH: Utah Co., Provo River, Provo, BYU River Park at pavilion N 40.26507 W 111.66371 1405 m, 26-Jun-2021 C. R. Nelson & class 13124 & Biology 100 class 109 iPhone air temp: 32 d C, water temp 12 d C, Water speed raw: seconds per 10 m: 9.05, 8.95, 9.7, 10.3, 9.69, 9.27, 9.77, 9.13, 9.55, 9.8. Rowan's calculations: average 0.952 s/m. Recalculated and inverted by C. R. Nelson: 1.05 m/s. Found golfballs, for Lilly Buck. First 100s. Participants: (reading best CRN can): Hannah Stadler TA, Summer Helvey, Courtney Case, Cami McHan, Jennifer Houghton, Stephen Hitchcock, Brandon Walton, Alex Meza, Zayne Kirkham, Zach Warner, Jack Clark, J. R. Clark, Noah Hawks, Paige Hamilton, Megan Jacobs, Nels Huhrley, Kaleigh Jenkins, Hailey Johnson, Sam Lyman, Eric Christensen, Angela Anderson, Riley Nelson, Kaye Nelson, Leah Smith (granddaughter), Megan Crow TA, Lillian Buck RA, Seth Rimer, Tyler Sanders, Rowan Bauer, Jackson Searle, Jonathan Mercer, Josh Oldroyd, Will Westover, Harrison Oyler, Gavin Driscoll, James Nelson, Asher Fernandez, Reese Luter, Leilani Beck, Rose Rampton, Lizzie Hoffman, Makenna Ferrell, Brinley Nef, Teev Watson, Caeli Kreiling, Jason Stewaert, Liv Olsen. First 100s. Sculpin, Weidemeyers admiral, two tailed swallowtail, Chironomidae, Hydropsychidae, Limnephilidae, *Asellus aquaticus*, Baetidae, earthworms. Nikon Z7 photos by Megan Crow and then C. R. Nelson; GoPro8 videos by Hannah Stadler. 13124

13125 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 30-Jun-2021 J. K. and C. R. Nelson 13125 109 rain on the land garter snake in water pit, sagebrush lizards common. 13125

13126 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 04-Jul-2021 C. R. Nelson 13126 109 Photos: Tabanidae, Chrysops probably discalis?, photos taken 6 July 2021. 13126

13127 USA: UTAH: Utah Co., Provo, road to East Lawn Cemetery, N 40.27693 W 111.64880 1522 m, 07-Jul-2021 J. K. and C. R. Nelson 13127 109 iPhone Great basin Rattlesnake, button for rattle, road kill, preserved in lab, 13127

13128 USA: UTAH: Utah Co., Provo River, Provo, BYU River Park, 2230 North 300 West, N 40.26451 W 111.66360 1411 m, 06-Jul-2021 C. R. Nelson 13128 Nelson Lab students 109 iPhone CRN not present! Anna Laurie Eicher, J. Tyler Broberg, M. L. Broberg, and Andrew Sheffield. Light trapping for Community Science Samples. Photos: Hydropsychidae Hydropsyche sp. Photos by C. R. Nelson 7 July 2021! 13128

13129 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 08-Jul-2021 09-Jul-2021 J. K. and C. R. Nelson & class 13129 Nelson Lab students 109 A. L. Eichert, Lilly Buck, Isabella Errigo, Breanna Croker, from Purdue University: Makani Fisher and David zzz; Andrew & Chelsea Sheffield, Tyler & Maddie Broberg, from Price: Wayne & Dianne Mathis. Tacos for dinner, light traps up, down, and at cabin, Much material! sorted by Lilly on 9 July 2021. Sphinx moth, Hydropsychidae. 13129

13130 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 10-Jul-2021 C. R. Nelson 13130 109 Efferia arida group male, trapped in pond! 13130

13131 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 14-Jul-2021 J. K. and C. R. Nelson 13131 109 window washers came. saw Diogmites angustipennis, Efferia benedicti, Megaphorus willistoni or guildiana? Bushy tailed woodrat found dead in house, took to Dr. Duke Rogers, half grown Neotoma cinerea (Ord) 13131

13132 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 14-Jul-2021 JK & CR Nelson & family 13132 & J. Brett Wheeler, 109 Finished reading "The Butterfly Effect" by Edward Pelillo. Finished chopping thistles on flats from ovoo to east border. Scotch thistle is a newly arrived pain. Trimmed junipers around deck to allow better watering. Cleaned sprinkler nozzles. saw Diogmites angustipennis, Efferia benedicti, Megaphorus willistoni or guildiana? Bushy tailed woodrat found dead in house, took to Dr. Duke Rogers, half grown Neotoma cinerea (Ord) 13132

13133 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 16-Jul-2021 C. R. Nelson 13133 109 Origin of turtle: USA: TEXAS: Williamson Co., San Gabriel River, Georgetown, estimated GPS approximately N 30.64497 W 97.67990 elev. 204 m, caught about summer 2000 by unnamed student. It was his pet then and he gave it to me later. The turtle came as a gift from a student from Texas in my Biodiversity class, about 2001. He caught it from the San Gabriel River in Georgetown, Texas and it was about the full size as when it died! Old turtle, perhaps 40 years old . . . at least 20! Friday: found dead pet Texas map turtle in my 55 gallon tank along with all jewel fish dead and one silver dollar fish dead. Cleaned tank thoroughly in place by Sunday afternoon. I didn't take it outside to clean. 13133

13134 USA: UTAH: Utah Co., Provo, BYU, gardens west of Life Science Building N 40.24540 W 111.65998 1418 m 27-Jul-2021 29-Jul-2021 C. R. Nelson & class 13134 many 109 iPhone bees and wasps on a variety of cultivated plants, but mostly on wall germander, a mint, *Teucrium chamaedrys* L. many photos taken in lab by 30 July 2021. Photos: "Anthophoridae with white front legs" and Megachilidae *Anthidiellum*? With both Nikon and Olympus D76 computer camera. Also: *Xylocopa*, *Bombus* large, *Bombus* orange spot, *Sceliphron*, *Vespula*, *Coelioxys*, *Polistes dominula*, *Syrphidae*, small with fat hind femora *Syritta pipiens*? but small. *Halictidae*. Also: photos of slug, *Limax maximus* on face of Anna Eichert and Riley Nelson, collected by Anna: USA: UTAH: Utah Co., Provo, BYU, Life Sciences stream, N 40.24456 W 111.65403, elev. 1408 m, 14 July 2021, A. L. Eichert. 13134

13135 USA: UTAH: Utah Co., Provo, mouth of Slate Canyon, N 40.22370 W 111.62636 1570 m, 31-Jul-2021 C. R. Nelson 13135 & Conserve Utah Valley. 109 iPhone Listened to geology talk by Dr. Bart Kowallis, friend and retired BYU geologist. He spoke of Precambrian slates, purple and green, purple oxidized at deposit time, green reduced at deposit time. I went and gathered a few hand specimens of it at the cliff barely up the canyon. 700 million years old! He spoke also of Lake Bonneville and the Wasatch Fault. Plateau whiptail lizard, Sagebrush lizard, black chinned hummingbird, *Diptera Asilidae Efferia benedicti*, *Coleoptera*, *Hymenoptera*, *Archeognatha*, *Orthoptera*, *Mantodea*, and *Hemiptera*. Led the public on a bug walk. 13135

13136 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 31-Jul-2021 C. R. Nelson 13136 109 I checked on flood damage from storm earlier in the week. No big deal, but good rain. I hiked to waterfall and repaired the catch basin bucket and dam. Flow is low. I got a trickle going back into the irrigation tanks and leveled the culinary line so it is working again. Then it rained on me so I got out of narrow Wheeler Sawmill Canyon and ate nuts and M&Ms on the porch for a late lunch. It

rained off and on until I left around 5:00 pm. I entered field notes from Book 109 to pass the time. I'll need to back up and add the rest from Book 108. 13136

13137 USA: UTAH: Utah Co., Provo, mouth of Slate Canyon, N 40.22530 W 111.62315 1521 m, 04-Aug-2021 C. R. Nelson 13137 109 iPhone photos: scenery & slate cliffs and talus. Walked about a mile up the canyon to the crossing that switches to south. Noticed a slaty cliff on that upland switch but didn't take time to go look at it. Rock specimens of purple slate with green circles and green angular slate. 13137

13138 USA: UTAH: Utah Co., Provo, BYU, Nelson Lab, 4118 LSB N 40.245521 W 111.64877 1409 m 06-Aug-2021 CR Nelson 13138 109 photos: Cerambycidae, *Rosalia funebris*, banded alder borer. Collected by Rachel and Clint Whipple. USA: UTAH: Utah Co., Provo, Whipple home, 200 East 300 South, N 40.22910 W 111.65492, elev. 1386 m. 31 July 2021, R. & C. Whipple 13138

13139 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 06-Aug-2021 07-Aug-2021 C. R. Nelson 13139 J. K. Nelson, A. L., W. W., and L. V. Smith 109 photos: scenery, smoke from California and Oregon. Adults all raked and tilled the former lawn patch between porch and last year's unsuccessful clover planting. Ready for next year, if rain comes. *Diogmites angustipennis* with thin vespid prey, prey escaped. 13139

13140 USA: UTAH: Utah Co., Provo, Lewis home, 505 East 4750 North, N 40.29665 W 111.65029 1491 m, 11-Aug-2021 C. R. Nelson 13140 actually collected by Richard Lewis. CRN was photographer 109 photos: scorpion, probably *Anuroctonus phaidactylus*, swollen stinger scorpion. 13140

13141 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 14-Aug-2021 C. R. Nelson 13141 109 photos: dead western tanager female that hit back window on 13 August 2021, found afternoon of 14 August 2021. 15 August 2021: iPhone video sound recording cricket in greenhouse. Temperature about 78 degree F. Nice recording! 13141

13142 USA: ARIZONA: Coconino Co., Vermilion Cliffs, Hwy 89A, milemarker 553, 11 miles west of Navajo Bridge, N 36.70263 W 111.82477 1516 m 19-Aug-2021 C. R. Nelson 13142 J. K. Nelson. 109 iPhone photos: steam clouds after rainstorm rising from face of cliffs. 13142

13143 USA: ARIZONA: Coconino Co., Vermilion Cliffs, Hwy 89A, further east, 7 miles west of Navajo Bridge N 36.72498 W 111.76570 1294 m 19-Aug-2021 C. R. Nelson 13143 J. K. Nelson. 109 iPhone photos: steam clouds after rainstorm rising from face of cliffs. 13143

13144 USA: ARIZONA: Coconino Co., Colorado River, Navajo Bridge near Marble Canyon N 36.81781 W 111.63154 1065 m 20-Aug-2021 C. R. Nelson 13144 J. K. Nelson. 109 iPhone Photos: california condor spot, none seen today. Videos: swirling muddy waters with floating black plant debris. 22 August 2021: stopped again, no condors, continued on Hwy 89A behind big trucks over Jacob Lake all the way to near Fredonia. Then easy travel all the way to Provo by way of Hwy 20 and I-15, homw VBOUR 10:00 pm 13144

13145 USA: ARIZONA: Coconino Co., Mormon Lake, Double Springs Campground N 34.94281 W 111.49545 2203 m 19-Aug-2021 22-Aug-2021 C. R. Nelson & family 13145 J. K Nelson, J. R. Nelson, B. D. Nelson, A. V. Nelson, and A.J. Nelson, Jackie and Allie Spurlock 109 iphone 19 Aug: set up camp in spot #15, nice; saw no Wyliea mydas Asilidae. Saw Trichoptera in spring run. Aberts squirrel in camp, Photos: stellers jay, white breasted nuthatch, small dove. 20 Aug: photos: Efferia female, red mushrooms, Bouteloua, orange mushroom, cap and skirt mushroom, purple geranium, white geranium, large fungi in camp, after much recent rain, no Wyliea mydas, photos: Cantharidae on mallow, potter wasp Eumenidae, Mimulus. iris seeds. photos: Buprestidae Acmaeodera, Scraptiidae? on Asteraceae. short winged Cantharidae, forked ponderosa pine trunk. 22 August: group shot, Artemis with Kaye reading, with Jackie Spurlock Begay with sticks. 13145

13146 USA: ARIZONA: Coconino Co., Mormon Lake, Arizona Trail between Double Springs and Dairy Springs Campground, back on Mormon Lake Road (highway) N 34.94283 W 111.49525 2191 m 20-Aug-2021 C. R. Nelson & family 13146 J. K Nelson, J. R. Nelson, B. D. Nelson, A. V. Nelson, and A.J. Nelson, Jackie and Allie Spurlock 109 iphone GPS reading iPhone near Double Springs uplands, morning. Photos: flicker, mountain chickadee, downy woodpecker, stellers jay. white breasted nuthatch, spotted towhee, robin, western bluebird. Photos: fungi, several, mullein, Verbascum thlaspi, fungi on end of sawed log, gooey yellow fungus, split cap fungus, soft cap fungus, red cap fungus, lichen, locust bush, skyrocket gilia, geranium, purple thing, bee hives, Coreopsis?, yarrow, western bluebird father baby, song sparrow, sunflower & honeybee, white winged dove. 13146

13147 USA: ARIZONA: Coconino Co., Mormon Lake, Dairy Springs, pond on pan of Mormon Lake N 34.95370 W 111.48185 2074 m 20-Aug-2021 C. R. Nelson & family 13147 nearby at Double Spring: J. K Nelson, J. R. Nelson, B. D. Nelson, A. V. Nelson, and A.J. Nelson, Jackie and Allie Spurlock 109 iphone Photos: scenery, isolated ponderosa pine on Mormon Lake pan. Line of yellow on Mormon Lake, leopard frogs, "More of this from here later at Double Springs:", Chrysomelidae on hand & on yellow monkeyflower, Mimulus. Photos: monkey flower stream, pond, leafhopper on monkeyflower. 13147

13148 USA: ARIZONA: Coconino Co., Mormon Lake, uplands, Arizona Trail & Lakeview Trail, south out of Double Springs Campground, N 34.95370 W 111.48185 2074 m 20-Aug-2021

22-Aug-2021 C. R. Nelson & family 13148 nearby at Double Spring: J. K Nelson, J. R. Nelson, B. D. Nelson, A. V. Nelson, and A.J. Nelson, Jackie and Allie Spurlock 109 iphone pond near Munns Park Road, N 34.93961 W 111.51223 elev. 2281 m. Lakeview Vista, iphone: N 34.92875 W 111.50444 elev. 2333m. Trailhead sign said 2 miles to vista on 20 August Kaye and I walked four miles of beautiful trail but found no vista of lake. We did see we were near a prominence, perhaps Mormon Mountain. 20 August: Photos: white breasted nuthatch, red breasted nuthatch. Orange fungus. 22 August, found Lakeview Vista Fork, less than 100 m up from trail from Arizona Trail/Lake Vista split, confused by junction with major trail/road 240C: Riley along found the trail to the Lakeview Vista after walking past the fork and continuing all the way to the Munns Park Road FR 240?. back tracked. 13148

13149 USA: UTAH: Utah Co., Provo, Bonneville Shoreline Trail, Rock Canyon south for a mile, N 40.26314 W 111.62911 1588 m 25-Aug-2021 J. K. and C. R. Nelson 13149 photos: scenery, panoramas of Provo, BYU, and Squaw Peak above Rock Canyon 109 iphone scrub jays and spotted towhees. 13149

13150 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 29-Aug-2021 JK & CR Nelson & family 13150 Riley, Kaye, Andrea, Todd, Amy, Wolf, and Leah 109 Photos: hike to tanks. Photos earlier in day at church: Jasper, Sawyer, and August Parker then on way home hairy crabgrass *Digitaria sanguinalis*. Diogmites angustipennis with *Ammophila* prey. *Argiope* spider on web in goldenrod. Tipulidae. Leah with snail shells (*Oreohelix*), *Astragalus*, magenta. *Cerambycidae* *Crossidius* on *Eriameria nauseosus*. *Cleome serrulata*-Rocky Mountain beeplant. *Bombus* on musk thistle *Carduus nutans*. tumpel mustard *Sisymbrium altissimum*. Leah, Wolf, and Riley with sagebrush lizard with regenerated tail. 13150

13151 USA: UTAH: Utah Co., South Fork Creek, 1.5 miles, South of Vivian Park & Hwy 189, N 40.34755 W 111.54778 1665 m 01-Sep-2021 C. R. Nelson 13151 109 iphone Morning on cloudy day. Photos: Rhyacophilidae, Rhyacophila probably *R. brunnea* larvae. Saw *Epeorus*, *Cinygmula*, Tipulidae, Baetidae, Oligochaeta, Elmidae, *Hesperoperla pacifica*, Chloroperlidae. 13151

13152 USA: UTAH: Utah Co., Provo, BYU, garden paths west of Life Science Building N 40.24531 W 111.65101 1409 m 03-Sep-2021 C. R. Nelson 13152 109 iPhone photo photo: snail, *Helix aspera* following line in sidewalk to cross, with Y on the mountain, Life Science Building, and Benson Building in the background. Snail's pace at BYU?, Safety first at BYU". Beauty on the move at BYU. photo: snail, *Helix aspera* following line in sidewalk to cross, with Y on the mountain, Life Science Building, and Benson Building in the background. Snail's pace at BYU?, Safety first at BYU". Beauty on the move at BYU. 13152

13153 USA: UTAH: Utah Co., Provo River, BYU Riverside Park, 2230 N 300 W near pavilion N 40.26506 W 111.66421 1415 m 04-Sep-2021 C. R. Nelson & class 13153 Biology 100 class with TAs 109 iPhone First 100s, air temperature 23 deg C, water temperature 18 deg C. Time: 10:00am to noon. Surface water velocity 0.82 m/sec, as measured as an average of 10 runs of a floating stick over 10 meters, then inverted, by Adam Woolley. GoPro video by Caleb Hill. Signed roll: Riley Nelson, Spencer Van De Graaff, Lillian Buck (Paul Frandsen's lab), Caleb Hill, Jared Canizales, Adam Traweek, Joshua Boyer, Julia Blad, Ashley Faragher, Kayley Nebeker, Maggie Truman, Abby Van de Graaff, Shari Franke, Riley Christensen, Danielle Saxey, Bryn Perrins, Alayna Moody, Lily Pitzak, Brooklyn Norton, Katherine Erskne, Lauren Richards, Jenna Plowman, Marina Lopez, Grace Tibbitts, Ashtyn Parkinson, Kaiyah Price, Sophia Martin, Lauren Brown, Kylee Vandecar, Drew Rigby, Emma Jones, Jaida Sincich, Sofia Ferraz, Caroline Gibbs, Lydia Hall, Alyssa Badger, Madi Hale, Jenna Merrell, Betsey Pratt, Lori Adrian, Savanna Stevenson, Kaylene Ellsworth, Emma Frost, Sophie Lahti, Teagan Mulford TA, Susie Cameron, Macee Moffat, Bradyn Riggs, Adam Woolley, Mitchell Greenhalgh of lab, Sophie Carter TA, one friend. Water velocity trials, seconds per 10 meters: 11.1, 11.4, 13.4, 14.0, 11.3, 10.2, 12.6, 10.3, 11.9, 16.4 = average 12.26 sec per 10 m. inverse is 0.82 m/sec Tettigoniidae Microcentrum, Gryllidae Oecanthus, Philopotamidae, Hydropsychidae, Platyhelminthes, Oligochaeta, Hirudinea, fish sculpin Cottus bairdi, Baetidae, snails, Asellus? 13153

13154 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 04-Sep-2021 06-Sep-2021 JK & CR Nelson & friends 13154 Riley, Kaye, Hank Pond, Rexanne Pond, Blair Parrish, Cynthia Parrish, Carly Parrish 109 4 Sep: , 5 Sep photos: black chinned hummngbirds and vespid at feeder, Mentzelia, & drawing, people, bushy tailed woodrat, Pogonomyrmex, Astragalus, green rabbitbrush, rubber rabbitbrush, and big sagebrush in same photo frame. 6 Sep: photos: cows, rufus and black chinned hummngbirds, Kaye on hill & with dog. Trump ribbon with cow dung, Scott Loaki, cow hand from Spanish Fork 13154

13155 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 11-Sep-2021 C. R. Nelson 13155 109 photos: water hyacinth bloom, rose of sharon, Lestidae from pond, water falling, Blue the cat, tomatoes, squash bug tachinidae. 13155

13156 USA: UTAH: Utah Co., Provo, Utah Lake State Park, N 40.23701 W 111.73816 1372 m 12-Sep-2021 JK & CR Nelson & friends 13156 Riley, Kaye, Hand Pond, Rexanne Pond 109 Photos: lake with Mount Timpanogos and Cascade Peak 13156

13157 USA: UTAH: Wasatch Co., Strawberry Reservoir, Haws Point, N 40.16311 W 111.14776 2319 m 18-Sep-2021 C. R. Nelson and friends 13156 Activity for boys: Wid

Tolman, Tom Mitchell, Rich Hooper, Spencer Smith, Tate Smith, J. R. Cook, Talmage Cook, Preston Cook, Lance Lawrence, Seth White, Riley Nelson 109 iPhone photos: rainbow, crayfish photographed on 27 Sep 2021 *Orconectes virilis*, cutthroat trout. 13156

13158 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 19-Sep-2021 JK & CR Nelson & family 13158 Riley, Kaye, Andrea, Jordan Christopher, Todd Smith, Amy Smith, Leah Smith, Wolfgang Smith 109 Walked to Soldier Creek and grandkids waded. 4 Sep: , 5 Sep photos: black chinned hummngbirds and vespid at feeder, Mentzelia, & drawing, people, bushy tailed woodrat, Pogonomyrmex, Astragalus, green rabbitbrush, rubber rabbitbrush, and big sagebrush in same photo frame. 6 Sep: photos: cows, rufus and black chinned hummngbirds, Kaye on hill & with dog. Trump ribbon with cow dung, Scott Loaki, cow hand from Spanish Fork 13158

13159 USA: UTAH: Wasatch Co., Strawberry Reservoir, Renegade Bay and Marina, N 40.13335 W 111.15120 2315 m 25-Sep-2021 C. R. Nelson & family 13159 A. Todd Smith and Wolfgang Winston Smith 109 iPhone photos: people and fish; also stopped briefly at Strawberry Marina and caught and released a crayfish, probably *Orconectes virilis*. 13159

13160 USA: UTAH: Wasatch Co., Strawberry Reservoir visitor center, N 40.23750 W 111.18508 2315 m 25-Sep-2021 C. R. Nelson & family 13160 A. Todd Smith and Wolfgang Winston Smith 109 iPhone photos: spawning kokanee salmon and people 13160

13161 USA: UTAH: Utah Co., Hobbie Creek, west of I-15, Lower Hobbie Creek Wildlife Management Area, N 40.18372 W 111.64927 1372 m 30-Sep-2021 C. R. Nelson and students 13161 Entomology Club: Riley Nelson, Anna Eichert, Mallory DeFord, Limb Hapairai, Brodien Hapairai, Spencer Livermore, Hannah Cool, Amy Dickson, Bethany?, Anna Monson 109 iPhone Photos in lab: Heteroceridae. Tipulidae, Limoniidae, Chironomidae, saw Mantis *religiosus*. 13161

13162 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 01-Oct-2021 JK & CR Nelson & family 13162 Riley, Kaye, Todd Smith, Amy Smith, Leah Smith, Wolfgang Smith 109 photos: wedding of Sabryna Mead and Jason Smith. Saw elk near telephone poles on hillside south of highway 13162

13163 USA: UTAH: Washington Co., Utah Hill, Old Highway 91, Castle Rock N 37.06582 W 113.88756 1133 m 08-Oct-2021 C. R. Nelson and students 13163 Riley Nelson, Teagan Mulford, Anna Eichert, Anna Monson, Spencer Livermore, Noelle Zenger, and Brenna Croker 109 Google Earth rain soaked *Yucca schedigera*, *Juniperus* sp. 13163

13164 USA: UTAH: Washington Co., Beaver Dam Slope, Lytle Ranch Road, Bitter Spring, 3 miles west of Castle Cliff and old highway 91 N 37.08673 W 113.92920 1186 m 08-Oct-2021 C. R. Nelson and students 13164 Riley Nelson, Teagan Mulford, Anna Eichert, Anna

Monson, Spencer Livermore, Noelle Zenger, and Brenna Croker 109 iPhone Photos: wet Bombyliidae on creosote bush, barrel cactus *Ferocactus cylindraceus*, Utah agave. 13164

13165 USA: UTAH: Washington Co., Beaver Dam Wash, Lytle Ranch Preserve, first was north of bunkhouse, N 37.14363 W 114.01547 897 m 08-Oct-2021 C. R. Nelson and students 13165 Riley Nelson, Teagan Mulford, Anna Eichert, Anna Monson, Spencer Livermore, Noelle Zenger, and Brenna Croker 109 iPhone Set up malaise trap. tarantula males, walked to known tortoise burrows up side wash, found two burrows, saw no tortoises. Backomyi near orchard. Mercury vapor lamp at bunkhouse, students walked to pond at night. *Efferia benedicti*, *Promachus albifacies*. 13165

13166 USA: UTAH: Washington Co., Beaver Dam Wash, Lytle Ranch Preserve, Bens Bluff N 37.14378 W 114.02513 855 m 09-Oct-2021 C. R. Nelson 13166 109 Google Earth painting of wash and sunrise. Photos. 13166

13167 USA: UTAH: Washington Co., Beaver Dam Wash, Lytle Ranch Preserve, Kayes Bluff, west rim of wash, N 37.14663 W 114.02642 901 m 09-Oct-2021 C. R. Nelson 13167 109 Google Earth photos: scenery 13167

13168 USA: UTAH: Washington Co., Beaver Dam Wash, Lytle Ranch Preserve, walk from bunkhouse to mouth of Catclaw Canyon, N 37.15409 W 114.02169 858 m 09-Oct-2021 C. R. Nelson and students 13168 Riley Nelson, Teagan Mulford, Anna Eichert, Anna Monson, Spencer Livermore, Noelle Zenger, and Brenna Croker. 109 Google Earth Photos and video: creek, scenery, people. *Uta stansburiana*, zebra tail lizards, cushion Asteraceae; Photos: Tenebrionidae - spherical black with long, white hairs. 13168

13169 USA: UTAH: Washington Co., Beaver Dam Wash, Lytle Ranch Preserve, Catclaw Canyon, use slot canyon of Catclaw as GPS N 37.15704 W 114.02772 908 m 9 Oct 2021 C. R. Nelson and students 13169 Riley Nelson, Teagan Mulford, Anna Eichert, Anna Monson, Spencer Livermore, Noelle Zenger, and Brenna Croker. 109 Google Earth Walked up to slot canyon on left side. Talked and joked at boack of slot with Noelle Zenger, Anna Eichert, and Anna Monson. *Boottettix argentatus* on creosote bush, zebra tail lizards, *Uta stansburiana*, tiger whiptail. 13169

13170 USA: UTAH: Washington Co., Virgin River, Virgin Falls Park, Virgin town N 37.19765 W 113.20508 1052 m 09-Oct-2021 C. R. Nelson and students 13170 Riley Nelson, Teagan Mulford, Anna Eichert, Anna Monson, Spencer Livermore, and Brenna Croker. 109 iPhone water sample thick with mud (predicted depth of settled sediment would by 25 mil of 50 ml water sample after a few days). Wrong. It was about 5 ml. Photos: great blue heron, West Temple of Zion, muddy Virgin River, *Corydalus texanus* larvae. 13170

13171 USA: UTAH: Utah Co., Provo River, Hwy 189, Canyon Glen Picnic Area, N 40.32894 W 111.62411 1523 m 16-Oct-2021 C. R. Nelson and students 13171 Riley Nelson, Jackson Birrell, Craig Ellsworth, Spencer Livermore, Anna Monson, Emily Larsen, Daniela Larsen, Anna Eichert, Nathan Larsen, Teagan Mulford, Desert Mulford. Not all students 109 iPhone 10:00 am. Took randomized kicknet samples for *Pteronarcys californica*. 8 samples taken, 2 m on 4 transects, spaced upstream every 10 m. sample frame was not 1 m, but 0.25 m² (squared). Photos: people, scenery, river. No *Pteronarcys* seen. *Brachycentrus americanus* was dominant. Also saw many *Hesperoperla pacifica*. 13171

13172 USA: UTAH: Utah Co., Provo River, Hwy 189 spur road, Upper Falls Picnic Area, N 40.34618 W 111.59380 1573 m, 16-Oct-2021 C. R. Nelson and students 13172 Riley Nelson, Jackson Birrell, Craig Ellsworth, Spencer Livermore, Anna Monson, Emily Larsen, Daniela Larsen, Anna Eichert, Nathan Larsen, Teagan Mulford, Desert Mulford. Not all students 109 iPhone Use CRN 13094 as GPS, dipper last May. Randomized 0.25 m² frame samples with kick screen for *Pteronarcys californica* like at CRN 13171. Photos: river, scenery, people. Toyota truck check engine light comes on, full oil, full radiator, no visible leaks. Checked Edgemont Service, 18 Oct 2021, turned off warning light, keep an eye on it.... No *Pteronarcys* seen. 13172

13173 USA: UTAH: Wasatch Co., Provo River, near Hwy 189, narrow railroad trestle, near Provo Canyon Adventures, N 40.37587 W 111.55504 1598 m, 16-Oct-2021 C. R. Nelson and students 13173 Riley Nelson, Jackson Birrell, Spencer Livermore, Anna Monson, Emily Larsen, Daniela Larsen, Anna Eichert, Nathan Larsen, Teagan Mulford, Desert Mulford. Not all students 109 Google Earth 8, 0.25 m² kicksamples for *Pteronarcys californica*. None seen! Photos: people and scenery underwater video: *Brachycentrus*, *Hydropsychidae*. 13173

13174 USA: UTAH: Wasatch Co., Provo River, near Hwy 189, boat put in below Deer Creek Dam, N 40.40056 W 111.53107 1612 m, 16-Oct-2021 C. R. Nelson and students 13174 Riley Nelson, Jackson Birrell, Spencer Livermore, Anna Monson, Anna Eichert, Teagan Mulford, Desert Mulford. Not all students 109 Google Earth 8 0.25 m² kicknet samples for *Pteronarcys californica*. None seen. 13174

13175 USA: UTAH: Salt Lake Co., Salt Lake Airport, N 40.78830 W 111.98681 1288 m, 22-Oct-2021 J. K. and C. R. Nelson 13175 109 photos: near takeoff, Southwest Airlines 13175

13176 USA: UTAH: Tooele Co., between Salt Lake Airport and Wendover, see GPS photo metadata N 40.73715 W 114.03751 1311 m, 22-Oct-2021 J. K. and C. R. Nelson 13176 109 Google Earth, Wendover, utah aerial photos: scenery, Southwest Airlines 13176

13177 USA: CALIFORNIA: aerial photos, see metadata on photos: Mina, Mono Lake, Bridgeport, Oakdale, Escalon, Tracy, Livermore, Del Valle Lake N W 22-Oct-2021 J. K. and C. R. Nelson 13177 109 iPhone aerial photos: scenery, Southwest Airlines 13177

13178 USA: CALIFORNIA: aerial photos, see metadata on photos: Central Park Lake Elizabeth, Gateway Plaza, Fremont, Union City, Hayward, San Leandro, Oakland N W 22-Oct-2021 J. K. and C. R. Nelson 13178 109 iPhone aerial photos: scenery, Southwest Airlines 13178

13179 USA: CALIFORNIA: Golden Gate, Point Reyes, Farallon Islands, North Pacific away from California; see metadata on photos N W 22-Oct-2021 J. K. and C. R. Nelson 13179 109 iPhone aerial photos: scenery, Southwest Airlines 13179

13180 USA: HAWAII: Maui Island Maui Island at night, Kahului, see metadata on photos N W 23-Oct-2021 J. K. and C. R. Nelson 13180 109 iPhone aerial photos: scenery, Southwest Airlines 13180

13181 USA: HAWAII: Maui Island Kihei Condominium resort N 20.76258 W 156.45773 6 m 23-Oct-2021 25-Oct-2021 J. K. and C. R. Nelson & family 13181 Andrea J. Nelson and Jordan O. Christopher 109 iPhone Photos, 23 October: spotted dove, zebra dove, common myna, frangipani, palm flowers, plover?, moon, house finch, hibiscus, blue flower, hanging hibiscus, Kaye; 24 Oct: house finch, warbling white eye, java finch, northern mockingbird; 25 October: java finch, warbling white eye, common mynah, common waxbill (finch with red cheeks), northern mockingbird. 13181

13182 USA: HAWAII: Maui Island Haleakala National Park, near Kula, visitor center N 20.75945 W 156.24657 2150 m 23-Oct-2021 J. K. and C. R. Nelson & family 13182 Andrea J. Nelson and Jordan O. Christopher 109 iPhone photos: silversword, pilo, ohia lehua 13182

13183 USA: HAWAII: Maui Island Haleakala National Park, view kiosk near summit Haelakala, N 20.70991 W 156.25260 3048 m, 23-Oct-2021 J. K. and C. R. Nelson & family 13183 Andrea J. Nelson and Jordan O. Christopher 109 iPhone photos: top of clouds, kiosk, view to highway, view to Hawaii: Mauna Kea and Mauna Loa, Jordan and Andrea, view to telescope, view cliffs, clouds, ocean to north, view to crater, Jordan and Kaye, Andrea. photos: silversword 13183

13184 USA: HAWAII: Maui Island Haleakala National Park, Haleakala summit N 20.71062 W 156.25273 3058 m, 23-Oct-2021 J. K. and C. R. Nelson & family 13184 Andrea J. Nelson and Jordan O. Christopher 109 iPhone photos: scenery, timelapses to north?, observatory, view to Hawaii: Mauna Kea in the clouds. photos: silversword 13184

13185 USA: HAWAII: Maui Island Haleakala National Park, Kalahaku overlook, N 20.71460 W 156.25026 2970 m, 23-Oct-2021 J. K. and C. R. Nelson & family 13185 Andrea J. Nelson and Jordan O. Christopher 109 iPhone lunch: photos views to crater, kiosk at edge, Pa Ka'oao trail, Andrea on the edge, photos: chukar partridge, Asteraceae with insects, other Asteraceae small yellow heads, silversword, pilo? or other plant, Calliphoridae on Asteraceae. Also mature Silversword further down the road: N 20.72106 W 156.24843, 2921 m. 13185

13186 USA: HAWAII: Maui Island Haleakala National Park, Hosmer Grove, native forest loop, edge, N 20.76747 W 156.23583 2034 m, 23-Oct-2021 J. K. and C. R. Nelson & family 13186 Andrea J. Nelson and Jordan O. Christopher 109 iPhone Photos: iiwi bird, apapane bird, amakihi bird, ecotone introduced/native forest, silversword hybrid, people: Jordan, Kaye, Andrea, ohia lehua tree, tree with apapane bird, northern cardinal, house finch, gray bird, warbling white eye, gray bird on bark 13186

13187 USA: HAWAII: Maui Island road to Hana, Puaakaa waterfall N 20.81706 W 156.12567 402 m, 23-Oct-2021 J. K. and C. R. Nelson & family 13187 Andrea J. Nelson and Jordan O. Christopher 109 iPhone photos: waterfall Photos: Hydropsychidae 13187

13187.5 USA: HAWAII: Maui Island Makena landing, near Kihei, 24-Oct-2021 J. K. and C. R. Nelson & family 13187.5 Andrea J. Nelson and Jordan O. Christopher 109 iPhone Photos: decorator urchin, blue rimmed? Surgeonfish, short black urchin, red pencil urchin, striped spine urchin, white spined urchin, coral, green sea turtle, school of fish, three stripes wrasse, yellow striped goatfish veke, indo-pacific sergeant major, saddleback wrasse, Riley, Jordan, Andrea, and Kaye, spotted eagle ray, orange spined unicorn fish, jellyfish, Cnidaria, four spot butterflyfish, ornate butterflyfish, dark maito, kakavere coronet fish, white tail surgeonfish, spotted puffer, moorish idol, black spot sergeant, striped butterflyfish, wrasse #3, pink tailed triggerfish, humuhumunukunukuapuaa, vana urchin, rori sea cucumber. 13187.5

13188 USA: HAWAII: Maui Island Maui Island Airport, to view of Molokai Island N 20.944.62 W 156.43251 from air 25-Oct-2021 J. K. and C. R. Nelson & family 13188 Andrea J. Nelson and Jordan O. Christopher 109 iPhone photos airport and Haleakala, view to northeast shore, end img_5212.jpg 13188

13188.5 USA: HAWAII: Molokai Island Molokai, view from air, south coast N 20.99224 W 157.05483 from air 25-Oct-2021 J. K. and C. R. Nelson 13188.5 109 iPhone photos: Mokuhooniki islet, length of south Molokai Island to west, start 5213 - 5230.jpg 13188.5

13189 USA: HAWAII: Oahu Island Oahu, view to Honolulu from air N 21.02933 W 157.92683 from air 25-Oct-2021 J. K. and C. R. Nelson 13189 109 iPhone iPhone GPS from midpoint

along Oahu coast, photos Honolulu from air, start photos: 5231.jpg to end 5244.jpg.
13189

13190 USA: HAWAII: Oahu Island Pearl Harbor, Arizona Memorial, N 21.36442 W 157.95001
0 m, 25-Oct-2021 J. K. and C. R. Nelson 13190 109 iPhone photos: memorial and USS
Missouri. 13190

13191 USA: HAWAII: Oahu Island Hau'ura, north shore N 21.61243 W 157.91171 0 m, 26-
Oct-2021 30-Oct-2021 J. K. and C. R. Nelson 13191 109 iPhone Photos 26 Oct: sunrise,
coconut palms, Kaye, Portuguese man of war jellyfish cnidaria, shorebirds, ocean,
ironwood cone, noddy tern. Start 3410.jpg to end 3441.jpg. Photos 27 Oct: sunrise; 28 Oct:
sunrise; 30 Oct: start DSC_3735.jpg to end 3784.jpg & Riley masks. Photos 26 Oct: coconut
palms, Kaye, Portuguese man of war jellyfish cnidaria, shorebirds, ironwood cone, noddy
tern; photos 28 Oct: Kaye, swam shore for turtles after saw their heads, no luck seeing
them underwater; photos 30 Oct: cattle egret, shorebirds, Riley masks. 13191

13192 USA: HAWAII: Oahu Island Waimea Beach, north shore N 21.64020 W 158.06360 0
m, 26-Oct-2021 J. K. and C. R. Nelson & friends 13192 John and Karla Bennion 109 iPhone
big unsafe waves, had fun in them! Photos and videos by Kaye. 13192

13193 USA: HAWAII: Oahu Island Shark Cove, north shore, N 21.64950 W 158.06274 0 m,
26-Oct-2021 J. K. and C. R. Nelson & friends 13193 John and Karla Bennion 109 iPhone
start photos SHO10935.mp4 to end GLO11036.jpg. Photos: people, fish, GoPro photos and
video: sardine?, trumpetfish, mullet, yellow striped goat fish, chub, porcupine fish, raccoon
butterflyfish, moorish idol, convict surgeonfish, shoreline, damselfish, urchin, saddleback
wrasse. 13193

13194 USA: HAWAII: Oahu Island Honolulu, Bishop Museum, N 21.33404 W 157.87106 41
m, 26-Oct-2021 J. K. and C. R. Nelson 13194 109 iPhone start photos: IMG_5336.jpg to
end 5344.jpg photos: insect collection range, Drosophila drawer, Keith Arakaki the
collections manager. 13194

13195 USA: HAWAII: Oahu Island Honolulu, Manoa stream, Manoa Valley, N 21.32730 W
157.80068 93 m, 26-Oct-2021 J. K. and C. R. Nelson 13195 109 iPhone start photos:
DSC_3442.jpg to end 5359.jpg. Photos: home of nice woman who let us on her yard at the
bridge into a condo or resort area. Photos: habitat of aquatic moth caterpillars 13195

13196 USA: HAWAII: Oahu Island Pali Lookout, Nu'uana Pali, N 21.36722 W 157.79308 333
m, 26-Oct-2021 J. K. and C. R. Nelson 13196 109 iPhone photos: panorama at dusk;
img_5359.jpg to end 5364.jpg. 13196

13197 USA: HAWAII: Oahu Island Kailua, Zippy's Restaurant, N 21.39546 W 157.74399 0 m, 26-Oct-2021 J. K. and C. R. Nelson 13197 109 iPhone photos: katsu chicken for Kaye, Korean chicken for Riley, Kaye's photos. 13197

13198 USA: HAWAII: Oahu Island Waimea Valley, 59-864 Kamehameha Highway, Haleiwi N 21.63054 W 158.04453 108 m, 27-Oct-2021 J. K. and C. R. Nelson 13198 109 iPhone Botanical Garden Photos, start img_5371.jpg to end dsc_3703.jpg: map, Hawaiian moorhen a gallinule, streambed, strap fern, white rumped shama bird, bamboo, waterfall, people: Kaye, John, and Riley, zebra dove, Heliconia, ginger with Tephritidae Bactrocera probably dorsalis, Bauhinia, day gecko, red long stamens Calliandra?, red crested cardinal bird, fern, Begonia, orchids, coffee, breadfruit, Micropezidae on breadfruit, Kaye riding palm frond like a witch, clown fig (fruit on trunk), kukui nuts, giant african snail Lissachatina fulica, Hale Iwi rock building, Morinda noni, shorebird, sugarcane, morning glory, paper mulberry, Kaye with giant snail, orchids, cannonball tree, "sedgy" flowers and fruit, red long stamens Calliandra (labeled). Also GoPro videos and photos at waterfall. 13198

13199 USA: HAWAII: Oahu Island Haleiwa town, N 21.59090 W 158.10301 15 m, 27-Oct-2021 J. K. and C. R. Nelson & John Bennion 13199 109 iPhone Shave ice Photos: flies on foot wound of Riley. 13199

13200 USA: HAWAII: Oahu Island Ka'ena Point, end of road, N 21.57968 W 158.23772 40 m, 27-Oct-2021 J. K. and C. R. Nelson & John Bennion 13200 109 iPhone photos: people, scenery, rock: old raised coral reef, waves, and submerged reef. Start img_5412.jpg to end 5441.jpg. 13200

13201 USA: HAWAII: Oahu Island Malaekahana State Recreation Area, Moku'auia Islet (Goat Island), N 21.66066 W 157.92735 0 m, 28-Oct-2021 J. K. and C. R. Nelson & John Bennion 13201 109 iPhone Photos, start GH011105.jpg to end img and dsc GOPR1281.jpg Photos: bigscale or brick soldierfish, blacktail snapper (to'au of Tahiti, an introduction), sharpnose? Mullet, yellow striped goatfish veke, raccoon butterflyfish, blackspot sergeant, oval chromis or bright eye damselfish check photo, small wrasse (saddle?) abundant, moorish idol, blue lined? surgeonfish or brown, manini convict tang, reef triggerfish, spotted puffer or spotted boxfish, coral, sea cucumber rori, sea urchins, Kaye sand crabs on shore, waves, Kaye's feet, John Bennion, Riley Nelson, island shore, Goat Island, vana urchin, convict surgeonfish/tang, indo-pacific surgeonfish, spotted puffer, view to Goat Island, beach plants, flat top trees, Kaye in car. 13201

13202 USA: HAWAII: Oahu Island Laie, Polynesian Cultural Center and BYU-Hawaii, N 21.64267 W 157.92230 4 m, 28-Oct-2021 J. K. and C. R. Nelson & John Bennion 13202 109 iPhone Photos 28 October: Spencer Ingley, Kaye Nelson, and Riley Nelson, then talk on

campus then Pledge of Allegiance mural, Kaye with tiare (tahitian flower); Photos 29 Oct 2021: Keoni Kauwe in President's Office (he is president of the university), Laie Temple, Hill above Laie Temple, Polynesian Cultural Center, LSB (Lorenzo Snow Building) don't slip, Kaye dancing, canoe ride, double canoe, Riley with Sister Dyani Fuhriman (worked in Nelson lab, hope she returns after mission), comedian Ken, then later at Shrimp House: black crowned night heron. start img_5490.jpg to end img_5534.jpg. 13202

13203 USA: HAWAII: Oahu Island end of road on south west near Ka'ena Point, west of Makaha, N 21.54507 W 158.23988 12 m, 30-Oct-2021 J. K. and C. R. Nelson 13203 109 iPhone Photos start img_5543.jpg to end img_5556.jpg: scenery, shoreline and waves, Kaye. 13203

13204 USA: HAWAII: Oahu Island Honolulu, Aloha Stadium, swap meet, N 21.37384 W 157.93198 18 m, 30-Oct-2021 J. K. and C. R. Nelson 13204 109 iPhone Photos start img_5557 to end img_5562.jpg: booths, earrings 3 for \$10.00. My snide joke was what would you do with a third earring. Of course I realized they were speaking of three pairs of earrings. 13204

13205 USA: HAWAII: Oahu Island view point on side of Diamond Head looking east, N 21.26408 W 157.79936 67 m, 30-Oct-2021 J. K. and C. R. Nelson 13205 109 iPhone photos start img_5563.jpg to end 5570.jpg: views to islands of Maui, Molokai, and Lana'i, volcanoes sign. 13205

13206 USA: HAWAII: Oahu Island Aiea, Kawaikui Beach Park, N 21.27923 W 157.74504 6 m, 30-Oct-2021 J. K. and C. R. Nelson 13206 109 iPhone Photos start img_5571.jpg to end 5576.jpg: white pigeon nesting in men's changing room, Kawaikui Beach Park. 13206

13207 USA: HAWAII: Oahu Island Lanikai Beach, Kailua, N 21.39326 W 157.71538 0 m, 30-Oct-2021 J. K. and C. R. Nelson 13207 109 iPhone photos start img_5577.jpg to end img_5606.jpg: Kaye on beach, house on beach, Kaye shoes. 13207

13208 USA: ARIZONA: Maricopa Co., Sky Harbor Airport to Salt Lake City airport 31-Oct-2021 J. K. and C. R. Nelson 13208 110 iPhone Photos: Sedona, Grand Canyon, then Utah: Grand Staircase, Bryce Canyon, and Monroe Mountain? 13208

13209 USA: UTAH: Salt Lake Co., Salt Lake area, maybe Davis Co., from air 31-Oct-2021 J. K. and C. R. Nelson 13209 110 iPhone photos: marshes of Great Salt Lake 13209

13210 USA: UTAH: Utah Co., Three Forks Trailhead, Sixth Water Creek, near junction Cottonwood Creek, N 40.08405 W 111.35480 1689 m, 05-Nov-2021 C. R. Nelson & lab group 13210 Paul B. Frandsen, Teagan Mulford, Anna Eichert, Anna Monson, Ashlyn Powell, Danyon Gedris 110 iPhone Kick samples. Photos/videos people and scenery 13210

13211 USA: UTAH: Utah Co., Three Forks Trailhead, Cottonwood Creek, near junction Sixth Water Creek, N 40.08400 W 111.35450 1691 m, 05-Nov-2021 C. R. Nelson & lab group 13211 Paul B. Frandsen, Teagan Mulford, Anna Eichert, Anna Monson, Ashlyn Powell, Danyon Gedris 110 iPhone Kick samples. Photos/videos people and scenery 13211

13212 USA: UTAH: Utah Co., Three Forks Trailhead, Diamond Fork River, near junction Sixth Water Creek, N 40.08442 W 111.35533 1687 m, 05-Nov-2021 C. R. Nelson & lab group 13212 Paul B. Frandsen, Teagan Mulford, Anna Eichert, Anna Monson, Ashlyn Powell, Danyon Gedris 110 iPhone Kick samples. Photos/videos people and scenery 13212

13213 USA: UTAH: Utah Co., Wanrhodes Creek, 100 m upstream from jct Diamond Fork River, N 40.07448 W 111.43045 1597 m, 05-Nov-2021 C. R. Nelson & lab group 13213 Paul B. Frandsen, Teagan Mulford, Anna Eichert, Anna Monson, Ashlyn Powell, Danyon Gedris 110 iPhone kick samples. Photos/videos people and scenery, Also looked for Amphizoidae in nearby Diamond Fork River, found none. 13213

13214 USA: UTAH: Utah Co., Little Diamond Fork Creek, 150 m northwest of Diamond Fork Road, #029, 5 miles north of Hwy 6 N 40.06700 W 111.44082 1583 m, 05-Nov-2021 C. R. Nelson & lab group 13214 Paul B. Frandsen, Teagan Mulford, Anna Eichert, Anna Monson, Ashlyn Powell, Danyon Gedris 110 iPhone Kick samples. Photos/videos people and scenery 13214

13215 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829m 05-Nov-2021 07-Nov-2021 J. K. and C. R. Nelson & family 13215 Riley, Kaye Nelson, Andrea Nelson, Jordan Christopher, Amy Smith, Todd Smith, Wolfgang Smith, Leah Smith. Dogs: Pfeifferhorn and Lupine. 110 5 Nov: photos: family; 6 Nov: photos family; 7 Nov: photos family. 13215

13216 USA: UTAH: Utah Co., Provo, BYU, M. L. Bean Life Science Museum, N 40.25333 W 111.64694 1432 m 10-Nov-2021 C. R. Nelson and friends 13216 Riley, Jackson Birrell, Alex Birrell, Summit Birrell, Teagan Mulford, Richard W. Baumann, Shawn M. Clark, Alan Meyrup 110 photos and video: people. Especially Richard W. Baumann 13216

13217 USA: UTAH: Utah Co., Provo, BYU, Maeser Auditorium N 40.24532 W 111.65344 1419 m 11-Nov-2021 J. K. and C. R. Nelson 13217 110 Photos: Paul Cox with Jared Meek. Talk "The Creation: Conservations and Reverence for the Earth." by Paul Alan Cox. 13217

13218 USA: UTAH: Utah Co., Provo, Provo Temple east of 900 East Street, N 40.26372 W 111.64076 1483 m 12-Nov-2021 J. K. and C. R. Nelson 13218 110 iPhone photos: sweetgum leaves and staining on cement. 15 Nov: more leaves photos. Sweetgum: Liquidambar styraciflua. 13218

13219 USA: UTAH: Utah Co., Provo, BYU between Life Science Building and Smoot Building, N 40.25039 W 111.60313 1426 m, 15-Nov-2021 C. R. Nelson 13219 110 iPhone Photos: Brigham Young statue, Smoot Building. GPS from corner of Smoot Building. Photos, northwest corner of art building: sweetgum tree and leaves, some with Anna Brinton, some leaf stains on cement; Cedar? Bald cypress?. Photos east of Eyring Science Center: Gingko leaves, talked with Jim Jeffries, husband of Dr. aura Jefferies in Nutrition, Dietetics, and Food Science. 13219

13220 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829m 19-Nov-2021 20-Nov-2021 J. K. and C. R. Nelson & family 13220 Riley, Kaye Nelson, Andrea Nelson, Jordan Christopher, Amy Smith, Todd Smith, Wolfgang Smith, Leah Smith. Dogs: Pfeifferhorn and Lupine. 110 cold, not quite freezing, no ice overnight then work day at the cabin. Cleaned and vacuumed extensively inside the cabin and cleaned up the woodpile and rebuilt the lawnmower shed along the driveway. Much neater now. Todd Took a 3D image of me with my fieldnot books and journal. The culinary pipe at the spring is a mere trickle. Other flow low too. All the tumbleweeds are brown on the lower flats. They aren't breaking loose yet, but we hit one large one at a glance partway down the canyon going home. 13220

13221 USA: UTAH: Millard Co., Meadow Hot Spring 4 miles west of Meadow and I-15, N 38.87377 W 112.44701 1450 m, 24-Nov-2021 JK & CR Nelson & family 13221 Riley, Kaye, Wolf, Leah 110 iPhone Walked to spring pools and collected alkali mud for art project saw jewelfish among bathers in the pools. 13221

13222 USA: UTAH: Washington Co., Washington, 1910 Fiesta Lane, N 37.14680 W 113.47823 898 m, 24-Nov-2021 28-Nov-2021 J. K. and C. R. Nelson & family 13222 Riley Nelson all, Kaye Nelson, Brandy Nelson, Jason Nelson, Artemis Nelson, Astrid Nelson, Andrea Nelson, Jordan Christopher, Amy Smith, Todd Smith, Wolfgang Smith, Leah Smith. Dogs: Pfeifferhorn, Lupine, and Haplo. 110 Google Earth 25 Nov: Thanksgiving Dinner; 26 Nov: Kaye and Riley swim with Artemis, Astrid, Wolf, and Leah; 27 Nov: ; 28 Nov 2021. 13222

13223 USA: UTAH: Washington Co., Washington, Canyon Park, Virgin River Trail, trailhead N 37.12900 W 113.48515 862 m, 25-Nov-2021 J. K. and C. R. Nelson & family 13223 Riley, Kaye, Brandy, Artemis, Astrid, Andrea, Jordan, Todd, Wolf, Leah, and three dogs 110 Google Earth walked from trailhead down Hells Hole Trail then east along Virgin River Trail. Photos: scenery & people; saw a few Oedipodinae grasshoppers and an Eleodes darkling beetle. Cool temperatures, 50 deg F. Gathered silt for colors in bottles art project. saw a few Oedipodinae grasshoppers and an Eleodes darkling beetle. 13223

13224 USA: UTAH: Washington Co., Pine Valley Mountains, Yant Flat, Candy Cliffs, N 37.21945 W 113.47368 1397 m, 26-Nov-2021 J. K. and C. R. Nelson & family 13224 Riley Nelson all, Kaye Nelson, Brandy Nelson, Jason Nelson, Artemis Nelson, Astrid Nelson, Andrea Nelson, Jordan Christopher, Amy Smith, Todd Smith, Wolfgang Smith, Leah Smith. Dogs: Pfeifferhorn, Lupine, and Haplo. 110 iPhone, lunch spot Magnificent buns and cliffs of Navajo Sandstone. Photos: scenery and people. Beautiful views and lovely scratch of slickrock on shoes and muffled mush of boots in deep sand. photos: two species of praying mantis: Stagmomantis and Litaneutra minor. 13224

13225 USA: UTAH: Washington Co., Washington, Steele's Lookout, culinary water tank north of town, N 37.15801 W 113.47165 1000 m, 27-Nov-2021 C. R. Nelson 13225 110 iPhone photos: scenery, panoramas, nature meets sprawl. 13225

13226 USA: UTAH: Washington Co., St. George, Pioneer Park, N 37.11523 W 113.57728 932 m, 27-Nov-2021 C. R. Nelson & family 13226 Riley, Brandy, and Jason Nelson 110 Google Earth hiked on some slickrock, need to explore here more. 13226

13227 USA: UTAH: Washington Co., rim of Paradise Canyon, Cougar Cliffs climbing area, N 37.16167 W 113.61114 1015 m, 27-Nov-2021 C. R. Nelson & family 13227 Riley, Brandy, and Jason Nelson 110 iPhone view from rim into Paradise Canyon collecting spot of E. M. Coombs and D. D. Beck of 1983 or so. Locality for gila monsters, great basin rattlesnakes, and desert tortoise. Access to north still good, whole canyon seems to be in good shape. Went here after Pioneer Park and before Bloomington Petroglyphs. 13227

13228 USA: UTAH: Washington Co., Bloomington Petroglyph Park, N 37.05288 W 113.61553 784 m, 27-Nov-2021 28-Nov-2021 C. R. Nelson & family 13228 Riley, Brandy, and Jason Nelson on 27 Nov 2021, then Riley Nelson all, Kaye Nelson, Brandy Nelson, Jason Nelson, Artemis Nelson, Astrid Nelson, Andrea Nelson, Jordan Christopher, Amy Smith, Todd Smith, Wolfgang Smith, Leah Smith. Dogs: Pfeifferhorn, Lupine, and Haplo on 28 November 2021, two trips. 110 iPhone, lunch spot Photos 27 Nov 2021, good lighting: 4:15 pm, recreated photo of Aileen and Winston Nelson from 1960s with Brandy. Photos 28 Nov 2021, harsher lighting at 11:30 am. Family group pictures with exacting reproductions of Winston and Aileen photos from 1960s. 13228

13229 USA: UTAH: Washington Co., White Dome Nature Preserve, 4769 River Road, 6 miles south of St. George, N 37.01428 W 113.56339 848 m, 28-Nov-2021 JK & CR Nelson & family 13229 Riley Nelson, Kaye Nelson, Wolfgang Smith, and Leah Smith 110 iPhone photos: scenery and people, videos of Leah running on the trails. Photos: cryptobiotic crust. 13229

13230 USA: UTAH: Utah Co., Provo, BYU, M. L. Bean Life Science Museum, N 40.25366 W 111.64732 1440 m, 01-Dec-2021 C. R. Nelson and students 13230 Riley Nelson, Teagan Mulford, Anna Eichert (later in LSB), and Isabella Errigo (later in LSB). 110 iPhone Photos: Mexican freetailed bat *Tadarida brasiliensis*, caught flying in Insect collection. Photos with phones and Nikon; photo voucher deposited in museum. 13230

13230.5 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 06-Dec-2021 C. R. Nelson 13230.5 110 Photos: night sky, searching for Comet Leonard near Arcturus, a third of the way back to Big Dipper handle. NOT SEEN despite clear sky and a good spotting scope as well as 1000 mm Nikon lens 500m x 2! But good and cold early morning. 13230.5

13231 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 07-Dec-2021 C. R. Nelson 13231 110 Syrphidae, *Eristalis* sp. In house. 13231

13232 USA: UTAH: Utah Co., Provo, Rachel & Benjamin Abbott home, 3391 North 175 East, N 40.27886 W 111.65421 1454 m, 08-Dec-2021 J. K. and C. R. Nelson & group 13232 meeting of Utah Lake group. 110 iPhone photos: meeting attendees Craig Christensen and Ben Abbott Photos: house mouse I caught under their piano, with Abbott kids: Ingrid, Cassian, and Naomi, and friend. 13232

13233 USA: UTAH: Utah Co., Utah Lake, Provo, north of Utah Lake State Park, N 40.24224 W 111.73338 1372 m, 11-Dec-2021 J. K. and C. R. Nelson & group 13233 people interested in Utah Lake 110 iPhone Photos: Utah Lake public information meeting organized by Isabella Errigo. Ben Abbott spoke to a group of 30 - 50 people. I took scener shots of the lake, marsh, and mountains in the golden afternoon sun. Snow and ice added nicely to the photos. I spoke at length with a Biology 100 student of seven or so years ago, Garrett Hazen. He complemented me on my teaching philosophy of caring for students and the world. 13233

13234 USA: UTAH: Salt Lake Co., Draper, Smith home, N 40.52186 W 84649 1393 m, 11-Dec-2021 J. K. and C. R. Nelson & friends 13234 Penny & Tracy Smith, Cynthia & Blair Parrish, and Rexanne & Hank Pond. 110 iPhone Photos: USU friends Christmas Party, group, Tracy Smith, Penny Smith, Cynthia Parrish, Blair Parrish, Hank Pond, Rexanne Pond, Kaye Nelson, and Riley Nelson. 13234

13235 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 13-Dec-2021 17-Dec-2021 C. R. Nelson & family 13235 Kaye, Andrea, and Amy 110 13 Dec: photos people and cookies; 15 dec: photos California quail in bird feeder, greenhouse fish and snow, Wid Tolman with Rley at his house 521 E 4380 N. 16 Dec:

photos Talmage Cook with sled on street. 17 Dec: afternoon photos of birds. Evening photos: Mount Timpanogos and Cascade Mountain. afternoon: Photos start DSC_4160.jpg to end DSC_4203.jpg: birds, downey woodpecker, house finch, scrub jay, dark eyed junco, spotted towhee, lesser goldfinch, and pine siskin?. Evening jewelfish in downstairs tank with bristlenose plecostomus. 13235

13236 USA: UTAH: Utah Co., Provo, BYU, 2119 Life Sciences Building, Nelson Office N 40.24506 W 111.64835 1400 m, 17-Dec-2021 C. R. Nelson 13236 110 iphone Photos: campus to Mount Timpanogos and Y Mountain. 13236

13237 USA: UTAH: Utah Co., Provo, Foothill Drive, west of Canyon Road, N 40.29362 W 111.65589 1462 m, 17-Dec-2021 C. R. Nelson 13237 110 iphone Photos: Mount Timpanogos and Cascade Mountain across sheep and horse pastures. 13237

13238 USA: UTAH: Utah Co., and Salt Lake Co., views to Wasatch Front from I-15 N 40.31218 W 111.71085 1447 m, 18-Dec-2021 J. K. and C. R. Nelson & family 13238 Riley Nelson, Kaye Nelson, Rick Nelson, Lana Nelson, Andrea Nelson, Amy Smith, Todd Smith, Wolfgang Smith, Leah Smith, Jerry Wright, Sally Wright, William Wright, Henry Wright, Andrew Wright, Griffin Wright, Genevieve Wright. 110 iphone photos: mountains. On trip to bountiful for Chuck-A-Rama lunch party with Nelson relatives. 13238

13239 USA: UTAH: Utah Co., Provo, Edgemont North White Chapel, 4300 North Canyon Road, N 40.29395 W 111.65232 1477 m, 19-Dec-2021 J. K. and C. R. Nelson & family 13239 Wolfgang Smith and Leah Smith 110 iphone Photos at church group: Steve, Jane, and Wid Tolman; Mel and Anne Luthy, Steve and Beth Morrison; Skeet and Clete Hudgens. 13239

13240 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829m 20-Dec-2021 22-Dec-2021 J. K. and C. R. Nelson & family 13240 Riley, Kaye Nelson, Andrea Nelson, Jordan Christopher, Amy Smith, Todd Smith, Wolfgang Smith, Leah Smith. Dogs: Pfeifferhorn and Lupine. 110 iphone Morning: Photos: people at ovoo for sunrise on the shortest day of the year. Sledding at noon. Sunrise marks a line on the south east ridge through the ovoo to the house, near the front white door. Amazing precision. Evening: sunset works line from southwest slope across highway through fence to marked southern row of rocks at base of ovoo to the highspot on the northeast ridge. 22 Dec 2021: peppernuts, wove dreamcatcher in purple. photos: people, campfire: solstice burning of the wooden bunny and poetry by all: Leah: rabbitbrush, sagebrush, and this. Wolf: Spark or no spark the fire is still burning. Riley: Shape, time, and form, past resent future, faith, hope, charity; tiny wasp, paramecium and amoeba. 13240

13241 USA: UTAH: Utah Co., Orem, Smith home, 75 North 850 West N 40.29865 W 111.71622 1445 m, 25-Dec-2021 J. K. and C. R. Nelson & family 13241 Riley, Kaye, Todd, Amy, Wolf, Leah, Lyman Moulton, and Debby Smith Moulton 110 iphone Photos: people on Christmas morning 13241

13242 USA: UTAH: Utah Co., Provo, Rock Canyon, walk to green gate N 40.36582 W 111.62196 1628 m, 27-Dec-2021 J. K. and C. R. Nelson 13242 110 iphone photos: rock, moss, lichen, people, memorial walk to celebrate life of Edward O. Wilson, biologist and ant lover who died yesterday at age 92. 13242

13243 USA: UTAH: Utah Co., Provo, lower East Foothill Drive, N 40.29363 W 111.65515 1473 m, 03-Jan-2022 C. R. Nelson 13243 110 iphone photos: Mount Timpanogos and horse. Also first day of school photos of Riley by Kaye, at home. 13243

13244 USA: UTAH: Utah Co., Provo, East Lawn Cemetery overlook, N 40.29845 W 111.64956 1544 m, 03-Jan-2022 C. R. Nelson 13244 110 iphone photos: Mount Timpanogos and Utah Lake. 13244

13245 USA: UTAH: Utah Co., Provo River, BYU Riverside Park, near 300 West 2230 North, N 40.26510 W 111.66418 1409 m 08-Jan-2022 C. R. Nelson and students 13245 Biology 100: Daniel Morales-Flores, Cameron Hammond, Kennedy Jensen, Eli Gamez, Joshua Jackson, Wendy Wyatt, James Bleale, Tyler Loutzenhiser, Spencer Jensen, Jonathan Mercer, Samuel Mercer, Wyatt Pangerl, Benjamin Taylor, Samuel Hunt, Aundrea Fuller, Peter Gifford, Jaden Flake, Davi Ferrazza Cavinato, Dylan Christensen, Tyler Stowell, Alex Evans, Connor Van Dyke, Lucas Stoddard, Sable Saunders, Christopher Gibby, Shayla Hendricks, Christian Lauter, Jarett Pittman, Drystan Nielsen, Emily Madsen, Anexandra Williams, Benjamin Brandt, Bryce Whitworth (GoPro team), Dayton Page (GoPro team), Isaac Dillman, Seth Grayson, Brenda Rios, Garrett Graham, Daniel Taylor (recorded video), Shadrick O'Brien, Josh Bingham, Joshua Gleim, Aubrey Barzee, Paige Landers, Conner Taylor, Ian Roman, Jacob Foote, Spencer Martin, Kiahna Smith, Hannah Townsend, Kira Coleman, Jordan Johnston, Gunner Myers, Sean Evans, and Zachary Ringel.. Biology 220: Dallin Walters, Johanna Lockett, Janae Harer, Chris Baldwin, Austin Prycek, Tyler Ashton (sponge), Ammon Christensen, Carter Paxton, Mia Ohki, Natalie Hepworth, Abigail Cordon, Rachel Colbus (sponge flipper), Lauren Bauer (sponge flipper), Abigail Daniel (sponge flipper), Hanna Hayes (sponge flipper), Morgan Dailey, Grace Peeler, Spencer Crosby Blatter, McRae Bird, Abby Robison, Ellie Cressman, Samantha Rowberry, Trey Ramsay, Eva Simpson, Jacob Munn, Kayleen Barnette, Gloria Guzman, Ella Griffiden, Keeley Madsen, and Mairi Ashton. others: Riley Nelson, Mark Hutchings, Sam Hutchings, Anna Eichert, Lauryn Crabtree, Anne Monson, Veronica Mosquera, Teagan Mulford. 110 iphone photos: scenery & people, First 25s, First Diversities. Air temperature 9 degrees C, water temperature 5 degrees C. Velocity

takers: Isaac Dillman, Spencer Dillman, and Seth Grayson. Velocity, raw, seconds per 10 m: 12.14, 10.39, 10.12, 9.89, 10.3, 11.34, 10.69, 9.78, 10.16, 10.69 = average 10.55 sec per 10 m, = 0.95 m/sec. Site photos also taken 9 January 2022. 93 total participants, a record! Hydropsychidae, Baetidae, snails, flatworms, sculpin, more. 13245

13247 USA: UTAH: Davis Co., Great Salt Lake, Antelope Island, causeway, N 41.06606 W 112.23139 1280 m, 08-Jan-2022 C. R. Nelson & family 13247 Riley, Kaye, Wolf, Leah, Andrea, and Jordan. 110 iphone Skipped 13246! Photos: scenery photos: common goldeneye ducks, northern shoveler ducks. 13247

13248 USA: UTAH: Davis Co., Great Salt Lake, Antelope Island, Ladyfinger Points, N 41.05967 W 112.25240 1291 m, 08-Jan-2022 C. R. Nelson & family 13248 Riley, Kaye, Wolf, Leah, Andrea, and Jordan. 110 iphone photos: scenery, sunset, and people. 13248

13249 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 16-Jan-2022 C. R. Nelson 13249 110 iphone photos: convict cichlids with eggs, jewelfish. More on 18 January 2022. More on 23 January 2022 and of gold fish under ice in my pond. More aquarium shots of jewelfish laying eggs on 1 February 2022. Shots of Activity Day boys on 2 February 2022. 13249

13250 USA: UTAH: Utah Co., Utah Lake, Saratoga Springs, marina and pumping station, N 40.29065 W 111.86900 1369 m, 17-Jan-2022 C. R. Nelson and friend 13250 Limb Kemp Mataute Hapairai 110 iphone photos: scenery, people, pumping station. photos: white bass 13250

13251 USA: UTAH: Utah Co., Utah Lake, Lincoln Beach, warm springs, N 40.14493 W 111.80317 1367 m, 17-Jan-2022 C. R. Nelson and friend 13251 Limb Kemp Mataute Hapairai 110 iphone photos: snow goose 13251

13252 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 18-Jan-2022 C. R. Nelson 13252 110 iphone photos: newly hatched convict cichlid babies. Jewelfish pair layed eggs during the night and the female is attentive. Later: narwal exhibit photographed in Bean Museum. 22 January 2022: photos: cooper's hawk. 13252

13253 USA: UTAH: Utah Co., Utah Lake, airport road, south of Provo Marina N 40.22981 W 111.73490 1371 m, 28-Jan-2022 J. K. and C. R. Nelson 13253 110 iphone Photos: juvenile bald eagle, red tailed hawk, common golden eye duck, Canada goose, mallard ducks, pintail ducks. 13253

13254 USA: UTAH: Utah Co., Utah Lake, Lindon Boat Harbor, N 40.32608 W 111.76453 1370 m, 30-Jan-2022 J. K. and C. R. Nelson & family 13254 Riley, Kaye, Andrea, Amy

Wolfgang, and Leah 110 iphone Photos: birds, scenery, and people. juvenile bald eagle, starlings, adult bald eagle with white bass prey, american wigeon duck, mallard duck, American coot, ring billed gull, northern harrier. 13254

13255 USA: UTAH: Salt Lake Co. Salt Lake City, Utah State Capitol Building N 40.77717 W 111.88738 1382 m, 07-Feb-2022 J. K. and C. R. Nelson & family & friends 13255 Riley, Kaye, Andrea, Jordan, Amy, Wolf, and Leah. 110 iphone meeting of Conserve Utah Valley advocates on steps of capitol. Demonstration for unity for preservation and restoration of Utah Lake in ways other than some ideas of the "Utah Lake Islands" proposals. BYU and other friends: Steve Leavitt, wife and son; Ben & Rachel Abbott and three kids; George Handley; Chip & Linnea Oscarson; Clint & Rachel Whipple; Ryan Stewart & three kids: Russ Rader; John Bennion; Wyatt zzz past student in Biology 100; Abby Robinson current Bio 220 Animal diversity student; Rachel Buck; Katy Knight; Isabella Errigo; Sam St. Clair; Anna Eichert; Anna Monson; many others from Conserve Utah Valley; Byron & Marci Adams; Jerry & wife Johnson. 13255

13255.3 USA: UTAH: Utah Co., Provo, Timp View Drive jct Foothill Drive, N 40.29287 W 64800 1497 m, 11-Feb-2022 C. R. Nelson 13255.3 110 iphone photos: flock of turkeys. 13255.3

13255.6 USA: UTAH: Utah Co., Provo, BYU, Nelson lab, 4118 LSB, N 40.24521 W 111.64896 1403 m, 11-Feb-2022 C. R. Nelson and students 13255.6 Riley Anna Eichert, Amy Dixon. 110 iphone photos: hissing roach on faces. 13253.6

13255.9 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 11-Feb-2022 12-Feb-2022 C. R. Nelson 13255.9 110 iphone Photos: Cyclamen flower. 13255.9

13256 USA: UTAH: Utah Co., American Fork River, Saw Mill and Little Mill Picnic Area, near old site 2, N 40.44776 W 111.68116 1810 m, 12-Feb-2022 C. R. Nelson and students 13256 Riley, Anna Eichert, Danyon Gedris, Jessica Wicks, Ellie Gamett, Daniel Darwin Davis, Lillian Buck, Christine Carruth Frandsen, Paul Bryan Frandsen, Harvey Bryan Frandsen, Wallace Branch Frandsen, Will Warner, Isabella Marie Errigo. 110 iPhone Photos: ice, stream, and people Parapsyche - photos at home 13 Feb 2022; Dipper; Heptageniidae Epeorus photos at home 13 Feb 2022; Ephemerellidae, Baetidae, Capniidae adults, Nemouridae nymphs, Chloroperlidae nymphs, Perlodidae: Isoperla, Skwala; Photos: Chironomidae, Simulium at home 13 Feb 2022. 13256

13257 USA: UTAH: Utah Co., Mount Timpanogos, road/trail between Pine Hollow and Timpooneke Junction, N 40.43895 W 111.63331 2160 m, 12-Feb-2022 C. R. Nelson and students 13257 Riley, Anna Eichert, Danyon Gedris, Jessica Wicks, Ellie Gamett, Daniel

Darwin Davis, Lillian Buck, Christine Carruth Frandsen, Paul Bryan Frandsen, Harvey Bryan Frandsen, Wallace Branch Frandsen, Will Warner, Isabella Marie Errigo. 110 iphone Nemouridae nymphs and Neothremma larvae at Timpooneke crossing; "Sobria Springs": Neothremma larvae, wolf spiders along the way, white fir, Engelmann spruce, Douglas fir, moose droppings & hair. 13257

13258 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 21-Feb-2022 C. R. Nelson 13258 110 Photos: convict cichlids laying eggs. 13258

13259 USA: UTAH: Utah Co., Provo, BYU, Martin Building, N 40.246728 W 111.64923 1419 m, 22-Feb-2022 C. R. Nelson and students 13259 Anna Eichert and others 110 iphone Photos: Anna Eichert and Riley Nelson in hallway celebrating her 22nd birthday on 02-22-2022, is also 20220222. Twosday (Tuesday). Photo later, party pictures at home like CRN 13258, 22 Feb 2022. 13259

13260 USA: UTAH: Utah Co., Provo, BYU, Martin Building, N 40.24673 W 111.64941 1421 m, 22-Feb-2022 C. R. Nelson and students 13260 110 iphone Photos: Ian Ashton eating a mealworm 13260

13261 USA: UTAH: Utah Co., Provo, BYU, Nelson lab, 4118 LSB, N 40.24526 W 111.64898 1405 m, 24-Feb-2022 C. R. Nelson and students 13261 110 iphone Photos tarantula in lab from Lytle Ranch, with Sariah Stockdale. Also looked at her spider, probably Agelenidae. tarantula and dead spider 13261

13262 USA: UTAH: Washington Co., St. George, Dixie State University N 37.10584 W 113.56689 833 m, 25-Feb-2022 C. R. Nelson & P. B. Frandsen & Students 13262 Riley, Paul, Anna Eichart, Danyon Gedris, Ashlyn Powell, Jonas, Naomi, Dr. Clint, & Rachel Whipple. 110 iphone Photos: At meetings of Utah Conference on Undergraduate Research. Photo: DSU engineering student in a lab, with evolution t-shirt named Jason. 13262

13263 USA: UTAH: Washington Co., Boilers Springs Park N 37.13726 W 113.51363 867 m, 25-Feb-2022 C. R. Nelson, P. B. Frandsen & Students 13263 Riley, Paul, Rachel Whipple, Clint Whipple. 110 iphone Photos: Newly cleaned up and civilized park of the Washington Boiler Springs Snails, Melanoides tuberculata; Also tropical fish: Oscar cichlids, Paco, Koi; Another large cichlid, perhaps tilapia. 13263

13264 USA: UTAH: Utah Co., Provo, BYU, Bean Museum parking lot, N 40.25346 W 111.64684 1439 m, 26-Feb-2022 C. R. Nelson, W. W. & L. V. Smith 13264 110 iphone Photos: Kids drawing lions, bears, alligator, hippopotamus, a bird, and a clown. 13264

13265 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive, Kitchen N 40.29324 W 111.64910 1521 m, 26-Feb-2022 J.K. & C.R. Nelson, W.W. & L.V. Smith 13265 110 iphone Photos: People with ice cream. 13265

13266 USA: UTAH: Utah Co., Utah Lake, Vineyard, West end of Center Street N 40.29509 W 111.76193 1373 m, 26-Feb-2022 JK & CR Nelson & family 13266 110 iphone Photos: People and scenery. Seagulls, ducks, northern harrier, sunset, water, ice, Mount Timpanogas (Using Nikon Z7 and iPhone). 13266

13267 USA: UTAH: Utah Co., Provo, BYU, Nelson Office 2119 LSB N 40.2451 W 111.6487 1399 m, 03-Mar-2022 J.K. & C.R. Nelson & L.V. Smith 13267 110 iphone Photos: Riley Nelson lip synching with Mr. T button toy. 13267

13268 USA: UTAH: Salt Lake Co., Draper, Loveland Living Planet Aquarium N 40.53224 W 111.89404 1351 m, 04-Mar-2022 C.R. Nelson & Class 13268 C.R. Nelson and class of 41 students. 110 iphone Photos: Drew and Som Roy with balck pacu; people with megladon jaws; people at stingray touch pool; Carter with shark bag. Photos: moon jellies, Aureus aurita, sea nettle jellies, Chrysaona Spr, Colorado River Pikeminnow, Flannelmouth sucker, salmon pink bird eating tarantula, Lasiodona parahybana, Arapaima gigas, golden poison dart frog, Phyllobatas terribilis, king crab, four-eyed fish, Anableps, lined sea horse, Hippocampus erectus. Common: Anemone with clownfish - Amphiprion ocellaris, several color momphs. Additionally, carpet coral, wolf eel, Pacific giant octopus, spiny lobster, Cassiopeia, upside down jelly, zebra mantis shrimp. 13268

13269 USA: UTAH: Utah Co., Utah Lake, Holdaway Farm, Wakara Way Reserve N 40.28141 W 111.75121 1372 m, 05-Mar-2022 C.R. Nelson & C.J. Whipple 13269 110 iphone Photos: Jake Holdaway describing plan for trails and management of Wakara Way Park. Craig Ellsworth, fish scientist, (first name?) Decot from Virginia. Snails and clams on beach, mallard ducks, Canada geese, bald eagles, great blue herons, American white pelicans, starlings, red winged blackbird, Sandhill Crane dance, killdeer, teal duck, Swainsons. Hawks on power pole. Saw: northern harrier, prairie falcon? 13269

13270 USA: UTAH: Utah Co., Right Fork Hobble Creek, Jolleys Ranch near barn. Megafire site HCS. N 40.16551 W 111.49554 1544 m, 25-Mar-2022 C.R. Nelson, 13270 A.L. Eichart, I.M. Errigo, and M.G. Greenhalgh 110 iphone 2 Megafire aquatic kick samples. Very warm day! Perhaps 70 degrees F. Only snow was dirty plow piles in the parking lot. Photos: Mitchell with Pteronarcys, group shot streamside. Capnia utahensis? or confusa? Zapada cinctipes temale. Mitchell caught: 1 Pteronarcys californica nymph. 13270

13271 USA: UTAH: Utah Co., Left Fork Hobble Creek, Main canyon bridge Jolley Ranch, Megafire site HCN. N 40.16566 W 111.49796 1551 m, 25-Mar-2022 C. R. Nelson 13271 A.L.

Eichart, I.M. Errigo, and M.G. Greenhalgh 110 iPhone 2 megafire aquatic kick samples. Warm day, no snow. On bridge: *Zapada cinctipes*, *Capnia* sp., *Skwala americana* male. Saw: *Rhyacophila* adult, *Dixidae* abundant, *Hexatoma* larva. 13271

13272 USA: UTAH: Utah Co., Locked winter gate 1 mile above Diamond Fork Road, Red Ledges. N 40.07880 W 111.37323 1663 m, 25-Mar-2022 C.R. Nelson + 13270 13272 A.L. Eichart, I.M. Errigo, and M.G. Greenhalgh 110 Our key to get Three Forks didn't work. About 50 cars were parked in the lots along the road here! To Northeast 0.5 miles from Day Fork, 0.75 miles from Three Forks, to West 1.75 miles to Red Ledges picnic area. From Red Ledges to Wanrhodes Creek & Diamond Campground is 1.5 miles. 13272

13273 USA: UTAH: Utah Co., Wanrhodes Creek, jct Diamond Fork Road, Megafire site WAN. N 40.07441 W 111.43035 1591 m, 25-Mar-2022 C.R. Nelson + 13270 13273 A.L. Eichart, I.M. Errigo, and M.G. Greenhalgh 110 2 megafire aquatic kick samples. Photos: *Tipula* in Isabella's nose. *Gyrinidae* - *Gyrinus*. *Dytiscidae*. 13273

13274 USA: UTAH: Utah Co., Diamond Fork River, jct Little Diamond Creek N 40.06746 W 111.43966 1576 m, 25-Mar-2022 C.R. Nelson + 13270 13274 A.L. Eichart, I.M. Errigo, and M.G. Greenhalgh 110 Photos in lab: *Pteronarcys californica* for a genome sequence. 13274

13275 USA: UTAH: Utah Co., Little Diamond Creek, jct Diamond Fork River Megafire site LDF. N 40.06704 W 111.44131 1591 m, 25-Mar-2022 C.R. Nelson 13275 A.L. Eichart, I.M. Errigo, and M.G. Greenhalgh 110 2 Megafire aquatic kick samples. Leech photos on faces of others. CRN only saw from the distance. 13275

13276 USA: UTAH: Utah Co., Benjamin Slough, roadside temporary pool, junction 6400 South Street, South side Megafire site BSL. N 40.11417 W 111.79325 1370 m, 26-Mar-2022 C.R. Nelson, L.V. and W.W. Smith 13276 110 Photos: site and people. Photos in lab: genus *Daphnia* ostracods swimming? Saw *Gambusia affinis* in Benjamin Slough, *Dytiscidae*, weed?, chorus frogs, Canada geese, sandhill cranes, cinnamon teal?, Northern shoveler, Northern harrier. 13276

13277 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m, 09-Apr-2022 J.K. & C.R. Nelson & family 13277 Riley, Kaye, Andrea, Jordan, Amy, Wolf, and Leah. 110 Kite flying. Photos: *Scarabaeidae*, *Paracotalpa granicollis* 13277

13278 USA: UTAH: Utah Co., Provo, BYU Nelson Lab, 4118 LSB N 40.245293 W 111.64917 1407 m, 11-Apr-2022 C.R. Nelson 13278 110

13279 USA: UTAH: Utah Co., Provo, Edgemont, corral 5082 North Canyon Road N 40.30104 W 111.65332 1481 m, 13-Apr-2022 C.R. Nelson, Jeff Nichols and primary boys. 13279 110 Photo: Activity Day boys wiyh Jeff Nichol's horses. 13279

13280 USA: UTAH: Utah Co., Provo, East Lawn Cemetery N 40.29745 W 111.64720 1548 m, 14-Apr-2022 C.R. Nelson 13280 110 Photos: Great Horned Owl 13280

13281 USA: UTAH: Utah Co., Orem, Chocolate Café N 40.29335 W 111.69382 1461 m, 01-Apr-2022 C.R. Nelson & Student Friends 13281 110 Photo: People from INHUT5 2016: John Bennion, Brian Cannon, Megan Clarine, Brinnley Ashton & Alex, Max Barnes, Joshua Dodge & Caitlin, Liz Kujapaa & Micah, Ashley Lundquist, Teagan Mulford, Maya Rupard & James, Bethany Yang 13281

13282 USA: UTAH: Garfield Co., Bryce Canyon National Park, Sunset Overlook N 37.62263 W 112.16660 2436 m, 27-Apr-2022 J.K. & C.R. Nelson 13282 110 Photos: view from the rim. 13282

13283 USA: UTAH: Coconino Co., Kaibab Plateau, LeFevre Scenic Overlook N 36.83064 W 112.25464 2085 m, 27-Apr-2022 J.K. & C.R. Nelson 13283 110 Photos: long view Grand Staircase 13283

13284 USA: UTAH: Coconino Co., House Rock Valley Road 1065, California Condor Viewing Area N 36.77106 W 112.05643 1667 m, 28-Apr-2022 J.K. & C.R. Nelson 13284 110 Photos: 7 condors perched on cliffs 13284

13285 USA: UTAH: Coconino Co., Colorado River, Navajo Bridge Hwy 89A, near Marble Canyon. N 36.81794 W 111.63154 1085 m, 28-Apr-2022 J.K. & C.R. Nelson 13285 110 Photos: another 7 California condors. 13285

13286 USA: UTAH: Maricopa Co., Phoenix 2520 West Columbine Drive, Nelson home. N 33.59900 W 112.11366 392 m, 28-Apr-2022 01-May-2022 J.K. & C.R. Nelson 13286 110 Photos: family 13286

13287 USA: ARIZONA: Mariposa Co. Phoenix, Margaret T. Hance Park N 33.46178 W 112.07616 326 m, 29-Apr-2022 JK and CR Nelson, JR, BD, AV, and AJ Nelson 13287 110 iphone Photos: people and playground animal sculptures 13287

13288 USA: ARIZONA: Mariposa Co., Phoenix, Desert Botanical Garden N 33.46110 W 111.94621 393 m., 30-Apr-2022 JK and CR Nelson 13288 110 iphone photos: butterflies, people, cactus, boojum, Hesperaloe, hummingbird, starling feed baby in Mexican cardon cactus, Gambels Quail, whiptail lizard. 13288

13289 USA: ARIZONA: Mohave Co., Littlefield, Desert Springs Little Jamaica N 36.89358 W 113.92164 572 m., 01-May-2022 JK and CR Nelson 13289 110 iphone Photos: bridge construction over Virgin River is disturbing Little Jamaica 13289

13290 USA: UTAH: Iron Co., I-15 Lunt Park Rest area north, N 37.9801 W 112.73567 1762 m., 02-May-2022 JK and CR Nelson 13290 110 iphone Photos: views to Tushar Mountains to the northeast views to Brian Head to the southeast 13290

13291 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, backyard pond N 40.29308 W 111.64907 1497 m, 03-May-2022 CR Nelson 13291 111 iphone Photos: Leah Smith pouring water into pond 13291

13292 USA: UTAH: Utah Co., Orem, Utah Valley University Clark Building N 40.28146 W 111.71809 1431 m, 03-May-2022 JK and CR Nelson 13292 111 iphone Photos: Utah Lake Summit 2 with Conserve Utah Valley 13292

13293 USA: UTAH: Utah Co., Provo, Utah Valley Hospital, N 40.24782 W 111.66616 1401 m, 04-May-2022 JK and CR Nelson 13293 111 iphone Photos: by nurse Nate Smithson of Riley Nelson getting a steroid epidural injection between lumbar 5 and sacral vertebrae 13293

13294 USA: UTAH: Utah Co., Utah Lake, Saratoga Hot Springs Inlet Park N 40.35273 W 111.89971 1366 m, 05-May-2022 JK and CR Nelson and family 13294 Riley, Kaye, Andrea Nelson, Todd, Amy, Leah, and Wolf Smith 111 iphone Photos: Amy Smith's 36th birthday party. Photos: scenery, killdeer, Franklin gulls, ring billed gulls, Caspian tern. Saw birds: grackle, brewers blackbird, Red winged blackbird, yellow headed blackbird, yellow rumped warbler, killdeer, flock small shorebirds, black necked stilt, ring necked pheasant, western kingbird, bullocks oriole, American white pelican, mallard duck, white faced ibis, American Kestrel, red tailed hawk, Franklins gull, California ring billed gull, caspian tern, clarks grebe, western gree, lesser scaup?, cinnamon teal, sandhill cranes, barn swallow, tree swallow, california quail, robin 13294

13295 USA: UTAH: Utah Co., Provo, Slate Canyon mouth N 40.22385 W 111.62565 1493 m, 07-May-2022 JK and CR Nelson and friends 13295 111 iphone Photos: Slate Canyon Earth Day with Kristina Davis the main organizer, Insect tours with help from Anna Eichert. Nice selfie group shot with Ben Abbott, Mary Murdock Meyers, and others. 13295

13296 USA: UTAH: Utah Co., Provo, BYU, view to south from Life Science Building N 40.24483 W 111.64983 1416 m, 12-May-2022 CR Nelson 13296 111 iphone Photos: panoramas of mountains of southern Utah County 13296

13297 USA: UTAH: Utah Co., Ironton Hill, between Provo and Springville (2 stops) N 40.19494 W 111.61519 1406 m, 12-May-2022 CR Nelson, 13297 A.L. Eicherrt, Jonas Bush 111 iphone Photos: south mountains of Utah County in snow. 13297

13298 USA: UTAH: Sanpete Co., Thistle Creek above Indianola N 39.8113 W 111.4574 1887 m, 12-May-2022 CR Nelson, 13298 Anna Laurie Eichert, Jonas Bush 111 iphone Photos: site and people, time lapse of sampling, benthic samples for Megafire Project. Photos: dogs and people, closer to Indianola. Photos: hawks in roadside trees, closer to Indianola 13298

13299 USA: UTAH: Utah Co., Nebo Creek, Mitchell Ranch, o.2 miles southeast Hwy 89 N 39.89022 W 111.55267 1696 m, 12-May-2022 CR Nelson, 13299 A.L. Eichert, Jonas Bush 111 iphone Photos: site and people, benthic sample for Megafire project timelapse of samplings 13299

13300 USA: UTAH: Utah Co., Blind Creek, Hwy 89 bridge, 2 miles north of Birdseye N 39.94837 W 111.53660 1625 m, 12-May-2022 CR Nelson, 13300 A.L. Eichert, Jonas Bush 111 iphone Photos: site and people, benthic sample for Megafire Project. Photos: burnt trees, four years later wall flower 13300

13301 USA: UTAH: Utah Co., Peteetneet Creek, Road 015 first hairpin curve south of Camp Maple Dell N 39.9691 W 111.6933 1731 m, 12-May-2022 CR Nelson, 13301 A.L. Eichert, Elizabeth Ann Cressman 111 iphone Photos: site and people. Benthic sample for Megafire Project time lapse sampling 13301

13302 USA: UTAH: Utah Co., South Fork Hobble Creek, Jolleys Ranch near white barn N 40.16541 W 111.49558 1551 m, 12-May-2022 CR Nelson, 13302 A.L. Eichert, E.R. Cressman; Paul B. Frandsen, I.M. Errigo 111 iphone Photos: site and people benthic sample for Megafire Project, time lapse sampling. Photos in lab 13 May 2022: Prostoia besametsa adult, Xylota? Syrphidae, Photos: Simuliidae in stream - local 13302

13303 USA: UTAH: Utah Co., North Fork Hobble Creek, bridge in Jolley's Park N 40.1655 W 111.498 1563 m, 12-May-2022 CR Nelson, 13303 A.L. Eichert, E.A. Cressman, P.B. Frandsen, Isabella Marie Errigo 111 iphone Photos: site and people. Photos: Trichoptera - 2 large adults on bridge. Photos: In lab 13 May 2022 Periodidae. Isoparla adults on bridge, large, Skwala, fresh dead on bridge. 13303

13304 USA: UTAH: Utah Co., Clear Creek, Skyline Drive, 0.1 mile west of Hwy 6, N 39.93585 W 111.20091 1896 m, 12-May-2022 CR Nelson, 13304 A.L. Eichert, E.A. Cressmann 111 iphone Photos: site and people, benthic sample for Megafire 13304

13305 USA: UTAH: Utah Co., Tie Fork Creek, 0.5 miles, Northeast of Tie Fork Rest Area of Hwy 6 N 39.95772 W 111.21232 1893 m, 12-May-2022 CR Nelson, 13305 A.L. Eichert, E.A. Cressman 111 iphone Photos: site and people Arctopsyche in net and rocky retreat 13305

13306 USA: UTAH: Utah Co., Sheep Creek, Hwy 6, 0.25 mi North of business buildings N 39.97718 W 111.33738 1743 m, 12-May-2022 CR Nelson, 13306 A.L. Eichert, E.A. Cressman 111 iphone Water above diversion into pond. Photos: site and people. 13306

13307 USA: UTAH: Utah Co., Lake Fork Creek, 1.9 miles south east of Hwy 89 on Lake Fork Road N 39.98246 W 111.47336 1586 m, 12-May-2022 Cr Nelson, 13307 A.L. Eichert, Ellie A. Cressman 111 iphone Photos: site and people, benthic sample for Megafire 13307

13308 USA: UTAH: Utah Co., Sixth Water at Three Forks Trailhead N 40.08408 W 111.35481 1683 m, 12-May-2022 CR Nelson, 13308 A.L. Eichert, and Ellie Cressman 111 iphone Photos: site and people, benthic samples for Megafire timelapse of sample gathering. Photos in lab 13 May 2022: Muscidae? Adults, Pteronarcys, Isogenoides, Atherix, Drunella grandis. 13308

13309 USA: UTAH: Utah Co., Cottonwood Creek jct Sixth Water, at Three Forks Trailhead N 40.08427 W 111.35527 1690 m, 12-May-2022 CR Nelson, 13309 A.L. Eichert, Ellie Cressman 111 iphone Photos: site and people, benthic sample for Megafire. Photos: joining streams Cottonwood Creek muddier 13309

13310 USA: UTAH: Utah Co., Diamond Fork River jct Sixth Water, Three Forks Trailhead N 40.08453 W 111.35534 1686 m 12-May-2022 CR Nelson, 13310 A.L. Eichert, Ellie Cressman 111 iphone Photos: site and people 13310

13311 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m, 13-May-2022 14-May-2022 JK and CR Nelson, 13311 WW and LV Smith 111 iphone Connected culinary hose from spring to underground storage vault. Rate was 16 seconds to fill a 12 ounce soda can, = 0.75 02/sec, 0.8 02/sec = 22.5 gallons/hour. Photos: Wolf led me on a walk up Wheeler Sawmill Creek from the driveway to the tank pipe and back. A mega adventure. Photos: Then I made monofilament lizard loop on a plum stick and caught six sagebrush lizards! 13311

13312 USA: UTAH: Utah Co., Provo, BYU, M.L. Bean Museum N 40.25356 W 111.6473 1438 m, 13-May-2022 CR Nelson 13312 111 iphone Photos: Harry Barber, Richard Baumann, Shawn Clark, Riley Nelson 13312

13313 USA: UTAH to MICHIGAN airline flight 15-May-2022 CR Nelson 13313 111 iphone Photos: scenery from air. All Nikon Z7 photos taken on this trip, through return to Utah on

29 May 2022 are clocked incorrectly to Mountain Daylight Time, so those photos from Grand Rapids, Michigan were on Eastern Daylight time, but recorded as two hours earlier on digital photos. Photos in Massachusetts, New Hampshire, Vermont, and New York and Ontario, Canada were all EDT as well. Check time zone for those in Indiana, Illinois, and Missouri were CDT (Central Daylight Time). 13313

13314 USA: MICHIGAN: Kent Co., Grand Rapids, downtown Grand River, DeVos Place N 42.96786 W 85.67430 186 m 15-May-2022 20-May-2022 CR Nelson, 13314 JK Nelson (18 May-20 May 2022) 111 16 May 2022 - Photos: Isabella Errigo eDNA talk other talks 18 May 2020 Photos: talks Tina Mendez and Will Bovehard, lampreys on people. 16 May 2022 Photos: Sea lampreys in exhibit at Joint Aquatic Sciences Meeting Hydropsychidae on walls then outside with Nikon. 3 species? Neunduridae. Photos: Hydropsychidae, 3 species? Scenery, fish ladders - lamprey (N 42.97428 W 85.67568 elevation: 186 m). 17 May 2022, Photos: posters, Will Bovehard - Chironomidae, Mark Wentzel - Oligochaeta, River walk - lampreys in trap, people with lampreys. 13314

13315 USA: MICHIGAN to MASSACHUSETTS: Delta Airline Flight 20-May-2022 JK and CR Nelson 13315 111 Photos: Lake Erie and Finger Lakes of New York from air 13315

13316 USA: MASSACHUSETTS: Suffolk Co., Boston, old pier south of bay with Logan Airport to north N 42.34811 W 71.02720 4 m, 20-May-2022 JK and CR Nelson 13316 JM and DB Parker, Jera Lee, David Benjamin 111 Photos: USS Constitution, scenery Photos: kept some marine mussel shells 13316

13317 USA: MASSACHUSETTS: Suffolk Co., Boston, south piers area, Yankee Lobster Company Restaurant N 42.34770 W 71.03612 4 m, 20-May-2022 JK and CR Nelson 13317 JM and DB Parker 111 Photos: lobster, chowder, shrimp, and fish lunch 13317

13318 USA: MASSACHUSETTS: Middlesex Co., Walden Pond, near Concord N 42.44121 W 71.34180 48 m, 20-May-2022 JK and CR Nelson 13318 JM and DB Parker 111 Also drove around Harvard University in Cambridge. Photos: scenery, restored cabin of Henry David Thoreau cabin spot of Thoreau, Walden Pond, marshy pond. Bought Amanda Gorman's 2020 Presidential Inauguration poem as a book. Photos: Leptoceridae - Mystacides very good, Sialidae Sialis, very good 13318

13319 USA: NEW HAMPSHIRE: Sullivan Co., Claremont N 43.44507 W 72.49083 425 m, 20-May-2022 21-May-2022 JK and CR Nelson 13319 JL and DB Parker 111 JL and DB Parker stayed night at Claremont Motor Lodge 13319

13320 USA: VERMONT: Windsor Co., Quechee Gorge near Quechee N 43.63735 W 72.40858 191 m, 21-May-2022 JK and CR Nelson 13320 JM, DB Parker 111 Photos: view of gorge from highway Magnolia Warbler? Photos: plants with Seek app, Plethodontidae

salamander. Jack in Pulpit plant, fringed polygala, lichen, blue, Tipulidae, slug, Gorge.
13320

13321 USA: VERMONT: Windsor Co., Sugarbush Farms Maple Syrup park N 43.66457 W 72.46772 326 m, 21-May-2022 JK, CR Nelson 13321 JM, DB Parker 111 Photos: scenery
13321

13322 USA: VERMONT: Windsor Co., Sharon, Joseph Smith birthplace N 43.82373 W 72.47239 369 m, 21-May-2022 JK, CR Nelson 13322 JL, DB Parker 111 Photos: Joseph Smith Monument Obelisk. Saw Chloroperlidae at fork of white Creek at Solomon Mack house site. Stratiomyidae? Lampyridae 13322

13323 USA: NEW YORK: Wayne Co., Palmyra, Best Western Motel N 43.04386 W 77.23290 159 m, 21-May-2022 22-May-2022 JK and CR Nelson 13323 JM and DB Parker 111 Google Earth 21 May 2022: Photos: on arrival at midnight, Corydalidae - small Neohermes? 22 May 2022: Photos: sun through trees, lilacs. 13323

13324 USA: NEW YORK: Wayne Co., Palmyra, south of town Smith Home and Sacred Grove N 43.03894 W 77.24529 162 m, 22-May-2022 JK and CR Nelson 13324 JM and DB Parker 111 Photos: in log home, in frame home, Sacred Grove trails Rain! Palmyra Temple, May apples. Photos: millipede 13324

13325 USA: NEW YORK: Wayne Co., Palmyra, Erie Canal N 43.06708 W 77.22929 133 m, 22-May-2022 JK and CR Nelson 13325 JM and DB Parker 111 Photos: Erie Canal, Zebra mussels on chair Photos: Canada Geese 13325

13326 USA: NEW YORK: Wayne Co., Palmyra, EB Grandin Print Shop N 43.06374 W 77.23063 146 m, 22-May-2022 JK and CR Nelson 13326 JM and DB Parker 111 Photos: Book of Mormon print operations, Art of restoration 13326

13327 USA: NEW YORK: Manchester Co., Whitmer Farm, organization site of 1830 of Church of Jesus Christ of Latter-day Saints N 42.86592 W 76.86977 166 m, 22-May-2022 JK and CR Nelson 13327 JM and DB Parker 111 Photos: scenery 13327

13328 USA: NEW YORK: Niagara Co., Niagara River, Niagara Falls, Niagara Falls City N 43.07968 W 79.07635 102 m, 23-May-2022 JK and CR Nelson 13328 JM and DB Parker 111 Photos: scenery and people. Maid of the Mist boat ride. 13328

13329 CANADA: ONTARIO: Niagara Region., Niagara River, Niagara Falls, Niagara Falls City N 43.07887 W 79.07816 178 m, 23-May-2022 JK and CR Nelson 13329 JM and DB Parker 111 Photos: scenery and people, Tim Horton's donuts 13329

13330 CANADA: ONTARIO: Niagara Region., Lake Ontario, Niagara on the lake N 43.26055 W 79.09500 76 m, 23-May-2022 JK and CR Nelson 13330 JM and DB Parker 111 Photos: Lake Ontario view to Toronto?, scenery and people. Pebbles. 13330

13331 USA: NEW YORK: Genesee Co., Batavia, Pokadot Diner N 42.99343 W 78.18057 269 m, 23-May-2022 JK and CR Nelson 13331 JM and DB Parker 111 Photos: dinner, Kimmel Weck roll and roast beef 13331

13332 USA: NEW YORK: Wayne Co., Sacred Grove, Palmyra N 43.03894 W 77.24529 162 m, 24-May-2022 JK and CR Nelson 13332 JM and DB Parker 111 Photos: sunlight through trees in the early morning - 9:00 am. Watercolor of one spot. 13332

13333 USA: NEW YORK: Wayne Co., Palmyra LDS Temple, Palmyra N 43.03932 W 77.23733 176 m, 24-May-2022 JK and CR Nelson 13333 JM and DB Parker 111 Photos: scenery, people, after Temple endowment session, I was proxy for Neils Hanson Løyet, born 1680, my 5th great grandfather from Femo, Fulgse, Maribo, Denmark 13333

13334 USA: NEW YORK: Wayne Co., Hill Cumorah Visitor Center, 4 miles south of Palmyra N 43.00651 W 77.22441 211 m, 24-May-2022 JK and CR Nelson 13334 JM and DB Parker 111 Photos: scenery and people including below them on top of hill (CPS) at monument. Workers removing props of Hill Cumorah Pageant and restoring more natural restoring more natural vegetation and limiting pathways. Spoke at length with missionaries Elder and Sister Nelson from Hyde Park, Utah. They lived for 10 years in Mantua, Utah and are my relatives, somehow on both Nelson and Halling lines. They knew Eta Halling, Rosetta and Bill Goulding, and of Ole P. Nelson, Not Winston P. Nelson. 13334

13335 USA: NEW YORK: Monroe Co., Rochester, George Eastman Museum N 43.15245 W 77.58072 154 m, 24-May-2022 JK and CR Nelson 13335 JM and DB Parker 111 Photos: scenery and people, Museum of photography, Gallery of photography, Mansion of Eastman full of his furnishing of early 1900s. Gardens. Later I found a 3 gallon bucket in a recycling bin on the streets of Rochester in a seedier part of town. I'll use it for fossil at Mazon Creek, Illinois, probably tomorrow. 13335

13336 USA: OHIO: Ashtabula Co., I-90, 1 mile south of Kingsville N 41.88216 W 80.66431 238 m, 24-May-2022 JK and CR Nelson 13336 JM and DB Parker 111 Photos: sunset 13336

13337 USA: OHIO: Lake Co., Lake Erie, Fairport Harbor, Fairport Harbor, Lakefront Park N 41.75851 W 81.27051 175 m, 25-May-2022 JK and CR Nelson 13337 JM and DB Parker 111 Photos: Lake Erie 13337

13338 USA: OHIO: Lake Co., Kirtland, Kirtland Visitors Center, Church of Jesus Christ of Latter-day Saints N 41.62867 W 81.36066 200 m, ? 25-May-2022 JK and CR Nelson 13338 JM and DB Parker 111 Google Earth Photos: Newaell K. Whitney store, School of the Prophets Ashery. Whitney Store - N 41.62914 W 81.36143 elevation 204 m 13338

13339 USA: OHIO: Lake Co., Kirtland, Kirtland Temple, Community of Christ Visitors Center N 41.62507 W 81.36189 234 m, 25-May-2022 JK and CR Nelson 13339 JM and DB Parker 111 Photos: Kirtland Temple, flowers. Bought a Kirtland Temple pin Replica Book of Mormon First Edition 13339

13340 USA: INDIANA: LaGrange Co., Howe, Howe Restaurant N 41.72023 W 85.42580 271 m, 25-May-2022 JK and CR Nelson 13340 JM and DB Parker 111 Photos: dinner and speaking with Angelo Tsitsos, Greek owner of restaurant, 28 years in Chicago then 21 years in Howe. Liver and onions, cherry pie, baklava. Saw "Amish" with carriages at the restaurant. 13340

13341 USA: INDIANA: Porter Co., Portage N 41.58320 W 87.18215 192 m, 25-May-2022 26-May-2022 JK and CR Nelson 13341 JM and DB Parker 111 Spent night in Baymont Inn and Suites. 13341

13342 USA: ILLINOIS: Grundy Co., Mazonia - Braidwood, State Fish and Wildlife Area, South Unit fossil sites 3 and 4, GPS is Site 4, N 41.19288 W 88.21439 181 m, 26-May-2022 JK and CR Nelson 13342 JM and DB Parker 111 Photos: scenery, searched for nodules in coal mine tailings for Carboniferous fossils, All spots I found were overgrown with grass and brush. Site 3: parking lot: N 41.18743 W 88.22482 elevation 177 m Photos: ticks abundant, photographed at home afternoon 29 May 2022, found and photographed a small one on my ankle 29 May 2022, dug out mouthparts in vial. 13342

13343 USA: ILLINOIS: Tazewell Co., Cornfields near Morton N 40.62137 W 89.42675 233 m, 26-May-2022 JK and CR Nelson 13343 JM and DB Parker 111 Photos: cornfields, new corn four inches high 13343

13344 USA: ILLINOIS: Peoria Co., Hanna City, Water tower N 40.69394 W 89.74899 228 m, 26-May-2022 JK and CR Nelson 13344 JM and DB Parker 111 Photos: water tower in storm clouds 13344

13345 USA: ILLINOIS: Hancock Co., Nauvoo, cornfields near our lodging at Nauvoo Condos and Villas N 40.54767 W 91.32705 206 m, 25-May-2022 28-May-2022 JK and CR Nelson 13345 JM and DB Parker 111 Photos: corn. 28 May 2022: Photos: birds behind condo, cardinals, red headed woodpeckers, indigo bunting, house finch, cat bird, red winged blackbird 13345

13346 USA: ILLINOIS: Hancock Co., Nauvoo, Nauvoo Temple N 40.55001 W 91.38411 200 m, 25-May-2022 JK and CR Nelson 13346 JM and DB Parker 111 Photos: people, 26 May 2022, Temple afternoon and evening. 27 May 2022. 13346

13347 USA: ILLINOIS: Hancock Co., Nauvoo, lower terrace N 40.54329 W 91.39719 165 m, 26-May-2022 28-May-2022 JK and CR Nelson 13347 JM and DB Parker 111 Photos: view up to temple. 28 May 2022, Womens Garden. N 40.55318 W 91.38982 elevation 175 m 28 May 2022: Photos: white breasted nuthatch 13347

13348 USA: ILLINOIS: Hancock Co., Mississippi River, Nauvoo, end of Parley Street N 40.54286 W 91.40121 162 m, 26-May-2022 JK and CR Nelson 13348 JM and DB Parker 111 Photos: river at sunset, panoramas 13348

13349 USA: ILLINOIS: Hancock Co., Nauvoo, downtown N 40.54991 W 91.38287 200 m, 27-May-2022 JK and CR Nelson 13349 111 Photos: Tipulide voucher in 100% 13349

13350 USA: ILLINOIS: Hancock Co., Carthage, historic jail N 40.41521 W 91.13920 207 m, 28-May-2022 JK and CR Nelson 13350 JM and DB Parker 111 Photos: bullet hole in door, killed Hyrum Smith in 1844, jail, window, well. Death place of Joseph and Hyrum Smith 27 June 1844 13350

13351 USA: MISSOURI: Marion Co., Hannibal, Mississippi River, N 39.71273 W 91.35527 141 m, 28-May-2022 JK and CR Nelson 13351 JM and DB Parker 111 Photos: Mississippi River and boats Photos: cardinal 13351

13352 USA: MISSOURI: Saint Louis Co., Saint Louis, Gateway Arch Park N 38.62538 W 90.18473 137 m, 28-May-2022 JK and CR Nelson 13352 JM and DB Parker 111 Photos: scenery, 630 ft. stainless steel arch rode elevator to top of arch. Elevation 1088 ft= 332 m. Photos: scenery. 28-29 May 2022 spent night at Pear Tree Inn, near St. Louis Airport 13352

13353 USA: MISSOURI: St. Louis Co., Saint Louis to Salt Lake City, Utah Delta Airline flight 29-May-2022 JK and CR Nelson 13353 111 Photos: take off 6:46 am CDT, Missouri River, Kaye sleeping, Pikes Peak, more Colorado Mountains, Clouds start near Utah border, views Salt Lake Valley, Copper Mine Magna. Touch down 8:29 am MDT. Taxiing 8:32 am MDT. Andrea arrives 8:40 am MDT. 13353

13354 USA: UTAH: Utah Co., Orem, 75 North 850 West, Smith home N 40.29881 W 111.71645 1445 m, 02-Jun-2022 JK and CR Nelson 13354 111 Photos: Birthday Party for 2 June, Todd Smith, Wolfgang Smith, Leah Smith. Riley Nelson, Kaye Nelson, Amy Smith, Todd Smith, Wolf Smith, Leah Smith, Debby Smith, Lyman Moulton, Andrea Nelson. 13354

13355 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Driver N 40.29343 W 111.6492 1495 m, 03-Jun-2022 10-Jun-2022 JK and CR Nelson 13355 111 8 June 2022 added treehouse floor. 10 June 2022 goodbye tree house. 13355

13356 USA: UTAH Utah Co., Provo River, Provo, Lakeshore Drive bridge N 40.23868 W 111.71195 1375 m, 04-Jun-2022 CR Nelson 13356 111 Photos: I saw a couple dozen pairs. Photos: June suckers spawning 13356

13357 USA: UTAH: Utah Co., Provo, BYU, west side Life Science Building N 40.24520 W 111.64993 1404 m, 06-Jun-2022 JK and CR Nelson 13357 111 pizza party at Botany Pond. Ducks but no turtles. Riley, Kaye, Artemis, Astrid, Wolf, Leah. Photos/Videos: pavement ants 13357

13358 USA: UTAH: Salt Lake Co., Salt Lake City, Liberty Park, Tracy Aviary N 40.74238 W 111.87533 1297 m, 08-Jun-2022 JK and CR Nelson 13358 111 Photos: people and Pensive Leah drawing flamingos Riley, Kaye, Artemis, Astrid, Jason, Brandy, Andrea. Photos: birds, carp, Andy N. Condor, Crested crane, Wasatch Penstemon, Chilean flamingo, Seriema, Troupial, Osage orange, Peacock, Scarlet ibis, King vulture, columbine, long eared owl, roseate spoonbill, American white pelican. Mock orange, ruddy duck asleep on water. 13358

13359 USA: UTAH: Davis Co., Farmington, Lagoon Amusement Park, N 40.98445 W 111.89335 1301 m, 09-Jun-2022 JK and CR Nelson 13359 111 Photos: people and rides, Bombora, Log flume, Rattlesnake Rapids, Howling Wolves, Tidal Wave, Train, bumper cars, odessey, tea cups, scrambler, ferris wheel, wicked, spider, swings. Riley, Kaye, Jason, Brandy, Artemis, Astrid, Amy, Wolfgang, Leah, Andrea, Jordan. Chicken tenders dinner, Helicopters. Photos: Bactrian camel 13359

13360 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 10-Jun-2022 11-Jun-2022 JK and CR Nelson and family 13360 111 Photos: moon over trees, cabin in dark, reflection of moon. Photos: dissecting female sagebrush lizard that was squished, cicada emerging at dusk. 11 Jun 2022: Two cicada species small Asilidae 13360

13361 USA: NEW JERSEY: Burlington Co., Hwy 563 at mile milestone 33 Pine Island Cranberry Company 6.5 mile south of Chatsworth N 39.72508 W 74.53645 19 m 13-Jun-2022 CR Nelson 13361 and T. Mulford 111 Photos: scenery. Drove north some and photographed Ocean Spray warehouse/factory/packing. Riley in photos with gate and rental car. Photos: turtle in road, 2 colors of water lily, yellow Nuphar and white? Saw Odonata, Chrysops not collected. 13361

13362 USA: NEW JERSEY: Burlington Co., Franklin Parker Preserve, Chatsworth Lake Entrance, 0.75 miles south west of Chatsworth N 39.81418 W 74.54760 36 m 13-Jun-2022 CR Nelson 13362 and T Mulford 111 Photos: small sandy trail to left of parking lot, gate ahead "No public vehicle access" Photos: skins of *Proctacanthus brevipennis* adult. Photos evening: *P. brevipennis*, *P. philadelphia*? No! *rufus* or *hinei*! *Bombyliidae*, *cicindelidae*, *Townsendia*, *Leptogaster*, *Holopogon*. 13362

13363 USA: NEW JERSEY: Burlington Co., Pine Barrens, Franklin Parker Preserve, old airfield, 1 mile south west of Chatsworth N 39.80670 W 74.54445 31 m 14-Jun-2022 CR Nelson 13363 and T. Mulford and North American Dipterists Society 111 Photos: scenery, people. Photos: painted turtle at Speedwell Gate. *Proctacanthus brevipennis*, *Leptogaster*, *Cicindelidae*, *Mycetophilidae*. Photos: ant lion *Mycetophilidae* adult to Steve. Toad. Photos in room: *Proctacanthus nigriventris*! Photos at home 19 June 2022: Lonestar ticks, 2 small nymphs and one engorged larger removed from CRN on 19 June 2022. 13363

13364 USA: NEW JERSEY: Ocean Co., Waretown, Lighthouse Center for Natural Resource N 39.77485 W 74.19461 2 m 13-Jun-2022 18-Jun-2022 CR Nelson, 13364 T. Mulford and North American Dipterists Society 111 Photos: people. 14 June 2022: Photos: walk to Barnegat Bay, scenery, full moon rise talking with Greg Dahlem, Chris Maier, Steve Bullington. Photo voucher morning 16 June 2022. 14 June 2022: Photos: heron, terns. 15 June 2022: *Machimus* small asilid,? In malaise trap of Greg Dahlem. 17 June 2022: Photos: eastern box turtle, then estuary turtle. *Elateridae*, large eyed elater. 13364

13365 USA: NEW JERSEY: Burlington Co., Evert Preserve, Onga's Hat Road N 39.92611 W 74.65824 14 m 15-Jun-2022 CR Nelson 13365 and T. Muford plus many NADS people 111 Photos: stonefly tattoo of Maddie Worth. Nice French talk with Solange from Rwanda. Photos: *Passalidae*, *Corydalidae*-*Chauliodes*, *Lycidae*, people, Luna moth. Photos in morning of 16 June 2022: *Laphria*. 13365

13366 USA: NEW JERSEY: Ocean Co., Lakehurst, Naval Station N 40.02617 W 74.30901 28 m 15-Jun-2022 CR Nelson, 13366 Bill Murphy, Allen Norrbom, Kate Lindsay, Brittany Wingert 111 Photos: scenery 13366

13367 USA: NEW JERSEY: Ocean Co., Atlantic Ocean, Island Beach State Park, Swimming Area N 39.85668 W 74.08461 6 m 15-Jun-2022 CR Nelson 13367 Bill Murphy, Allen Norrbom, Kate Lindsay, Brittany Wingert 111 Photos: people and scenery Photos: waves mole crabs, poison ivy, herring gull, saw cat birds galore 13367

13368 USA: NEW JERSEY: Ocean Co., Barnegat Bay, Island Beach State Park, near swimming area N 39.85379 W 74.08955 1 m 15-Jun-2022 CR Nelson 13368 Bill Murphy,

Allen Norrbom, Kate Lindsay, Brittany Wingert 111 Photos: people, scenery Photos: horseshoe crabs 13368

13369 USA: NEW JERSEY: Ocean Co., Island Beach State Park, Nature Area N 39.80297 W 74.09359 3 m 15-Jun-2022 CR Nelson 13369 Bill Murphy, Allen Norrbom, Kate Lindsay, Brittany Wingert 111 Photos: fin whale bones 13369

13370 USA: NEW JERSEY: Ocean Co., Island Beach State Park, South of Nature Center N 39.80760 W 74.09376 2 m 15-Jun-2022 CR Nelson 13370 Bill Murphy, Allen Norrbom, Kate Lindsay, Brittany Wingert 111 Photos: box turtle 13370

13371 USA: NEW JERSEY: Ocean Co., Lavallette, The Crab's Claw Inn N 39.97390 W 74.06789 3 m 15-Jun-2022 CR Nelson 13371 John Stireman, Juan, Greg Dahlem, Joseph 111 Photos: people and food 13371

13372 USA: NEW JERSEY: Ocean Co., Crestwood Village, railroad crossing, Hwy 539 N 39.93887 W 74.33953 50 m 16-Jun-2022 CR Nelson, 13372 S.W. Bullington 111 Photo: site. Collecting with Steve W. Bullington in his new purple Dodge Challenger 392 ci car with 750 miles on it. It was low slung and hard to park at field sites. Chrysomelidae on Apocynum 13372

13373 USA: NEW JERSEY: Burlington Co., White sand road northside, Hwy 72 near pygmy forest, Coyle Field Airport N 39.81353 W 74.41408 58 m 16-Jun-2022 CR Nelson 13373 and SW Bullington 111 Photos: site. Proctacanthus brevipennis 1 m Townsendia - many by sweeping very low over road said and sparse vegetation. 13373

13374 USA: NEW JERSEY: Cape May Co. Cape May Point State Park Lighthouse N 38.93252 W 74.95964 5 m 17-Jun-2022 CR Nelson, 13374 Teagan Mulford, Bill W. Murphy, Brittany Wingert, Bill's friend Mark 111 13374

13375 USA: NEW JERSEY: Cape May Co. Cape May, Higbee Beach, Cape Island N 38.94625 W 74.96943 4 m, 17-Jun-2022 CR Nelson and 13374 13375 Teagan Mulford, Bill W. Murphy, Brittany Wingert, Bill's friend Mark 111 Group photo Efferia albibarbis, Stichopogon trifasciatus 13375

13376 USA: NEW JERSEY: Cape May Co. Cooks Beach, 12 mi northwest of Cape May N 39.10851 W 74.89353 3 m 17-Jun-2022 CR Nelson 13376 Teagan Mulford, Bill W. Murphy, Brittany Wingert 111 Photos: scenery Efferia albibarbis, bees. Photos: horseshoe crabs, sora rail pair with babies, seaside sparrow, sharp tailed sparrow, laughing gulls, marsh wren, wren. 13376

13377 USA: NEW JERSEY: Cape May Co. Ocean City, east end causeway, Welcome Center N 39.28850 W 74.58340 10 m 17-Jun-2022 CR Nelson 13377 Teagan Mulford, Bill W.

Murphy, Brittany Wingert 111 Fantastic spot! Photos: rookery, Great Egret, Glossy ibis, White ibis, black crowned night heron, yellow crowned night heron, Little blue heron 13377

13378 USA: NEW JERSEY: Ocean Co., Waretown, Barnegat, McDonalds Restaurant N

39.76930 W 74.21172 6 m 18-Jun-2022 CR Nelson, T. Mulford , B. Wingert, W. Murphy

13378 T. Mulford , B. Wingert, W. Murphy 111 Photos: group during our long and pleasant conversation 7 hours! Imagine that! Photo: Bill Murphy's unhealing sores from a bushmaster snake bite years ago in Costa Rica a dry bite, no venom problem? 13378

13379 USA: PENNSYLVANIA: Delta Airline Flight, near Philadelphia and over Lake Michigan near Toledo, Ohio and Detroit, Michigan 19-Jun-2022 CR Nelson 13379 and T. Mulford 111 Photos: scenery from air 13379

13380 USA: UTAH: "Box Elder Co.,

" Delta Airline Flight, delta of Bear River and shores of Great Salt Lake N 42 W 83 19-Jun-2022 CR Nelson 13380 111 Photos: ponds, flats, and mountains 13380

13381 USA: UTAH: Salt Lake Co., Salt Lake City, Red Butte Gardens N 40.76564 W

111.82386 1544 m, 19-Jun-2022 CR Nelson and family 13381 111 Photos: small bull snake with kids. Walked and looked at plants. Picnic lunch for Father's Day. Riley, Kaye, Andrea, Amy, Wolf, Leah 13381

13382 USA: UTAH: Utah Co., Provo, BYU, Upper Pond, "Chestnut Tree Office" N 40.24518 W 111.65111 1412 m 21-Jun-2022 C. R. Nelson, CJ Whipple and 17 students 13382 17

students 112 google earth Clint showed the new class of 17 students how to look carefully at plants. The plants were blue spruce, Picea pungens, Squawbush, Rhus aromatica. 13382

13383 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623

W 111.26763 1829 m 23-Jun-2022 25-Jun-2022 C. R. Nelson, C.J. Whipple and Field Biology

class 13383 Riley Nelson, Clint Whipple, Erin Wood, Austin Rejeck, Jacob Munn, Sierra Christensen, Whitney Pulice, Lydia Jackson, Raquel Wilson, Teagan Adolf, Dakota Delano, Aubrey Petersen, Chloe Evans, Daniel Spencer, Adam Blad, Alana Reynolds, Kaye Nelson

112 iphone Malaise trap - 23-25 June 2022 - fell down on the 25th of June 2022, most of sample salvaged. June 23rd: Photos: Watercolor-hillside above Dog Pen. Exploring with good, new people, walk from cabin to tanks. Photo in house. June 24th: Kaye arrives 5:30 pm, photos at cabin. June 25th: Marked and counted individuals of foragers in three different Pogonomyrmex occidentalis nest . Marked them then waited 1.5 hours, observed crossing 15 cm space for five minutes then five minutes again. The white out pens worked well for marking the ants. Photos: 25 June 2022: most of sample salvaged up close: Sagebrush lizard (Matilda) up close, at tanks: northern flicker robin, black chinned

hummingbird (rodent: vole: in valve pit), Red Penstemon, Dead Pinyon, saw Hydropsychidae at mercury vapor light, *Tipula lunata*, big cicada, buprestidae (large green violet), Masaridae, Many Cicadas, *Stenopogon inquinatus* (to student), *Machimus occidentalis* (to student), Psychidae caterpillars in case, chipping sparrow, Lazuli bunting, spotted towhee, turkey vulture, yellow warbler, black throated gray warbler (Erin), blue gray gnat catcher, Efferia female, benedicti with Bombylidae prey, Raphidiidae, Agulla? species?, snakefly on my ear, Pogonomyrmex mounds. 13383

13384 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle, Pinyon Juniper forest at Glass cliffs N 39.95573 W 111.27265 1948 m 24-Jun-2022 C. R. Nelson, C.J. Whipple and class 13383 Riley Nelson, Clint Whipple, Erin Wood, Austin Rejeck, Jacob Munn, Sierra Christensen, Whitney Pulice, Lydia Jackson, Raquel Wilson, Teagan Adolf, Dakota Delano, Aubrey Petersen, Chloe Evans, Daniel Spencer, Adam Blad, Alana Reynolds, Kaye Nelson 112 iphone (photos at cabin), cool rare parasite on trail to Glass Cliffs. Group photo at Glass Cliffs. Plant transect 50 m, 10- 2x2 quadrats alternated on 5 meter intervals in Pinyon Juniper forst. Dominants? Photos: people, brief hail storm. Scorpion, Photos: Hippoboscidae, Orobanche fasciculata, Orohelix snails. Four Penstemons: *Penstemon eatonii* (trail to tanks) *P. palmeri* just past tanks, *P. caespitosum* (PJ plots), *P. watsoni* (PJ plots), *Descurainia Crepis*, snowberry, *Festuca*, *Sitanion hystrix*. Photos at cabin: dermestid larvae under back of beetle killed pinyon with small shiny chestnut colored beetle and lacy pupa - cocoon green inside. 13384

13385 USA: UTAH: Utah Co., Provo, Lee home, 258 East 4075 North N 40.28723 W 111.65390 1461 m 29-Jun-2022 C. R. Nelson, M. Lee, A. L. Smith 13385 112 iphone photos: rescue of western screech owl from inside Mary Lee's house, nice photos! Photos: Western screech owl 13385

13386 USA: UTAH: Utah Co., Utah Lake, Vineyard, Jake Holdaway property, Walkara Way N 40.28369 W 111.75298 1371 m 30-Jun-2022 C. R. Nelson, C.J. Whipple and students 13386 Riley Nelson, Clint Whipple, Alana Reynolds, Daniel Spencer, Lydia Jackson, Raquel Wilson, Tegan Adolf, Chloe Evans, Aubrey Petersen, Jacob Munn, Dakota Delano, Whitney Police, Erin Wood or Coleman, Austin Rejeck, Sierra Christensen, Michael Creeger 112 iphone photos scenery and people, plant. Photos: plant transect: 10 quadrats of 2x2 m spread at 5 m intervals. Yellow pan transect of 11 pans spread at 10 m intervals. Photos: *Triglochin maritima*, saltmarsh arrow grass, Yellow warbler, white pelican, kestrel, california gull, mallard duck, kill deer, mummy doves, collared doves, red winged black birds, yellow headed blackbirds, eastern king bird, western king bird. 13386

13387 USA: UTAH: Utah Co., Peteetneet Canyon, Camp Maple Dell N 39.97132 W 111.69601 1740 m 01-Jul-2022 C. R. Nelson, 13387 Riley Nelson, Wolf Smith, Nathan

Cunningham, Sam Cunningham, Jameson Wright, Ledger Sorensen, cousin of Jameson, Lucas Hamilton, Yvonne Russell, Cassie Russell, Charlotte Russell, Corban Ash, Emmie Conrad, Delilah Crellin, Sarah Esplin, Kylie Esplin, Aubrey Esplin, Hannah Lawrence, Holly Smith, Tate Smith, Lucy Smith, Hadley Smith, Zina White, Tilly White, April Baird, Samantha Baird. WW Smith and church friends 112 iphone Photos: primary day camp with Edgemont 10th ward, scenery and people. Photos: cicadas on faces, mule deer, libellulidae, aeshnidae. Photos: coenagrionidae 13387

13388 USA: UTAH: Utah Co., Provo, Henrie Home, East Foothill Drive N 40.29320 W 111.65091 1483 m 02-Jul-2022 C. R. Nelson, 13388 Pamela Henrie 112 iphone Photos: European firebug - Pyrrhocoridae: Pyrrhocoris apterus host is Tilia x europaea a hybrid called common lime or common linden. It is a hybrid of Tilia cordata (small leaved lime) and Tilia platyphyllo (large leaved lime) but the bugs were also found feeding cannibalistically on cohorts and on a winged ant. 13388

13389 USA: UTAH: Salt Lake Co. West Jordan, Brimhall home, 9212 South 1870 West, 370 N 40.58382 W 111.942387 1354 04-Jul-2022 C. R. Nelson, JK 13389 112 google earth photos in home of Cleo Ann and Rodger Brimhall: Cleo is daughter of my great uncle John Henry Lassen and his wife (my great aunt) Camille Jensen Larsen, of Brigham City. Former home for years was at Cottonwood Heights, Utah where Uncle John had planted a start of the Wisteria, Great Grandmother Anna Christine Larson had carried from Denmark Wisteria 13389

13390 USA: UTAH: Box Elder Co. Brigham City, Hoppie home, 126 West 200 South N 41.50626 W 112.01838 1351.18 m 04-Jul-2022 JK and C. R. Nelson 13390 112 iphone photos: former home of my great uncle John Henry Larsen and his wife, my great aunt Camille Jensen Larsen from 1937? To 2000, Camille's father was Orville Jensen. Photos: Judy Hoppie 126 West 200 South, Brigham City, Utah 84302, 435-237-9339, JudyHoppie50@gmail.com, 81 years old. Photos interior of house: with print of Box Elder (Brigham City) Tabernacle and original hardwood floors, pink floor rug of John and Camille. Photos: I got starts from a Wisteria vine in the yard that came from a start carried by my great grandmother Anna Christina Larsen from Denmark! Let's see if I can keep them alive. Photos: Wisteria 13390

13391 USA: UTAH: Box Elder Co. Brigham City, Nelson home, 211 North 300 West N 41.51508 W 112.02143 1330 m 04-Jul-2022 C R. Nelson, JK, and family 13391 112 iphone Celebration of 4th of July with Rick and Lana Nelson, Harv Forsgren, Ned and Melanie Young, Sally and Jerry Wright with kids William, Andrew, Genevieve, Griffin 13391

13392 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 04-Jul-2022 JK and C. R. Nelson 13392 112 iphone photos: watching fireworks from new treehouse in the apple tree and from the street near driveway. 13392

13393 USA: UTAH: Utah Co., Provo, BYU South hillside creek trail N 40.24518 W 111.65048 1414 m 07-Jul-2022 C. R. Nelson, 13393 Riley Nelson, Clint Whipple, Raquel Wilson, Teagan Adolf, Aubrey Peterson, Austin Rejeck, Jacob Munn, Alana Reynolds, Mike Creeger, Dakota Delano, Lydia Jackson, Daniel Spencer, Whitney Pulice. CJ Whipple and Field Biology class 112 iphone No sierra, no erin (alaska), use pond. Learned a few trees. Ran 12 yellow pans for 1 hour. About 10-11 am, catch was sparse. Red Osier dogwood, white fir, Ephedra viridis, fremont cottonwood. Drawings of oregon grape, beetle, wasp, fly, bug, moth, butterfly. 13393

13394 USA: UTAH: Sevier Co., Fishlake National Forest, Pando aspen grove N 38.52690 W 111.74822 2718 m 08-Jul-2022 C. R. Nelson, 13394 Riley Nelson, Clint Whipple, Austin Rejeck, Aubrey Petersen, Chloe Evans, Lydia Jackson, Daniel Spencer, Sierra Christensen, Teagan Adolf, Michael Creeger, Whitney Pulice, Jacob Munn, Alana Reynolds, Dakota Delano, Raquel Wilson. CJ Whipple and Field Biology class 112 iphone scenery: pando aspen, largest living thing on earth Photos: pando aspen 13394

13395 USA: UTAH: Garfield Co., Boulder Mountain, Hwy 12, Larb Hollow Overlook N 38.13232 W 111.32583 2675 m 08-Jul-2022 C.R. Nelson, 13395 Riley Nelson, Clint Whipple, Austin Rejeck, Aubrey Petersen, Chloe Evans, Lydia Jackson, Daniel Spencer, Sierra Christensen, Teagan Adolf, Michael Creeger, Whitney Pulice, Jacob Munn, Alana Reynolds, Dakota Delano, Raquel Wilson. CJ Whipple and Field Biology Class 112 iphone photos: views to Henry Mountains 13395

13396 USA: UTAH: Garfield Co., Boulder Mountain, Pleasant Creek, Hwy 12 crossing near Pleasant Creek Campground N 38.10366 W 111.33709 2650 m 08-Jul-2022 C.R. Nelson 13396 Riley Nelson, Clint Whipple, Austin Rejeck, Aubrey Petersen, Chloe Evans, Lydia Jackson, Daniel Spencer, Sierra Christensen, Teagan Adolf, Michael Creeger, Whitney Pulice, Jacob Munn, Alana Reynolds, Dakota Delano, Raquel Wilson. and Field biology class 112 iphone First 100s - 11 yellow pans plant transect 50 m alternative with 2x2 m quadrants at 5 m intervals. Photos: people and scenery Photos: hornworts, marchantia, ?, parasite plant, pine drops 13396

13397 USA: UTAH: Wayne Co., Capitol Reef National Park, Pleasant Creek, Capitol Reef Field Station N 38.18537 W 111.17886 1840 m 08-Jul-2022 09-Jul-2022 C.R. Nelson 13397 Riley Nelson, Clint Whipple, Austin Rejeck, Aubrey Petersen, Chloe Evans, Lydia Jackson, Daniel Spencer, Sierra Christensen, Teagan Adolf, Michael Creeger, Whitney Pulice, Jacob

Munn, Alana Reynolds, Dakota Delano, Raquel Wilson. and Field biology class 112 iphone photos: people and scenery, time lapse to north from 10:30 pm to good series! July 9th-walk to petroglyphs of Pleasant Creek with Ann, UVU "host", photographs: wall of Wingate Sandstone Photos: small gopher snake, large white Oenothera 13397

13398 USA: UTAH: Utah Co., Provo, BYU, Bean Life Science Museum N 40.253404 W 111.647074 1449 m 12-Jul-2022 C. R. Nelson, 13398 C.J. Whipple and Field Biology class 112 iphone drawers: Shawn Clark with his bot fly larvae of 20, 11 July 2022 with Dr. Steven Stakland dermestid beetle damage, bot fly larvae 13398

13399 USA: UTAH: Salt Lake Co. Salt Lake City, North Temple, Light Train Station N 40.77510 W 111.98310 1287 m 13-Jul-2022 JK and C.R. Nelson 13399 112 iphone gps = imag.4123.heic - missionary from Bio 100 Elder Sterri rode Front runner up from the Orem station. Amy dropped us off there. It took an hour to get to the North Temple Trax Station. There a group of missionaries going to Romania joined us. One, Elder was in my Principles of Biology Class. He remembered with a little prompting that "flies are voluptuous" and to hold on to a "sense of wonder". 13399

13400 USA: UTAH to MINNESOTA to ICELAND parts east, airline shots, Delta airlines, Minneapolis to Reykjavik, Iceland - Isle royale from air N 47.68557 W 87.65884 10906 m 13-Jul-2022 14-Jul-2022 JK and C.R.Nelson 13400 112 iphone 13-14th July 2022- JK and CR Nelson, Photos over: Cellphone towers-Salt Lake International Airport, Poplar Grove, Utah, Jordan Meadows, Utah, West Bountiful (Antelope Island), Farmington, Utah, Evanston, Wyoming, Stanton Township (missing spots before St. Paul), Saint Paul, Somerset, Shanagolden, Knight, Bessemer, Matchwood Township, Ontonagon, Sherman Township, Keweenaw County. Isle Royale from air (gps = img_4203.heic) 13400

13401 Greenland East Greenland Tunu Region Greenland Greenland, extreme south coast northeast of Kangeq N 62.95010 W 40.09761 11684 m 14-Jul-2021 JK and C.R. Nelson 13401 112 iphone GPS reads Greenland sea. Photos: open rock coastline of greenland. Photos: tops of clouds wrinkled like elephant skin, walrus skin, east of Kangeq, Greenland 13401

13402 Iceland Southern Peninsula Region approaching Iceland N 64.04720 W 22.60536 425 m 14-Jul-2022 JK and C. R. Nelson 13402 112 iphone IMG_4226.HEIC - Photos: off shore islands approach coastline, road roundabout. Photos: touched down 7:20 am local time 13402

13403 Iceland Southern Peninsula Region Lighthouse at Gardouragi north of Keflavik N 64.08256 W 22.69229 13 m 14-Jul-2022 JK and C. R. Nelson 13403 112 iphone forgot to set

Nikom Z7 to local time for this whole trip! Make note on photos. Iceland - 6 hours ahead of Utah time (recorded on Nikom Z7) Finland 9 hours ahead of Utah time photos: birds 13403

13404 Iceland Southern Peninsula Region north of Keflavik N 64.02488 W 22.59025 18 m 14-Jul-2022 JK and C. R. Nelson 13404 112 iphone GPS = IMG_4247.HEIC - Nikon time photos: horses, blue lupines. Lupinus sp. 13404

13405 Iceland Southern Peninsula Region Tjaldsvaetid community N 64.24162 W 20.66977 90 m 14-Jul-2022 JK and C. R. Nelson 13405 112 iphone GPS = IMG_4259.HEIC - closed community views to ocean, stream, waterfall 13405

13405.5 iceland Southern Region Thingvellir Area Thingvellir lake views also spelled pingvallavatn N 64.25589 W 21.12971 130 m 14-Jul-2022 JK and C. R. Nelson 13405.5 112 iphone ?, part of golden circle, travel route 13405.5

13406 Iceland Southern Region Geyser N 64.31230 W 20.30117 118 m 14-Jul-2022 JK and C. R. Nelson 13406 112 iphone GPS = IMG_4267.HEIC - photos: geysers 13406

13407 Iceland Southern Region Gullfoss Waterfall on Hvita river N 64.32703 W 20.12131 185 m 14-Jul-2022 JK and CR Nelson 13407 112 iphone photos: waterfall. Views to large glacier. 13407

13408 iceland Southern Region view of Eyjafjallajökull Volcano southeast of Hella, turnoff to Launbagi N 63.79632 W 20.31471 37 m 15-Jul-2022 JK and C. R. Nelson 13408 112 iphone photos: volcano and glacier 13408

13409 Iceland Southern Region Lava Center, lava museum in Hvolsvöller N 63.75362 W 20.23828 27 m 15-Jul-2022 JK and C. R. Nelson 13409 112 internet Bought a bird map guide just now in Lava centre visitors center, willet? NO whimbrel!, volcano, both caves. Photos: Eyjafjallajökull. Learned to pronounce name: Heya fee alta yokel, volcano and glacier. oystercatchers both caves. 13409

13410 Iceland Southern Region Seljalandsfoss, waterfall south island coast N 63.62606 W 19.99269 37 m 15-Jul-2022 JK and CR Nelson 13410 112 iphone GPS = IMG_4360.HEIC - quick view of falls 13410

13411 Iceland Southern Region south Iceland coast, Skogafoss waterfall N 63.53089 W 19.51304 37 m 15-Jul-2022 JK and CR Nelson 13411 112 iphone GPS = IMG_4364.HEIC 13411

13412 iceland Southern Region glacier on Myrdalsjökull, south iceland coast N 63.50758 W 19.3856 78 m 15-Jul-2022 JK and CR Nelson 13412 112 iphone photo: mountain valley over magenta flowers, plantago? 13412

13413 Iceland Southern Region south Iceland coast, Hwy 1, glacier, Myrdalsjökull from Highway 1 N 63.50620 W 19.43016 75 m 15-Jul-2022 JK and CR Nelson 13413 112 iphone GPS = IMG_4380.HEIC - 21 Jan 2023 view checked wikipedia 13413

13414 Iceland Southern Region Dyrhólaey - Door Hill Island cliffs and view to cliffs and beach N 63.40423 W 19.10321 31 m 15-Jul-2022 JK and CR Nelson 13414 112 iphone GPS = IMG_4383.HEIC - Exciting sightings! Magical moment, save details of notes of this day recorded in Helsinki, Finland on 20 July 2022 Photos: puffin, skua, fulmar, eider, herring gull 13414

13415 Iceland Southern Region south iceland coast, near hwy 1, view to Dyrhólaey Lighthouse from northside of Puffin area N 63.40275 W 19.10497 15 m 15-Jul-2022 JK and CR Nelson 13415 112 iphone GPS = IMG_438.HEIC. Photos: lighthouse, views up short beach to Dyrhólaey Point and view to sea stacks. 13415

13416 Iceland Southern Region south coast near Vik, Hwy 1, south and causeway to Dyrhólaey N 63.40947 W 19.12193 12 m 15-Jul-2022 JK and CR Nelson 13416 112 iphone GPS = IMG_4396.HEIC - photo: green bird cliff, returning to Highway 1 13416

13417 Iceland Southern Region Reynisfjara Beach, 1.5 miles South West of Vik, Hwy 1 N 63.40368 W 19.04350 13 m 15-Jul-2022 JK and CR Nelson 13417 112 iphone GPS = IMG_4430.HEIC - view to Reynisfjara rocks view back west to Dyrhólaey. photos: scenery and people. Photos: puffins, sheep 13417

13418 Iceland Southern Region Seljalandsfoss, waterfall south iceland coast N 63.61540 W 19.9880 51 m 15-Jul-2022 JK and CR Nelson 13418 112 iphone GPS = IMG_4481.HEIC - photos: behind the water of the waterfall 13418

13419 Iceland Western Region Gerðuberg cliffs, Hwy 54, base of Snaellfellsnes Peninsula N 64.85911 W 22.36540 50 m 16-Jul-2022 JK and CR Nelson 13419 112 iphone GPS = IMG_4522.HEIC - photos: columnar basalt. Photos: meadow pipit, golden plover, Red-necked phalarope, black tailed godwit, whimbrel. Saw raven between here at Reykjavik closer to city. 13419

13420 Iceland Western Region Langavatn lake, Hwy 54, pond east of Ytri Tunga N. 64.80666 W 23.02109 25 m 16-Jul-2022 JK and CR Nelson 13420 112 iphone GPS = IMG_4537.HEIC swans near Ytri-Tunga, arctic tern, longtailed tern thing, black tail, raven, probably arctic tern backlist, whooper swans, arctic tern, raven 13420

13421 Iceland Western Region Ytri Tunga beach south of Hwy 54 N 64.80213 W 23.08918 7 m 16-Jul-2022 JK and CR Nelson 13421 112 iphone GPS = IMG_4542.HEIC Photos:

turnstones, cider duck, collared polver, harbor seals, dead gannet, arctic tern, cormorant
13421

13422 Iceland Western Region Raudfeldsgjá Gorge just north of Hwy 574, 2 miles north of Arnarstapi N 64.79904 W 23.64323 109 m 16-Jul-2022 JK and CR Nelson 13422 112
iphone GPS = IMG_4559.HEIC - sign=Raudfeldsgjá. Photos: scenery, people, plants. Fly and voluptuous sign caddisfly 13422

13423 Iceland Western Region carpet moss, 1 mile northwest of Raudfeldsgjá N 64.78063 W 23.64369 114 m 16-Jul-2022 JK and CR Nelson 13423 112 iphone GPS =
IMG_4690.HEIC Photos: moss carpets rocks, pahoehoe lava, geranium 13423

13424 Iceland Western Region Arnarstapi and nearby sea cliffs N 64.76614 W 23.63018 32 m 16-Jul-2022 JK and CR Nelson 13424 112 iphone GPS = IMG_4819.HEIC - lunch then birds, many photos. Our further north point (in heavy rain) was Hwy 54, just west of jct Hwy 56 and with hoodoo and glacier of Snaefellsnes jökull. Continued around west tip of Snaefellsnes Peninsula, heavy rain started after great sunny afternoon. So we passed the glacier view and falls and Kirkjufell Mountain because they were covered in clouds and rain. Photos: arctic terns, fulmars, black headed gull, kittiwakes. 13424

13425 Iceland Capital Region Reykjavik, Seltjarnarnes point, Grotta and shoreline stroll N 64.16238 W 22.00833 2 m 16-Jul-2022 JK and CR Nelson 13425 112 iphone GPS =
IMG_4956.HEIC - Photos: lighthouse and container ship, dipped feet in hot spring near point. Looked for Seltjarnarnes Pool to swim in hot spring no luck by driving both sides of point. Back at Hotel 22 Hill at 9:00 pm still saylight (until at least 11:30 pm). Left sunday, a travel day Photos: whooper swan 13425

13426 Finland Uusimaa Region Helsinki, Pasila Messukeskus Convention Center N 60.20224 W 24.93671 27 m 18-Jul-2022 JK and CR Nelson 13426 112 iphone GPS =
IMG_5004.HEIC - photo: 8:05 am - Riley gives talk on Megafire at meetings of International Congress of Entomology XXVI. Photo: Dan Janzen and Winnie Holwucks zooming in talk. Photo: evenness - who is talking? Photos: Hubbard Brook - Nick Rodenhouse, studies birds and climate change 13426

13427 Finland Uusimaa Region Helsinki, Pasila Messukeskus Convention Center N 60.20224 E 24.93671 27 m 18-Jul-2022 JK and CR Nelson 13427 112 iphone GPS =
IMG_5004.HEIC - 12:58 pm - Photos: market square (GPS) - Paul Frandsen, Jessica Ware, gull ate Paul's dinner and other ice cream. Photos: 6 "Ps" Hhomiini - Chazot. Photos: reindeer gravy and mashed potatoes in Kluuvi. Tuesday: Messukeskus 19 July 2022. Photos: Rudolf Meier explaining automated insect sorting. Eli? More automation. 4:26 pm - how collembola springtails worker example of complexity of morphology. CCT scan. Thursday,

21 July 2022 - 5:05 pm - numericals? How Ptiliidae fly with bristles. Photos: chilean worker Microcoryphia of the Atacama Desert. Koch - language barrier in taxonomy. Photos: Gull on statue, Collembola Springtails, Ptiliidae, Microcoryphia 13427

13427.5 Finland Uusimaa Region Helsinki, Market Square and park N 60.16750 E 24.95430 6 m 18-Jul-2022 CR Nelson, 13427.5 Jessica Ware, Paul B. Frandsen 112 iphone GPS = IMG_5019.mov - photos: food on dock Photos: seagull on statue 13427.5

13428 Finland Uusimaa Region Helsinki, Seurasaari Island N 60.17938 E 24.88232 8 m 20-Jul-2022 JK and CR Nelson, 13428 Anne Luthy, and Ashley Stevenett 112 iphone GPS = IMG_5137.HEIC - photos: walk in nature area. More photos: Kaye and Ashley on granite outcrop, people on path, Ashley, Ice cream group, "Bill Stark" "doppelganger". People at cutout faces sign. Many Photos: mute swan, great crested cormorant, red squirrel, woolly burdock plant, hooded crow, Pinus sylvestris (scots pine), norway spruce, common plantain, Quercus, Great tit, great spotted woodpecker, wagtail, bee, Ranunculus, bell flowers. Chrysomelidae larvae and adults on elder, Sarcophagidae, Asilidae (machimus relative), rose hips, Japanese spirea, Much orange, webworm, Tilia, conopidae?, barnacle goose, mallard duck, gull, lactuca aster, Sympetrum, great crested grebe, canada goose, dark robin. 13428

13429 Finland Uusimaa Region Helsinki, Kamppi Neighborhood N 60.17018 E 24.92932 39 m 20-Jul-2022 JK and CR Nelson, 13429 Anne Luthy, and Ashley Stevenett 112 iphone GPS = IMG_5330.HEIC - Wednesday 4:14 pm - photo: from bus: museum Photo: giant seagull sign 13429

13430 Finland Uusima Region Helsinki, Etu - Töölö neighborhood rock church, Temppeliaukio church N 60.17262 E 24.92570 25 m 20-Jul-2022 JK and CR Nelson 13430 , Anne Luthy, and Ashley Stevenett 112 iphone GPS = IMG_5338.HEIC - photos: church built into rock, copper ceiling inside. Nearby, Riley with stuffed reindeer at souvenir shop 13430

13431 Finland Uusima Region Helsinki, downtown, Kluuvi neighborhood, Helsinki Cathedral N 60.16871 E 24.95248 15 m 21-Jul-2022 CR Nelson 13431 112 iphone GPS = IMG_5385.HEIC - Thursday: photos: Helsinki Cathedral, Savotta Restaurant, Anne the waitress dinner with Eva and our group. Main train station soccer players, Ashley with "doppelganger" 13431

13432 Finland Uusimaa Region Helsinki, Jätkäsaari Neighborhood, West Ferry Terminal and south to Bay of Finland N 60.14932 E 24.91388 16 m 22-Jul-2022 JK and CR Nelson, 13432 Anne Luthy, and Ashley Stevenett 112 iphone GPS = IMG_5395.HEIC - photos:

boarding and riding large Tallink ferry Megastar to Tallin, Estonia. Photos: kaye, shadow people, Kaye and Riley wave. 13432

13433 Estonia Harju County near ferry mooring, Tallinn N 59.68560 E 24.74449 19 m 22-Jul-2022 JK and CR Nelson, 13433 Anne Luthy, and Ashley Stevenett 112 iphone GPS = IMG_5412.HEIC - Friday: photos: ships at sea, gull eating ice cream, group walking to Old Town Tallinn Photos: black headed gull, immature big gull, spider 13433

13434 Estonia Harju County Tallinn, Old Town N 59.43828 E 24.74531 10 m 22-Jul-2022 JK and CR Nelson, 13434 Anne Luthy, and Ashley Stevenett 112 iphone GPS = IMG_5433.HEIC - photos: sightseeing, old neighborhood building, Hell Hunt Restaurant, protest posters Russian building, picturesque street scenes our group, St. Catherine's Passageway, tombstones from 1300s, old cobblestones. Video: sand painting, KGB Prison cell block - history of repressions outside facade of cell blocks. Off the ferry in Helsinki at 10:16 pm. Photos: Merigolds in medieval window 13434

13435 Finland Uusimaa Region Helsinki, Kluuvi neighborhood, Helsinki Central Library Oodi Töölönlahdenkatu 4 N 60.17309 E 24.93716 10 m 23-Jul-2022 JK and CR Nelson, 13435 Christine Carruth Frandsen, C.C and PB Frandsen 112 iphone GPS = IMG_5494.HEIC - photos: library our group by Chinese tourist, spiral stairs inside library views to northern pike sculpture Architecture 13435

13436 Finland Uusimaa Region Helsinki, Etu-Töölö neighborhood near Laajalahti shoreline Helsinki Flea Market N 60.17675 E 24.91433 10 m 23-Jul-2022 JK and CR Nelson, 13436 CC and PB Frandsen 112 iphone Photos: sickle at second handstore, Kirpputori, Helsinki Flea Market, details so I can build a handle. Photos: great crested grebe, european alder 13436

13437 Finland Uusimaa Region Helsinki, Kluuvi Neighborhood Market Square, Esplanadi park N 60.16757 E 24.95448 3 m 23-Jul-2022 JK and CR Nelson, 13437 CC and PB Frandsen 112 iphone GPS = IMG_5557.HEIC - photos: lunch on the wharf, resting in the park, overhead view of skies, gulls, lunch at tents, reindeer sausage, Christine makes announcement to Kaye and me, she is pregnant with third child, (now born, Della Ruth Frandsen, note written 19 February 2023, she is several weeks old), Kiasma exhibit banners. Evening photos: Helsinki City Library, kaye at hotel with new shirt 13437

13438 Finland Uusimaa Region Helsinki, Pasila neighborhood corner park, Pailanraitio street N 60.19983 E 24.92499 42 m 23-Jul-2022 CR Nelson 13438 112 iphone GPS = IMG_5594.HEIC - Saturday: photos: my little park. Evening Photos: hooded crow 13438

13439 Finland Helsinki, Pasila neighborhood, Scandic Pasila Hotel N 60.19873 E 24.92716 33 m 24-Jul-2022 JK and CR Nelson 13439 112 iphone GPS = IMG_5633.HEIC -

Photos: hotel, view to Tripla Mall, siding of mall in tripla mall. Airport: Anne Luthy and Kaye on train, Calvin Klein Eternity and floor at airport, tabloid newspapers - Putin, take off to Amsterdam at 2:37 PM, Finland time. Photos: lichen, nettle, Apocynaceae, plantain, pineapple plant, yellow lichen 13439

13440 Finland to Netherlands flight over finland, sweden, and netherlands unknown unknown unknown 24-Jul-2022 JK and CR Nelson 13440 112 n/a photos: islands in baltic bags 2:55-3:02 p.m. photos: shoreline of netherlands 4:22-4:36 pm landing 4:51 pm 13440

13441 Greenland West Greenland Kitaa?, airline flight over southern tip to Salt Lake City N 60.09437 W 45.29337 10550 m 24-Jul-2022 JK and CR Nelson 13441 112 iphone GPS = IMG_5712.HEIC - photos: icebergs, glaciers, through the clouds, time zone unsure on iphone shots but here are the readings: finland time? 9:10 pm - 9:12 pm. Greenland sea tower on phone: 5:15 pm. Kitaa: 5:24 pm end 5:28 pm. Atlantic ocean: 5:28 pm-5:39 pm. Davis Trait: 5:40 pm and 5:44 pm. photo: land in Salt Lake City 11:09 pm don't know what time zone. photo: mel and Anne Luthy revisited 9:14 Utah time. Nelsons home at 6:39 am helsinki time. Photos: worm farms 13441

13441.5 USA: UTAH: Grand Co., Moab, downtown N 38.57345 W 109.55228 1227 m 28-Jul-2022 CR Nelson, 13441.5 Riley Nelson, Clint Whipple, Austin Rejeck, Whitney Pulice, Aubrey Peterson, Raquel Wilson, Alana Reynolds, Teagan Adolf, Jake Muan, Dakota Delano, Daniel Spencer, Erin Wood, Sierra Christensen, Chloe Evans, Lydia Jackson, Michael Creeger. CJ Whipple and field biology class 112 iphone GPS = IMG_5764.HEIC Photos: elm leaf beetle on the bark of siberian elm 13441.5

13442 USA: UTAH: San Juan Co., La Sal Mountains Medicine Lake N 38.41579 W 109.24782 3050 m 28-Jul-2022 30-Jul-2022 CR Nelson, 13442 Riley Nelson, Clint Whipple, Austin Rejeck, Whitney Pulice, Aubrey Peterson, Raquel Wilson, Alana Reynolds, Teagan Adolf, Jake Muan, Dakota Delano, Daniel Spencer, Erin Wood, Sierra Christensen, Chloe Evans, Lydia Jackson, Michael Creeger. CJ Whipple and field biology class 112 GPS = IMG_5794.HEIC - I reset the clock on my Nikon Z7 to what I thought was Utah time after Finland, but I was 12 hours advanced. 28 July: photos: (time lapse start 5:23 pm on 28 Jul 2022 not 5:23 am on 29 July 2022). Photos: Lake, aspens on drive in people (Teagan Adolf and Aubrey Peterson with garter snake) sunset. 29 July: star time lapse, sunrise time lapse, sunrise and lake. Starburst of sunrise through trees. Lake and peaks. 30 July: many birds Photos: Cattle, Aspens, Lichen, Engelmann spruce, Williamson sapsucker, Garter snakes. Cattle, bull, robin, hermit thrush, Sterigma (pedicle of spruce needle), dark eyed junco, pine siskin, robin, MacGillivray's warbler, hairy woodpeckers, red cross bill, blackheaded grosbeak, western tanager. 13442

13443 USA: UTAH: San Juan Co., La Sal Mountains, Burlfriends Trail #88 to Mount Tukuhnikivats trailhead parking then to peak, 12489 feet N 38.41913 W 109.25166 3093 m 29-Jul-2022 CR Nelson 13443 Riley Nelson, Clint Whipple, Austin Rejeck, Whitney Pulice, Aubrey Peterson, Raquel Wilson, Alana Reynolds, Teagan Adolf, Jake Muan, Dakota Delano, Daniel Spencer, Erin Wood, Sierra Christensen, Chloe Evans, Lydia Jackson, Michael Creeger. and Clint Whipple and class 112 iphone reached the peak! Tuk Peak - Rolan alone? selfie - N 38.43959 W 109.25935 elevation: 3808 m, time: 12:02 pm. Long walk then scramble up talus. Intermittent rain and mist and clean source thunder in the distance. Photo: started - 8:15 am ended- 3:15 pm - Photos: spring and exclosure, people on trail, scenery, video mist and people in mist, panorama. People on ridge! a winner. CR Nelson selfie on Mount Tuk ridge. Photos: Pedicularis (lousewort), Aster, Erigeron, Vigueria sunflower, Astragalus. Penstemon (purple), sedum. Endangered La Sal Daisy, Hairy woodpecker, northern flicker, dark eyed junco, Clarks nutcracker, raven. 13443

13444 USA: UTAH: San Juan Co., Newspaper Rock, Hwy N 37.98756 W 109.51788 1813 m 30-Jul-2022 CR Nelson 13444 Riley Nelson, Clint Whipple, Austin Rejeck, Whitney Pulice, Aubrey Peterson, Raquel Wilson, Alana Reynolds, Teagan Adolf, Jake Muan, Dakota Delano, Daniel Spencer, Erin Wood, Sierra Christensen, Chloe Evans, Lydia Jackson, Michael Creeger. and Clint Whipple and field biology class 112 iphone GPS = IMG_6197.HEIC rock art desert plants 13444

13445 USA: UTAH: San Juan Co., Needles Overlook, Hwy 133 N 38.25931 W 109.69766 1915 m 30-Jul-2022 CR Nelson 13445 Riley Nelson, Clint Whipple, Austin Rejeck, Whitney Pulice, Aubrey Peterson, Raquel Wilson, Alana Reynolds, Teagan Adolf, Jake Muan, Dakota Delano, Daniel Spencer, Erin Wood, Sierra Christensen, Chloe Evans, Lydia Jackson, Michael Creeger. and Clint Whipple and field biology class 112 iphone GPS = IMG_6236.HEIC - Car window iPhone shots of solitary juniper and La Sal Mountains on my phone by Erin Wood. Shots of isolated juniper on spur road out to the Needles Outlook and photos of La Sal Mountains. Nice culmination of trip to the Colorado Plateau. Ate at Milt's Burgers in Moab at 4:00 pm then headed home. Photos: vistas to north, east, south, and west, wrote essay on infinity to large and small, talked with people from New Hampshire about toads mating at Delicate Arch last evening after the rain shower. Sierra Christensen found a tinaja pothole on the rim to the southeast of the Needles parking lot. (Tinaja - N 38.25950 W 109.69430 elevation 1903 m) Photos: solitary juniper, isolated juniper, toad. Saw: Promachus aldrichii, Efferia benedicti. Photos: tadpole shrimp, fairy shrimp, snail with hardened egg mass. 13445

13446 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 01-Aug-2022 CR Nelson 13446 and WW and LV Smith 112 iphone Photos: praying mantis, *Mantis religiosa* 13446

13447 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m, 02-Aug-2022 03-Aug-2022 JK and CR Nelson 13447 and WW and LV Smith 112 iphone Tuesday and Wednesday: 2 Aug 2022- photos: great basin rattlesnake at driveway, wild hops at red shed, flood damage of 29 July 2022. 3 Aug 2022 - photos: great basin rattlesnake, small with full belly playing in Soldier Creek, kept driftwood: two charred logs of 2018 fire, circular wood growth, people. Photos: great basin rattlesnake 13447

13448 USA: UTAH: Utah Co., Spanish Fork, BYU Farm N 40.06574 W 111.62797 1436 m 04-Aug-2022 CR Nelson 13448 Riley Nelson, Clint Whipple, Dakota Delano, Tegan Adolf, Chloe Evans, Aubrey Peterson, Sierra Christensen, Jacob Munn, Alana Reynolds, Daniel Spencer, Austin Rejeck, Whitney Pulice, Erin Wood, Michael Creeger, Lydia Jackson. and CJ Whipple and Field biology class 112 iphone photos: Clint Whipple leading discussions of corn genetics in his cornfield, Riley Nelson eating sweet and raw corn. Photos: later, in camp at Miller flat corn earworm caterpillar on sweet corn Photos: corn earworm caterpillar, *Helicoverpa zea* 13448

13449 USA: UTAH: Sanpete Co., Wasatch Plateau, Hwy 31, Southeast corner of Huntington Reservoir Dam, Mammoth Discovery Rest Area N 39.58518 W 111.26020 2758 m 04-Aug-2022 CR Nelson 13449 Riley Nelson, Clint Whipple, Dakota Delano, Tegan Adolf, Chloe Evans, Aubrey Peterson, Sierra Christensen, Jacob Munn, Alana Reynolds, Daniel Spencer, Austin Rejeck, Whitney Pulice, Erin Wood, Michael Creeger, Lydia Jackson, Raquel Wilson. and CJ Whipple and Field biology class 112 iphone photos: people eating ants. Mammoth discovery site. Photos: *Formica* species 13449

13450 USA: UTAH: Sanpete Co., Wasatch Plateau, Miller Flat Road, Hwy 31, Lake Canyon Recreation area, Group campground #24 N 39.57782 W 111.25818 2702 m 04-Aug-2022 06-Aug-2022 CR Nelson 13450 Riley Nelson, Clint Whipple, Dakota Delano, Tegan Adolf, Chloe Evans, Aubrey Peterson, Sierra Christensen, Jacob Munn, Alana Reynolds, Daniel Spencer, Austin Rejeck, Whitney Pulice, Erin Wood, Michael Creeger, Lydia Jackson, Raquel Wilson, Marc Coles-Ritchie. and CJ Whipple and Field biology class 112 iphone 4 Aug 2022: Grand Canyon Trust talk by Range con from Ferron Mark Chamberlain - with ties to Chamberlains of Springdale, Utah. Photos: *Cyrtopogon auratus* or *curtistylus* specimen to Dakota Delano. Photos: young *Pseudacris triseriata* caught in camp by Raquel Wilson. photos: took pictures of corn earworm *Helicoverpa zea* from 13448 in campground. Photos: *Cyrtopogon auratus*, *curtistylus*, *Pseudacris triseriata*, corn earworm (*Helicoverpa zea*) out of order from Spanish Fork Farm. Photos: Trichoptera from UV light trap, Four

species: very large- 1 dark, large- 1 light, medium-2 long dark, small-2 not photographed.
13450

13451 USA: UTAH: Emery Co., Wasatch Plateau, Left Fork Huntington Creek Trailhead, loop down Staker Canyon to top of Left Fork Huntington Creek Narrows then back to Staker Canyon up to Mill Canyon and over ridge. N 39.54728 W 111.23049 2548 m 05-Aug-2020 CR Nelson 13451 Riley Nelson, Clint Whipple, Dakota Delano, Tegan Adolf, Chloe Evans, Aubrey Peterson, Sierra Christensen, Jacob Munn, Alana Reynolds, Daniel Spencer, Austin Rejeck, Whitney Pulice, Erin Wood, Michael Creeger, Lydia Jackson, Raquel Wilson, Marc Coles-Ritchie. and CJ Whipple and Field biology class 112 iphone Call this: Left Fork Huntington Creek and Staker Creek, use gps of personal journal drawing for the whole loop. Photos: scenery, falls and wetlands of and below junction Miller Flat Creek, first bridge below jct Stacker Canyon: personal drawing of creek and wet wall - (N 39.54728 W 111.23049, 2548 m) Photos: drawings of hornwort, chloroperlidae - Suwallia species males and females, eggs, buprestidae (small metallic blue), mayfly, Limoniinae 13451

13452 USA: UTAH: Emery Co., Wasatch Plateau, Left Fork Huntington Creek trail from trail head on Miller Flat Road to wetlands at top of beginning of narrows of Left Fork Huntington Creek N 39.54217 W 111.22875 2558 m 06-Aug-2022 CR Nelson 13452 Riley Nelson, Clint Whipple, Dakota Delano, Tegan Adolf, Chloe Evans, Aubrey Peterson, Sierra Christensen, Jacob Munn, Alana Reynolds, Daniel Spencer, Austin Rejeck, Whitney Pulice, Erin Wood, Michael Creeger, Lydia Jackson, Marc Coles-Ritchie. and CJ Whipple and Field biology class 112 iphone use plant transect for middle of site, use wetlands as GPS. Photos: transect and quadrat site. Plant richness: 15 2x2 m quadrats on 75 mm transect, randomized starting point then alternating quadrats every 5 m, total 15 quadrats (N 39.54217 W 111.22875, 2558 m) , also two iron concretions from sandstone. First 100 sites on Left Fork, Huntington Creek at Wetlands 12-13 first 100s (N 39.53817 W 111.22485, 2521 m) 13452

13453 USA: UTAH: Emery Co., Left Fork Huntington Creek between jet Miller Flat Creek and Forks of Huntington Campground Hwy 31 N 39.52839 W 111.20948 2493 m 06-Aug-2022 CR Nelson 13453 Riley Nelson, Clint Whipple, Dakota Delano, Tegan Adolf, Chloe Evans, Aubrey Peterson, Sierra Christensen, Jacob Munn, Alana Reynolds, Daniel Spencer, Austin Rejeck, Whitney Pulice, Erin Wood, Michael Creeger, Lydia Jackson, Marc Coles-Ritchie. and CJ Whipple and Field biology class 112 iphone GPS is about one third of range, at photograph of fire boundary of 2012 - Seeley Fire? photos: plants and scenery 13453

13454 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m, 08-Aug-2022 JK and CR Nelson, 13454 WW and LV Smith 112 iphone Assessed damage to roads and gulley with Cody Coplin and Trenton of Summit for

Rocky Mountain and Pacificorp. I showed them the flood damage. Kaye and I repaired waterline to sawmill uncovered in the flood began repairs to culinary line crossing at gulley above "fish pond" Cuterebra, Digomites 13454

13455 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m, 13-Aug-2022 JK and CR Nelson 13455 112 iphone photos: fixing culinary pipe, crossing gulley above old swim pond. Success - no leaks water into the lines to the cabin, purged of silt. All good. 13455

13456 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m, 16-Aug-2022 JK and CR Nelson, AT, AL, WW, LV Smith 13456 112 iphone spent night at cabin. Repaired new four wheeler road from gate up gulley to cabin, groomed road inside gate so Toyota Prius could get to the crossroads. Tightened gulley line to seal small leaks and repaired wire/hose supports for the gulley line. All well. 13456

13457 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m, 19-Aug-2022 20-Aug-2022 JK and CR Nelson, AJ Nelson, WW and LV Smith, AL and AT Smith came on 20 Aug 2022 13457 112 iphone Todd with drone. Photos: people at Piñon Cove gate hummingbirds at feeder 13457

13458 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m, 21-Aug-2022 22-Aug-2022 CR Nelson 13458 112 iphone 21 Aug 2022 Video: garter snake at pond. 22 Aug 2022- Gryllidae Oecanthus - dead on water and western tanager female found dead unharmed on back patio bagged and put in freezer 13458

13459 USA: UTAH: Kane Co., Mount Carmel Junction, Chevron Station and Thunderbird Motel N 37.22238 W 112.68205 1584 m 23-Aug-2022 JK and CR Nelson 13459 112 iphone We also stopped at Valley High school in Orderville at night but found no Dynastes. photos/videos: Vella fallax?, ant lion. Scarabaeidae, Dynastes granti - 10 males, 5 females. Cerambycidae. 13459

13460 USA: UTAH: Kane Co., Kanab, La Quinta Motel N 37.04089 W 112.52555 1503 m 24-Aug-2022 JK and CR Nelson 13460 112 iphone So when we got to Phoenix I counted: 10 males and 4 females, now 1 female, 10 males and 5 females. Photos: Scarabaeidae Dynastes granti female in swimming pool. I've never seen this species in Kanab! Marked independently with gold point for breeding later. 13460

13461 USA: Arizona Coconino Co., Vermilion Cliffs, base, Hwy 89A, 24 miles West of Marble Canyon N 36.72187 W 112.01787 1818 m 24-Aug-2022 JK and CR Nelson 13461 112 iphone Marble Canyon. Odometer at stop, 54 miles, 69 miles, Cliff Dwellers, 78 miles, Marble Canyon (78-54=24 miles). Near monoculture of orange and green for miles and

miles. Photos: orange 5 petal with pinnate leaves Caltrops, *Kallstroemia parviflora* (warty caltrop), pressed in black pocket fieldbook. 13461

13462 USA: Arizona Coconino Co., Vermillion Cliffs, base, Hwy 89A, 21 miles west of Marble Canyon N 36.70199 W 111.93256 1531 m 24-Aug-2022 JK and CR Nelson 13462 112 iphone stop 57 miles to Cliff Dwellers 69 miles, Vermillion Cliff 74 miles, town 78 miles (78-57=21) no asilidae. Fairy circles in open sand of Moenkopi, below wingate on Vermillion Cliffs. fuzzy blue grass, *Muhlenbergia pungens* 13462

13462.5 USA: Arizona Coconino Co., Navajo Bridge, Marble Canyon, Colorado River, Hwy 89A N 36.81771 W 111.63114 1061 m, 24-Aug-2022 JK and CR Nelson 13462.5 112 photos: California condors, adults x1 + 64 and new baby! 13462.5

13463 USA: Arizona Yavapai Co., McGuireville Rest Area, 1-17, 3 miles north of McGuireville N 34.67564 W 111.77330 1149 m 24-Aug-2022 JK and CR Nelson 13463 112 iphone photos: *Efferia* - near benedicts, missed one female with grasshopper prey but caught two males. Photos: *Cophura*. Photos: *Ospriocerus* red and black. Photos: *Megaphorus* small. *Furcilla*? Two females, no! not *Furcilla* but is *Efferia*. Photos: *Efferia* 2 males, 2 females, good flowers, collected 1:00-1:35 PM, 93 degrees F, gravelly with creosote sotol, *Ephedra*, 18 inch grass *Efferia*, grasshopper, *Cophura*, *Ospriocerus*, *Megaphorus*, *Efferia* number two?, *Ephedra*, 18 inch grass 13463

13464 USA: Arizona Mariposa Co., Phoenix, Nelson home, 2520 Columbine Drive N 33.59923 W 112.13718 390 m 24-Aug-2022 28-Aug-2022 JK and CR Nelson 13464 and JR, BD, AV, and AJ Nelson 112 iphone 24 Aug 2022 - verdin. 28 Aug 2022 - black soldier fly - *Hermetia illucens* 13464

13465 USA: Arizona Coconino Co., Double Springs Campground at Mormon Lake N 34.94237 W 111.49260 2175 m 28-Aug-2022 JK and CR Nelson 13465 113 iphone Searched for *Wyliea mydas* found none Coleoptera larvae (*Erotylidae*?), large on puffy "shelf" fungus, looked for asilidae 13465

13466 USA: Arizona Coconino Co., Hwy 89, south of Page, near turnoff to Horseshoe Bend N 36.89333 W 111.49095 1271 m 28-Aug-2022 JK and CR Nelson 13466 113 iphone photos: *Sphingidae* caterpillars crossing highway, *Hyles lineata* 13466

13467 USA: UTAH: Kane Co., Mt. Carmel Junction, Hwy 89 Chevron Gas station, after dark N 37.22285 W 112.68158 1584 m 28-Aug-2022 JK and CR Nelson 13467 113 iphone *Dynastes granti* adults photos later, shared handling with Bio 100 class on 29 Aug 2022 *Dynastes granti* 13467

13468 USA: UTAH: Utah Co., South Fork American Fork River, South Fork Guard Station, site 3 N 40.45180 W 111.65754 1862 m 01-Sep-2022 CR Nelson 13468 Riley Nelson and Aquatic Entomology, Anna Monson, Andrew Parker, Ellie Cressman, Cole Moulton, Michael Creeger, Sophia Erickson, Isaac Schirmer 113 iphone Good flow now, guard at gate said it was dry about 5 months ago Ephemerellidae - 3 spp, Heptageniidae, Baetidae, Neothremma, Philopotamidae, Hydropsychidae, Rhyacophilidae, flatworm, Annelida, no Pictetiella, Chloroperlidae, 13468

13469 USA: UTAH: Utah Co., American Fork River, Hwy 92, 0.5 miles east of canyon mouth, site 1 N 40.43329 W 111.73836 1547 m 01-Sep-2022 CR Nelson 13469 Riley Nelson and Aquatic Entomology, Anna Monson, Andrew Parker, Ellie Cressman, Cole Moulton, Michael Creeger, Sophia Erickson, Isaac Schirmer 113 iphone Hesperoperla pacifica, Megarcys? signata, Chloroperlidae, Simuliidae 13469

13470 USA: UTAH: Uintah Co., Dinosaur National Monument, Quarry Exhibit Hall N 40.44061 W 109.30341 1529 m 03-Sep-2022 JK and CR Nelson 13470 Wolfgang and Leah Smith, Andrea Nelson and Jordan Christopher 113 iphone Talked with Michael? And Kaftou of Brigham City is from Jones family that lived in the house between Hulls and Johnsons on 200 West between 200 and 300 North in the 1970s when I lived at 211 North 300 West. photos: dinosaur bones: Camarasaurus, Diplodocus, Apatosaurus, Barosaurus, Stegosaurus, Allosaurus. I identified scorpions for the Kaftou? from Fruitland in 2013 or so. 13470

13471 USA: UTAH: Uintah Co., Dry Fork Canyon, McKonkie Ranch Petroglyphs N 40.54755 W 109.63793 1923 m 03-Sep-2022 JK and CR Nelson and family 13471 Wolfgang and Leah Smith, Andrea Nelson and Jordan Christopher 113 iphone Near sunset, photos: Fremont rock art, mostly petroglyphs, few vague pictographs shamans holding something 13471

13472 USA: UTAH: Uintah Co., Brush Creek Road, heading toward Rainbow Park, shale outcrop, stop 1 of day N 40.48783 W 109.38815 1571 m 04-Sep-2022 JK and CR Nelson and family 13472 Wolfgang and Leah Smith, Andrea Nelson and Jordan Christopher 113 iphone sparse fish scales in what looked like Green River shale none kept, walked in cheat grass dominated greasewood, no junipers near by no asilidae Bombyliidae, sparse fish scales 13472

13473 USA: UTAH: Uintah Co., Dinosaur National Monument, Island Park Road, McCall Springs petroglyphs, stop 2 of day N 40.50894 W 109.19891 1564 m 04-Sep-2022 JK and CR Nelson and family 13473 Wolfgang and Leah Smith, Andrea Nelson and Jordan Christopher 113 iphone photos: sitting with Wolfgang in the shade of alluvial cliff near dry wash. He had a fever. Others climbed to rock art. Photos: expensive Tesla car on a dirt road.

Impressive shamans with angular structure in one hand and round or spiral in other one set overlapped to share the spiral structure very nice. I drew a copy of insect man art (with bullet pock mark in "his" heart. Photos: *Promachus aldrichii* female with Pentatomidae prey then family returned and I climbed alone to rock art. 13473

13474 USA: UTAH: Uintah Co., Dinosaur National Monument, Green River, Island Park Road, Rainbow Park Campground stop 3 of day N 40.49557 W 109.17415 1502 m 04-Sep-2022 JK and CR Nelson and family 13474 Wolfgang and Leah Smith, Andrea Nelson and Jordan Christopher 113 iphone photos: lunch at picnic table very hot. Wolf feverish - he gave each of us family members alternative names - marshmallows, mini marshmallows, ice cream girl. Broad sandy stretch of river Andrea and Jordan waded, No asilidae, on quick look. Photos: Leah in a boxelder tree 13474

13475 USA: UTAH: Uintah Co., Vernal, also Naples and Jensen Dinosaur sculptures around towns N 40.45593 W 109.51143 1608 m 03-Sep-2022 05-Sep-2022 JK and CR Nelson and family 13475 Wolfgang and Leah Smith, Andrea Nelson and Jordan Christopher 113 iphone photos: dinosaur art. Photos: hamburger dinner with Amy and Todd Smith added to family group in the late afternoon at rental house 13475

13476 USA: UTAH: Uintah Co., Green River, 0.5 miles below Jensen, Hwy 40 bridge N 40.35458 W 109.34438 1441 m 04-Sep-2022 CR Nelson and family 13476 Wolfgang and Leah Smith, Andrea Nelson and Jordan Christopher, Amy and Todd Smith 113 iphone Kaye and Wolf were not there, Wolf was sick. Photos: nice portraits of CR Nelson by both Amy and Andrea. Photos: scenery and people, river bottom at site was all shifting sand shallow and wide we parked at a nice spot below an old corral, nice sunset. Leah enjoyed floating in the slow, clean current. Nice sunset. No Homoeoneuria. UV light toe art, with nail polish. Photos: Baetidae in kick samples large black and white banded, beautiful, UV light trap after dark inundated by Polymitaeridae adults, few Trichoptera. photos: took a subimago Baetidae home to rear, emerged during the night, photographed in morning - beautiful male. 13476

13477 USA: UTAH: Uintah Co., Moonshine Arch and trail, off Hwy 191 above Steinaker Reservoir N 40.49392 W 109.52299 1798 m 05-Sep-2022 JK and CR Nelson and family, whole group 13477 Wolfgang and Leah Smith, Andrea Nelson and Jordan Christopher, Amy and Todd Smith 113 iphone photos: scenery and people, nice group shot by a woman using our camera in an alcove. Photos: Pygmy - blue butterfly, Russian thistle 13477

13478 USA: UTAH: Uintah Co., Vernal, Utah Field House of Natural History N 40.45564 W 109.51953 1616 m 05-Sep-2022 JK and CR Nelson and whole family 13478 Wolfgang and

Leah Smith, Andrea Nelson and Jordan Christopher, Amy and Todd Smith 113 iphone photos: museum exhibits 13478

13479 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m, 05-Sep-2022 JK and CR Nelson 13479 113 iphone Hot Labor Day afternoon, watered grass at house and drained full tank (hooray) of culinary water down some in late afternoon. No leaks in gulley pipes! Hooray. Left at near dark, 7:30 pm after having drained only a couple hundred gallons. Late departure resulted in no traffic delays due to Labor Day tourist returns. Home before 8:15 pm. All is well. Drove to cabin coming back from Vernal through Duchesne, Indian Canyon, took well-paved Emma Park Road to Soldier Summit then down Spanish Fork Canyon. 13479

13480 USA: UTAH: Utah Co., Spring Creek, Springville, Department of Natural Resources offices N 40.18258 W 111.61093 1382 m, 08-Sep-2022 CR Nelson 13480 Riley Nelson and aquatic entomology class, Cordon Wade, Andrew Parker, Ellie Cressman, Kole Moulton, Michael Creeger, met Tod Morgan of DWR 113 iphone New Zealand mudsnails, Lymnaea snails, Fluminicola snails, small snail "like" Fluminicola, Polycelis flatworm, Libellula saturata adults, Argia adults, Sympetrum red adults, sponge Ephedratia fluviatilis - saw none! Spongillafly adults/larvae, Asellus aquaticus 13480

13481 USA: UTAH: Utah Co., Right Hand Fork Hobble Creek, Cherry Campground N 40.16862 W 111.47725 1585 m 08-Sep-2022 CR Nelson 13481 Riley Nelson and aquatic entomology class, Cordon Wade, Andrew Parker, Ellie Cressman, Kole Moulton, Michael Creeger, 113 iphone Rhyacophila 2 spp, Hydropsyche? Parapsyche? Haliplidae - Brychius, Dryopidae-Helichus, Dytiscidae? Gerridae, Baetidae, Heptageniidae, Ephemerellidae, Sialidae! Two small larvae, Simuliidae, Dixidae. 13481

13482 USA: UTAH: Utah Co., Provo River, Provo, BYU River, Park at pavillion, 2230 North, 300 West N 40.26507 W 111.66371 1405 m, 10-Sep-2022 CR Nelson 13482 Riley Nelson and Biology classes, Lauryn Crabtree Dupaix, Megan Crow, Isaac Hall (Gopro), Lauren Nelson, Sydney Livingston, Cristal Marin, Drew Erickson, Brian Gooch, Colter McKee, Jacob Arsenault, Wesley Edwards, Thoms Michie, Carson McKee, M. Ran de Ritz, Rebecca Wright, Josh Baird (Gopro), Kyle Dahl, Leah Frei, Annie Jaynes, Sadie Milne, Eliza Black, Elizabeth Munoa, Kaye Nelson, Lindsay Rasmussen, Mason Neville, Jay Christensen, Brady Fancis, Myles Rawlings, McKenna Budd, Thomas Hale, Isabelle Fee, Allison Larsen, Rebekah Pyper, Aladini Maly, Rosa Walton, Lilly Modrell, Morgan Mortensen, Elie Blackham, Kyle McComber, Zak Ross, Annie Rex, Alyssa Walker, Tate Modersitzki, Olivia Madsen, Tyson Bills, Megan Hatch, Kennedy Watson, Zion Deccio, Emma Lake, Sydney Crandall, Noelyn Campbell (cameraman), Zoe Pratt, Robert (robby) Donaldson, Olivia Madsen, Tyson Bills, Gage Burningham, Zachary Eanes, Rylee Holmes, Natalie Yates, Savannah Bishop, Jaxon

Cullimore, Hannah Williams, Brooke Farnsworth, Britain Barker, Spencer Dart, Jaeger Roberts, Ellie Cressman, Kole Moulton, Gabi Jijon, Danyon Gedris, Cordon Wade, about 70 on the river. 113 iphone First 100 benthic samples, velocity 7.6, 8.4, 8.1, 8.4, 8.4. Seconds/10 m - 8.2, 8.9, 7.9, 7.9, 8.9. Velocity average = 0.827 m/sec. Temp of air - 26 degrees Celsius, Temperature of water - 19 degrees Celsius. Polycelis, Platyhelminthes, Hirudinea, Dina, Baetidae, Hydropsychidae, Hydropsyche, Asellus aquaticus, Lestidae, Archilestes grandis? Leptoceridae - Oecetis, Oligochaeta, Fluminicola (eases other snails), Limnephilidae-Hesperophylax. Simuliidae Simulium, Ephydatia fluviatilis, Chironomidae, Gerridae, Coenagrionidae-Argia. Belted Kingfisher, stonefly? Rhyacophilidae - Gabi. 13482

13483 USA: UTAH: Utah Co., Utah Lake, Vineyard, Jacob Holdaway's Walkara Way N 40.27957 W 111.76107 1366 m 15-Sep-2022 CR Nelson 13483 Riley Nelson and Aquatic Entomology Class, Anna Monson, Andrew Parker, Isaac Schirmer, Sophia Erickson, Cordon Wade, Michael Creeger, Kole Moulton, Ellie Cressman, Danyon Gedris (lab student) 113 iphone photos: people and scenery, Corixidae-Trichocorixa, Notonectidae-Notonecta, Chironomidae, Chironominae, Dytiscidae, Corbicula fluminea, larger long dead mussel. 13483

13484 USA: UTAH: Utah Co., Utah Lake, Wetland pond Jacob Holdaway's Walkara Way N 40.28200 W 111.75321 1376 m 15-Sep-2022 CR Nelson 13484 Riley Nelson and Aquatic Entomology, Anna Monson, Andrew Parker, Isaac Schirmer, Sophia Erickson, Cordon Wade, Michael Creeger, Kole Moulton, Ellie Cressman, Danyon Gedris (lab student) 113 iphone photos: people and scenery, walking toolies: cattails, Phragmites, hardstem bulrush; round Scirpus: flat, triangular, Hydrophilidae, Libellulidae, Aeshnidae 13484

13485 USA: UTAH: Utah Co., Provo, Christine and Paul Frandsen house, 333 East 100 South N 40.23270 W 111.65266 1385 m 15-Sep-2022 JK and CR Nelson 13485 and friends 113 iphone Going Away and Congratulations on Mater's degree defense party for Isabella Errigo at Frandsen house, photos: people. 13485

13486 USA: UTAH: Utah Co., Wheller Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m, 16-Sep-2022 18-Sep-2022 JK and CR Nelson family and friends 13486 Riley Nelson, Kaye Nelson, Kelly Wheeler, Andrea Nelson and dogs, Ken Johansen, John Groneman, Todd Smith, Amy Smith, Wolf Smith, Leah Smith, Brett Wheeler, Paul Maki, Leslee Maki, Todd Chandlee, Aicha Rochdi and dogs 113 iphone photos: repairing crossings and roads, and berms after recent flash floods. Lined up ovoo for fall equinox early with a stick in a sagebrush and a rock on the ground with 30 minutes after sunrise sun and top of ovoo - more or less parallel with highway. Rabbitbrush in full bloom. 13486

13487 USA: UTAH: Utah Co., Goshen Warm Springs, north pond, spring and ditch N 39.95959 W 111.85548 1377 m, 22-Sep-2022 CR Nelson 13487 Riley Nelson and Aquatic Entomology class with Tod Morgan, Tod Morgan (Division of Wildlife Resources), Andrew Parker, Isaac Schirmer, Kole Moulton, Ellie Cressman, Cordon Wade, Michael Creeger, Anna Monson 113 iphone photos: bull frog, Mesoveliidae, Gerridae (2 species), Calopterygidae, Libellulidae, Lestidae, Coenagrionidae, Elmidae in spring head Stenelmis? Baetidae Callibaetis, Hyaella azteca, Dugesia? Chinese Mystery Snail, Physa, Syrphidae - Eristalinae, Cantharidae - Chauliognathus on sunflower Helianthus annuus. 13487

13488 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thsitle N 39.95623 W 111.26763 1829 m, 23-Sep-2022 24-Sep-2022 JK and CR Nelson 13488 Riley Nelson and family, Kelly Wheeler, Kaye Nelson, Kelly Wheeler, Jan Gray, Dell Mead, Stephanie Mead, Mydhigan Mead, Ryver Mead, Wyllow Mead, Sawyer Mead, Fyn Mead, Amy Smith, Wolf Smith, Leah Smith 113 iphone photos: Friday day after fall equinox, 23 Sep 2022 sunset, Line: local sunset - our gate - ovoo! on to dead tree on east ridge, Saturday-sunrise, gate-notch of highway to east, Ovoo not near line. Photos: 24 Sep 2022 self-portrait shadows. Worked on repairing culinary water line and irrigation water line, both repaired in the end. Many other smaller repairs. Culinary water spring captured to rate of 21 see/12 ounce pop can = 17 gallons/hour by repairing pipe. Red tailed hawk, rock wren, magpie, black capped chickadee, black chinned hummingbirds, sagebrush lizards 13488

13489 USA: UTAH: Utah Co., Diamond Fork River, Dry Canyon Picnic Area N 40.07976 W 111.36366 1669 m 29-Sep-2022 CR Nelson and Aquatic Entomolgy class 13489 Riley Nelson and Aquatic Entomolgy class, Michael Creeger, Anna Monson, Ellie Cressman, Isaac Schirmer, Kole Moulton, Sophia Erickson, Cordon Wade 113 iphone Pteronarcys californica, Pteronarcyidae, Perlodidae, Isogenoides zionensis, Ephemerellidae, Drunella grandis, Gerridae Aquarius? Hydrophilidae, Tropisternus, Helicopsychidae, Helicopsyche, Baetidae Baetis, Brachycentridae, borealis, Brachycentrus, Athericidae-Atherix, Uenoidae-Oligophlebodes Elmidae, Optioservus, Platyhelminthes, Tipulidae-Hexatoma, backwater-Corixidae, Physidae, Aeshnidae, Libellulidae, Coenagrionidae, underwater videos. 13489

13490 USA: UTAH: Millard Co., Meadow Hot Springs, 5 miles west of Meadows N 38.86205 W 112.50529 1446 m 06-Oct-2022 CR Nelson, 13490 C Riley Nelson and Aquatic Entomology class, Elizabeth (Ellie) Anne Cressman, Anna Ketura Monson, Cordon David Wade, Michael Francis Creeger, Andrew Brent Parker, Isaac Carney Schirmer, Sophia Paige Erickson, Kole Enya Moulton 113 iphone Cicindelidae tiger, Libellulidae-Libellula saturata, Ephydriidae shore flies, Saldidae shore bug, Chironomidae non biting midges, Western meadow lark, Phidippus johnsoni jumping spider, Lycaenidae pygmy blue, Poeciliidae mollies, Cichlidae jewel fish, big honker "tilapia", several other african cichlids, convict

cichlids, Dolichopodidae, no surface water in "marshlands", usually there is. Small springs.
13490

13491 USA: UTAH: Washington Co., Leeds Creek, 4 miles west of Leeds, campsite 9 N 37.28144 W 113.39532 1412 m, 06-Oct-2022 CR Nelson 13491 C Riley Nelson and Aquatic Entomology class, Elizabeth (Ellie) Anne Cressman, Anna Ketura Monson, Cordon David Wade, Michael Francis Creeger, Andrew Brent Parker, Isaac Carney Schirmer, Sophia Paige Erickson, Kole Enya Moulton 113 iphone California sisters butterflies, Cerambycidae - Pepsis mimic, Amphizoidae-Andrew Parker. Hydroptilidae, Elmidae, Aeshnidae, Baetidae, Caddis 13491

13492 USA: UTAH: Washington Co., Leeds Creek, 2 miles west of Leeds, at irrigation grate removal site N 37.26629 W 113.36839 1215 m, 07-Oct-2022 CR Nelson 13492 C Riley Nelson and Aquatic Entomology class, Elizabeth (Ellie) Anne Cressman, Anna Ketura Monson, Cordon David Wade, Michael Francis Creeger, Andrew Brent Parker, Isaac Carney Schirmer, Sophia Paige Erickson, Kole Enya Moulton 113 iphone Megaloptera, Naucoridae, Calopterygidae, Hydropsychidae, Hydroptilidae, Perlodidae Isoperla, Pteronarcyidae Pteronarcella, Orconectes "neglectus" (Photos: Sophia and Riley with crawdad), Lestidae Archilestes grandis, Libellulidae, Coenagrionidae Argia nymph, Uta stansburiana, Tetragnathidae 13492

13493 USA: UTAH: Washington Co., Virgin River, under I-15 bridge downstream from Confluence Park, St. George N 37.06971 W 113.58415 758 m 07-Oct-2022 CR Nelson 13493 C Riley Nelson and Aquatic Entomology class, Elizabeth (Ellie) Anne Cressman, Anna Ketura Monson, Cordon David Wade, Michael Francis Creeger, Andrew Brent Parker, Isaac Carney Schirmer, Sophia Paige Erickson, Kole Enya Moulton 113 iphone Veliidae - Rhagovelia, Megaloptera larvae - Corydalus texanus, Hydropsychidae - Smicridea? Baetidae, Dryopidae, Gomphidae, Calopterygidae 13493

13494 USA: NEVADA: Clark Co., Warm Springs Natural Area, side hill aquariums N 36.71019 W 114.71244 541 m 07-Oct-2022 CR Nelson 13494 C Riley Nelson and Aquatic Entomology class, Elizabeth (Ellie) Anne Cressman, Anna Ketura Monson, Cordon David Wade, Michael Francis Creeger, Andrew Brent Parker, Isaac Carney Schirmer, Sophia Paige Erickson, Kole Enya Moulton 113 iphone photos: warm spring, art work insects, people Photos: White river springfish, Moapa dace 13494

13495 USA: NEVADA: Clark Co., Warm Springs Natural Area, Cardy Lamb Springs N 36.72500 W 114.72816 543 m 07-Oct-2022 08-Oct-2022 CR Nelson 13495 C Riley Nelson and Aquatic Entomology class, Elizabeth (Ellie) Anne Cressman, Anna Ketura Monson, Cordon David Wade, Michael Francis Creeger, Andrew Brent Parker, Isaac Carney Schirmer,

Sophia Paige Erickson, Kole Enya Moulton 113 iphone photos: scenery and people, Raw mercury vapor lamp. Photos: Notonectidae (Buena); bull frogs, Belostomatidae Belostoma, Embioptera Oligotoma nigra, white lined sphinx Hyles lineata, Petrophila, caddisflies, bladder wort-Utricularia, Coenagrionidae, Libellulidae, Chrysomelidae, Scorpion, Aeshnidae. Photos at home later: Mutillidae, Dasymutilla. 13495

13496 USA: NEVADA: Clark Co., Warm Springs Natural Area, Muddy River, near headwaters at Main stem crossing N 36.71551 W 114.71148 529 m, 08-Oct-2022 CR Nelson 13496 C Riley Nelson and Aquatic Entomology Class, Elizabeth (Ellie) Anne Cressman, Anna Ketura Monson, Cordon David Wade, Michael Francis Creeger, Andrew Brent Parker, Isaac Carney Schirmer, Sophia Paige Erickson, Kole Enya Moulton 113 iphone photos: Hydropsychidae - Smicridea, Megaloptera Corydalus texanus, Calopterygidae Hetaerina americana, Crambidae Petrophila, Naucoridae - Limnocharis capensis, Ambrysus mormon, Elmidae (2 species), Gomphidae, Libellulidae - Libellula saturata, Brechmoroga mendax, Leptoceridae Nectopsyche? Species 2 Oecetis. Philopotamidae, Helicopsychidae, Leptohiphidae - Tricorythodes, Baetidae (2 species), Hymenoptera, Pisauridae, Salticidae. Photos at home later: Pholcidae with Reduviidae, mites-acari, Veliidae-Rhagovelia. 13496

13497 USA: NEVADA: Clark Co., Muddy River, Hidden Valley Road, south of Glendale N 36.65260 W 114.61884 476 m, 08-Oct-2022 CR Nelson 13497 C Riley Nelson and Aquatic Entomology Class, Elizabeth (Ellie) Anne Cressman, Anna Ketura Monson, Cordon David Wade, Michael Francis Creeger, Andrew Brent Parker, Isaac Carney Schirmer, Sophia Paige Erickson, Kole Enya Moulton 113 iphone photos: scenery, people, group shot. Photos: Isonychiidae Isonychia, Baetidae, Naucoridae Ambrysus, Leptohiphidae, Calopterygidae Hetaerina americana, Coenagrionidae - Argia. 13497

13498 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m, 09-Oct-2022 JK and CR Nelson, 13498 AT, AL, WW, LV Smith 113 iphone watered the new lawn along with the old. It is growing well. Walked to the tanks twice. The irrigation water isn't filling the tanks. The capture tarp probably failed. I didn't want to walk and see. Todd's trail cameras captured photos of deer, pack rats, cotton tail rabbit, jack rabbit, red fox, striped skunk, spotted skunk, bobcat, and cougar, maybe a rock squirrel 13498

13499 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 11-Oct-2022 CR Nelson 13499 113 iphone Collembola on surface of water in tropical aquarium 13499

13500 USA: UTAH: Utah Co., North Fork Provo River, Hwy 92, 1.6 miles southwest of Sundance Resort, 0.7 miles NW of Hwy 189 N 40.37069 W 111.56703 1661 m 13-Oct-2022

CR Nelson 13500 Riley Nelson and Aquatic Entomology Class, Anna Monson, Michael Creeger, Cordon Wade, Sophia Erickson, Isaac Schirmer, Ellie Cressman, Kole Moulton, Andrew Parker 113 iphone Rhyacophilidae, Baetidae, Elmidae, Tipulidae (2 genera), Oligochaeta, No Blephariceridae, No Drunella grandis 13500

13501 USA: UTAH: Utah Co., Little North Fork Provo River, above Sundance Resort, near BYU Timp Lodge N 40.38918 W 111.58722 1927 m 13-Oct-2022 CR Nelson 13501 Riley Nelson and Aquatic Entomolgy class, Anna Monson, Michael Creeger, Cordon Wade, Sophia Erickson, Isaac Schirmer, Ellie Cressman, Kole Moulton, Andrew Parker 113 iphone Baetidae, Elmidae, Heptageniidae - Rhyacophila, Chironomidae, Oligochaeta, lost aspirator, no Blephariceridae, no drunella doddsii 13501

13502 USA: UTAH: Utah Co., Kyhv Peak Road (rhymes with five), 0.85 miles road south Hwy 192 N 40.32305 W 111.63319 1615 m 13-Oct-2022 CR Nelson 13502 113 iphone photos: Cascade Mountain, in fall colors, reds of big tooth maple, magnificent. New parking lot called "Kyhv Peak Parking Lot" or "Squaw" peak parking lot on maps. photos: reds of bigtooth maple 13502

13503 USA: UTAH: Utah Co., West side of Utah Lake, east of Hwy 68, Smith Family Archaeological Preserve N 40.19189 W 111.89516 1428 m 15-Oct-2022 CR Nelson, 13503 CJ Whipple and G.B. Handley with BYU Place Class 113 iphone photos: people, scenery, rock art. Walked on tour with Elizabeth first to a south knoll with outcrops of Butterfield Canyon Sandstone (much carved with rock art) and "Oquirrh" limestone then crossed a low saddle to the slopes of a north knoll and back to the cars. Area is unrestored (tried drilling seed but didn't work) cheat grass after a series of fires removed most big sage, some rubber-rabbit brush. I looked at lake from 200 m west. Sage, Rabbit brush. Nice shoreline of Utah Lake (probably sand and rock) with much tamarisk, then narrowleaf cottonwood or black willow and a few Fremont cottonwoods. Not too much phragmites. 13503

13504 USA: UTAH: Utah Co., Provo, BYU, Nelson lab, 4118 LSB, N 40.2453 W 111.6489 1417 m 17-Oct-2022 CR Nelson 13504 113 iphone photo session with iPhone and Nikon D610. Week one from CRN 13459: Dynastes granti pair, male and female dead, 11 good eggs in their cage with good compost. Photos: Dynastes granti 13504

13505 USA: UTAH: Utah Co., Orem, Utah Valley University, 501 Clarke Building N 40.28145 W 111.71791 1422 m 18-Oct-2022 JK and CR Nelson 13505 113 iphone Utah Lake meeting. Photos: people and presentations of scope of scientific work being done on Utah Lake, mostly Department of Natural Resources 13505

13506 USA: UTAH: Salt Lake Co. University of Utah, Natural History Museum of Utah N 40.76395 W 111.82278 1541 m 20-Oct-2022 JK and CR Nelson, 13506 AJ Nelson, AT and ALN Smith 113 iphone photos: exhibit of Angkor, temples of Cambodia 13506

13507 USA: UTAH: Utah Co., Provo, BYU, Nelson lab, 4118 LSB, N 40.24527 W 111.64910 1416 m 21-Oct-2022 CR Nelson 13507 113 iphone photo: Hydropsychidae - Hydropsyche in silk net from USA:UTAH:Utah Co., Provo River, Provo, BYU River Park 2230 North 300 West N 40.26507 W 111.66371 elevation: 1405 m, 10 September 2022, CR Nelson and CRN 13482 collectors and Gabriela, Jijon and Danyom Gedris and class. Hydropsyche for silk net studies Danyon reported that one adult had emerged by 22 October 2022. Hydropsychidae - Hydropsyche in silk net. 13507

13508 USA: UTAH: Utah Co., Wheeler Sawmill, 12 miles east of Thistle, Hwy 6 N 39.95623 W 111.26763 1829 m, 21-Oct-2022 22-Oct-2022 JK and CR Nelson, 13508 AT, ALN, WW, and LV Smith 113 iphone winterized cabin and pipes drained water heater, because pipes, irrigation system and culinary system down to the gulley crossing faucet. Spring flow was: 33 sec/12 ounce can, 34, 33.29, use 33 seconds/can = about, 10 gallons/hour. 13508

13509 USA: UTAH: Utah Co., Provo River, Provo, 2230 N 300 W, BYU River Park, pavilion N 40.26507 W 111.66371 1405 m, 26-Oct-2022 CR Nelson 13509 113 iphone Hydropsychidae, Hydropsyche for lab flow aquarium, Leptoceridae - Oecetis species 13509

13510 USA: UTAH: Utah Co., Sixth Water Creek, upper bridge on Sheep Creek Road, 2.25 miles east of Springville Crossing N 40.15106 W 111.30093 2040 m 28-Oct-2022 CR Nelson, 13510 T Mulford, J Birrell 113 iphone Photos: people photos: mass stains of Athericidae adults on bridge, Chironomidae in gel case on wood, scale insects on tall willow, Elmidae - Optioservus, Helicopsychidae, Asellus, people. 13510

13511 USA: UTAH: Utah Co., Diamond Fork River, 0.25 miles south of Sawmill Hollow Campground N 40.13778 W 111.34041 1881 m 28-Oct-2022 CR Nelson 13511 , T Mulford, J Birrell 113 iphone photos: site Photos: Pteronarcys californica, Limnephilidae large cases, Onocosmoecus? 13511

13512 USA: UTAH: Utah Co., Sixth Water Creek at Three Forks Trailhead N 40.08444 W 111.35550 1689 m 28-Oct-2022 CR Nelson 13512 , T Mulford, J Birrell 113 iphone photos: site and Jackson placing recording thermometer. Photos: car from Maine! Saw also Florida, Utah, Nevada, California 13512

13513 USA: UTAH: Utah Co., Diamond Fork River at Dry Canyon Campground N 40.07986 W 111.36364 1672 m 28-Oct-2022 CR Nelson 13513 113 iphone photos: site. photos:

scenery at various spots moving down the road, some with turkeys at Red Ledges Picnic Area Photos: selfie with *Pteronarcys californica* 13513

13514 USA: UTAH: Utah Co., Little Diamond Creek, jct Diamond Fork River, Megafire site N 40.06709 W 111.44101 1587 m 28-Oct-2022 CR Nelson 13514 113 iphone photos: scenery of site 13514

13515 USA: UTAH: Utah Co., Provo, JCW Restaurant near BYU River Park N 40.26386 W 111.66575 1411 m 28-Oct-2022 JK and CR Nelson 13515 , A and J Smith Birrell and Jared Meeks 113 iphone photos: people at restaurant reunion of lab students 13515

13516 USA: UTAH: Utah Co., Provo, East Foothill Drive between University Blvd and Canyon Road N 40.29364 W 111.65484 1469 m 03-Nov-2022 JK and CR Nelson 13516 and WW and LV Smith 113 iphone watch for misnumbering starting here with CRN 13616. photos: Mount Timpanogos in a beautiful coat of snow above colorful fall leaves. More photos taken from 800 North and from State Street between Orem and Pleasant Grove. 13516

13517 USA: UTAH: Salt Lake Co., Sandy, Scheels store N 40.54668 W 111.89333 1354 m 05-Nov-2022 JK and CR Nelson 13517 family 113 iphone photos: fish in store aquarium LIST THEM WHEN labeling photos 13517

13518 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 07-Nov-2022 JK and CR Nelson 13518 113 iphone photos: Family Home Evening group with Ben Abbott talking of Utah Lake history and conservation 13518

13519 USA: UTAH: Utah Co., Provo, BYU, Marriott Center then walk to Life Sciences Building N 40.25375 W 111.64925 1439 m 08-Nov-2022 CR Nelson 13519 113 iphone photos: devotional and leaf stains on concrete sidewalks 13519

13520 USA: UTAH: Salt Lake Co. to Seattle Airport, Delta Airline N 40.79807 W 111.99818 1301 m 12-Nov-2022 CR Nelson 13520 and PB Frandsen, Ashlynn Powell, Ellie Gamett 113 iphone photos: Salt Lake Airport, take off: 7:14 am, marshes, Willard peak, Antelope Island 13520

13521 USA: Idaho-Washington Snake River Plain to Seattle N 42.50788 W 114.53324 11580 m 12-Nov-2022 CR Nelson, 13521 Ashlynn Powell, Elli Gamett, PB Frandsen 113 iphone photos: Snake River Plain. Photos: Mount Rainier, Puget Sound area - Tacoma - Seattle - landing - Seattle - 7:46 am PST, takeoff Seattle 10:03 am PST, Landing Vancouver, Canada 10:32 am PST 13521

13521.5 USA: Idaho-Washington View to North face of Mount Rainier N 47.04361 W 121.44947 3660 m 12-Nov-2022 CR Nelson, 13521.5 Ashlynn Powell, Elli Gamett, PB Frandsen 113 iphone t 13521.5

13522 CANADA: British Columbia Vancouver, Vancouver Harbor, Downtown Eastside N 49.28783 W 123.11922 119 m 12-Nov-2022 15-Nov-2022 CR Nelson 13522 and PB Frandsen, many students 113 iphone photos: streets and poutine people 12 nov 2022, raccoon at night, sunrise, skyscrapers and bay from Hotel. talks 13 Nov 2022: people, Samantha Standring and Becca Clemat, Ed Vargo. Syd Cannings and Anna Eichert, Plenary diversity in sunrise from hotel. 14 Nov 2022: convention center talks Ashlynn Powell, Ellie Gammett, Anna Eichert, Makani Fisher, Yelena Pacheco, Teagan, Mulford, Jonas Bush. 15 Nov 2022, Megabites, sunrise, Convention Center talks. Ellie and Ashlynn in Marriott Hotel lobby, Globe in foyer of Convention center. Cannabis posters. Ballantines 30 year old scotch. Vancouver airport ceiling. Vancouver take off 4:29 pm. Mount Baker 4:34 pm, Seth Bybee in plane. Landing Seattle 5:00 pm PST, Seattle helix ceiling with Paul Frandsen. Take off Seattle 7:13 pm PST, landing Salt Lake 9:42 MST photos. Herring gulls, bay cormorants, 13522

13523 USA: UTAH: Utah Co., Provo, BYU, 2102 LSB N 40.24548 W 111.64921 1406 m 17-Nov-2022 CR Nelson 13523 113 iphone photos: 50 years of teaching evolution at BYU: Clayton White, Duane Jeffery, Jordan Tanner, Janene Auger 13523

13524 USA: UTAH: Box Elder Co. Bear River Migratory Bird Refuge N 41.44061 W 112.31505 1283 m 19-Nov-2022 JK and CR Nelson, AJ Nelson 13524 113 iphone Route from visitor center in Brigham City to auto route at Refuge. GPS reading from auto route on west side of South Bay, 31 species of birds and 2 species unsure. I remember: rough legged hawk, starling, Canada geese, Tundra swan, northern harrier, bald eagles, golden eagle, ravens, brewers blackbirds, western meadowlark, California gulls. ring billed gulls, sand piper, gadwall duck, pied billed grebes, green winged teal duck, common golden eye duck, mallard duck, red winged blackbird female, great blue heron, lesser scaup, ruddy duck, coot, cormorant, red head duck, Canvas back duck, northern shoveler duck, common merganser, ring necked pheasant, loggerhead shrike, song sparrow, Killdeer, magpie, red tailed hawk. Herring shad 13524

13525 USA: UTAH: Box Elder Co. Brigham City, Nelson home, 211 North 300 West N 41.51520 W 112.02043 1331 m 19-Nov-2022 JK and CR Nelson 13525 113 iphone photos: mountain north of Flatbottom Canyon from Nelson home. The rock outcrop on ridge with a juniper just in front of it holds a special meaning to me. I found a dead skunk in the west facing "cove" of it when I hiked with friends at about age 11-12. It was full of maggots. I nearly threw up the wild onions I had just eaten with my meat on a stick meal. photos: juniper, skunk, maggot 13525

13526 USA: UTAH: Box Elder Co. Perry, Maddox Ranch House N 41.47572 W 112.02479 1331 m 19-Nov-2022 JK, CR, AJ, JF, LL Nelson 13526 113 iphone photos: group after nice dinner, Riley, Kaye, Andrea, Rick, and Lana 13526

13527 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 24-Nov-2022 CR Nelson 13527 113 iphone photos: sharp shinned hawk, Happy Thanksgiving. 13527

13528 USA: UTAH: Utah Co., Utah Lake, Provo, West Jetty, Utah Lake State Park N 40.24077 W 111.74670 1367 m 24-Nov-2022 JK and CR Nelson 13528 113 iphone photos: scenery after sunset, Happy Thanksgiving 13528

13529 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95908 W 111.26462 1952 m 25-Nov-2022 26-Nov-2022 JK and CR Nelson 13529 113 iphone We got to the cabin as the sun was going down on 25 November. It was cold after the sun went down, from 48 degrees F to below freezing. We got two fires going in the cabin and ran the gas wall heater. I got the generator going after we unpacked a bushel of leaves and juniper bark a rock squirrel had built on top of it in the generator shed. 26 November 2022: Todd, Amy, Wolf, and Leah come for breakfast. Todd and I then walked to the east ridge to see what the electrical pole people were building. Jordan and Andrea came later and Jordan met up on top at the east pole site 23 then we walked west to site 24. I took pictures along the way. Site 24 N 39.95897 W 111.27131 elevation: 1967 m. juniper bark, rock squirrel 13529

13530 USA: UTAH: Utah Co., Provo, JCW Restaurant N 40.26390 W 111.66583 1412 m, 02-Dec-2022 JK and CR Nelson 13530 113 iphone photos: people, Hannah , Jared, and Juniper Meek, Rachel and Clint Whipple, Teagan and Desert Mulford 13530

13531 USA: UTAH: Utah Co., Provo, West Center Street, Writ and Visions Bookstore N 40.23413 W 111.66351 1385 m 02-Dec-2022 JK and CR Nelson 13531 113 iphone photos: art show for Camilla Stark (former teaching assistant) and many others faced with OCD condition called scrupulosity, intense feelings of religious guilt. 13531

13532 USA: UTAH: Davis Co., Layton, Fox Creek, Ward Chapel, 202 West 1675 North N 41.08503 W 111.96918 1371 m, 03-Dec-2022 CR Nelson 13532 113 iphone photos: memorial services, funeral for Delose Stephen Conner my boyhood friend in Brigham City. Delose Conner (26 May 1953-25 November 2022). People back views, Leonard Hawkes, Janice Conner, Mikel and wife Stevens; Alison (married name? Elbradew?), Lafe, and Bryan Conner. 13532

13533 USA: UTAH: Davis Co., Layton, Conner home N 41.06589 W 111.96589 1339 m 03-Dec-2022 CR Nelson 13533 113 iphone photos: Janice and Delose Conner home. Photos: fox squirrel with walnut 13533

13534 USA: UTAH: Davis Co., Farmington Bay Wildlife, Management Area "headquarters" 1325 West Glovers Lane, Farmington N 40.93130 W 111.94799 1283 m 03-Dec-2022 CR Nelson 13534 113 iphone My Nikon Z7 camera photos recorded wrong time. Off by 2 hours. Today's shots were between 2:00-4:00 pm. So it may have been off at least 1 hour since Finland? Reset to Mountain Standard Time. Photos: northern pintail duck, killdeer, mallard duck, pied billed grebe, coot, great blue heron, red tailed hawk, American Kestrel, solitary sandpiper, Northern shoveler, lesser yellowlegs, gadwall duck, common goldeneye duck, northern harrier, ruddy duck, american wigeon duck, white faced ibis, ring necked pheasant, canvas back duck, canada goose, blue winged teal 13534

13535 USA: UTAH: Utah Co., Nebo Creek, near Hwy 89, 2 miles south of Birdseye N 39.89053 W 111.55251 1700 m 10-Dec-2022 CR Nelson 13535 and AT Smith 113 iphone photos: site, creek, 1 Megafire composite macroinvertebrate sample in two medical specimen cups. Ranch of Vickie and Kelly Mitchell and grown son Kyle. Phone: 801-873-3256 Hydropsychidae, Oligochaeta, Baetidae 13535

13536 USA: UTAH: Utah Co., Blind Creek, Hwy 89, 1.8 miles north of Birdseye N 39.94909 W 111.53651 1624 m, 10-Dec-2022 CR Nelson 13536 and AT Smith 113 iphone photos: site, trickle of a creek. One composite Megafire macroinvertebrates sample. I fell a short distance and hurt my right hand. Bruised or broke hand bones of little finger. My hand works well with very little residual pain on 25 February 2023 Tropisternus, Tipula 13536

13537 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m, 10-Dec-2022 CR Nelson 13537 and AT Smith 113 iphone plowed road wth four wheeler, Todd retrieved images from trail cameras. Photos: cat tracks, at driveway junction. Loaded four wheeler after installing snow plow blade and drove it on trailer home to Provo Photos: bobcat tracks 13537

13538 USA: UTAH: Utah Co., Wheeler Sawmill, 12 miles east of Thistle, Hwy 6 N 39.95623 W 111.26763 1829 m, 16-Dec-2022 17-Dec-2022 JK and CR Nelson, 13538 AJ Nelson and JO Christopher, AL, AT, WW, LV 113 iphone Guests slept one night, it got down to 0 degrees F, three fires going, Raven. Photos: icicles on sawmill shed, people, sledding, Estes rockets with Jordan. Photos: near solstice alignment on evening of 16 dec 2022 Raven 13538

13539 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive, N 40.29343 W 111.64922 1495 m 25-Dec-2022 JK and CR Nelson 13539 113 iphone Sunday. Merry

Christmas. Photos: robin, hermit thrush, spotted towhees, dark eyed juncos, house finch, woodhouse scrub jay, house sparrow, white crowned sparrow, tree squirrel 13539

13540 USA: UTAH: Millard and Beaver Co., from I-15, Holden - Cedar City N 38.441068 W 112.640446 25-Dec-2022 JK and CR Nelson 13540 113 iphone On freeway between Holden and Cedar City. photos: scenery and highway on iPhone, each with its own GPS readings. 13540

13541 USA: CALIFORNIA: San Bernardino Co., I-15 scenes near Nipton and Baker, Zzyzx Road N 35.20161 W 116.12064 340 m 26-Dec-2022 JK and CR Nelson 13641 113 iphone photos all with iphone and its GPS: reflective solar power arrays Photos: joshua trees, desert trees 13541

13542 USA: CALIFORNIA: Orange Co., Newport Beach, pier, Pacific Ocean N 33.60588 W 117.93135 2 m 26-Dec-2022 JK and CR Nelson, 13542 AJ Nelson and JO Christopher, AT, AL, WW, and LV Smith 113 iphone photos: beach and sunset, people Photos: marbled godwit, western gull, brown pelican 13542

13543 USA: CALIFORNIA: Orange Co., Anaheim, Disneyland N 33.80980 W 117.91900 44 m 26-Dec-2022 31-Dec-2022 JK and CR Nelson 13543 AJ Nelson and JO Christopher, AT, AL, WW, and LV Smith, JR, BD, AV, and AJ Nelson 113 iphone 26-31 dec 2022 also at Peacock Suites, rooms. Photos: people and scenery many family pictures. 27 dec: Disneyland rides and plants. Big Thunder Mountain Railroad Smuggler's Run, Rise of the Stormtroopers Resistance, Space Mountain, Jungle Cruise, Indiana Jones, left earlier in evening - 10:00 pm? people in park, outside Tiki room, with Brandy and Artemis. Kaye portraits and many others in family. Pirates of the Caribbean, Haunted Mansion, The Whale, It's a Small World. 28 Dec 2022- photos: family in room. 29 Dec: California Adventure early, ended the night in Disneyland. photos: assortment of Mickey ears on strangers heads. Ride Guardians of the Galaxy, Brandy in room. Avengers-Webbslingers. Incredicoaster, yellow rumped warblers, palm tree close ups. Photos and Videos: Merry Go round, fountain videos, Artemis in blue velvet coat, Inside Out emotional whirlwind ride with happy dancing operator, "bowling balls", Silly Symphony swings, the little mermaid, sea shells polished in cement. Saw Jill Calderwood, Andrea and Amy's friend. Radiator Springs Racers, Mickey Mouse Parade, Wolfgang with snap dragons, Kid with bubbles, Rise of the Resistance, glow shoes on Todd, Amy, Wolf, Leah, At At Walkers. Submarine and Matterhorn. Ears assortment = \$34.95 average cost. Andrea with baby yoda (Grogu) ears. People in Teacup. whale. Fireworks and It's a small world. Photos: yellow rumped warbler, palm tree 13543

13544 USA: CALIFORNIA: Orange Co., Anaheim Hills, Yorba Regional Park N 33.87003 W 117.76243 91 m 28-Dec-2022 JK and CR Nelson, whole family 13544 AJ Nelson and JO

Christopher, AT, AL, WW, and LV Smith, JR, BD, AV, and AJ Nelson 113 iphone photos: kids playing in playground. Photos: fox squirrel, yellow throat bird, yellow rumped warblers, western blue birds, American Kestrel, copepods, downy woodpecker. 13544

13545 USA: CALIFORNIA: Riverside Co., Corona, Chris and Mandy Nelson home, 1831 Morfontaine Way N 33.81844 W 117.53407 520 m 28-Dec-2022 JK and CR Nelson and whole family 13545 AJ Nelson and JO Christopher, AT, AL, WW, and LV Smith, JR, BD, AV, and AJ Nelson 113 iphone photos: families of JR and CR Nelson, family of Chris and Mandy Nelson: Rex, Guy, Ivy, family of Nick Nelson (Christine at work), kids Justin, James, and Janae. Chris gave me back WWII artifacts from my fathers travels: an artillery shell (40mm Bofors anti aircraft shell, a Benjamin Air rifle, and a Japanese bayonet from WWII. 13545

13546 USA: CALIFORNIA: Orange Co., Laguna Beach, rocky shores, Heisler Park, Laguna Beach, State Marine Reserve N 33.54324 W 117.79188 5 m 30-Dec-2022 JK and CR Nelson and families 13546 113 iphone Rockpile Beach, Monument Point Photos: whimbrel, sea anemones, black phoebe, western gull, willets, chitons, periwinkles, hermit crabs, tree aloe, polychaete worms, christmas tree worms, spotted sandpiper, coralline algae, Anthopleura elegantissima, Anthopleura sola, Strelitzia bird of paradise plant 13546

13547 USA: CALIFORNIA: Orange Co., Laguna Niguel, Niguel Botanical Preserve N 33.53184 W 117.70921 69 m 30-Dec-2022 JK and CR Nelson and families 13547 113 iphone nice developing garden. We also stopped and talked with Jean and Paul Belfiglio in Laguna Niguel. She is my sister-in-law, my brother Randy, her husband, died in September 2000. Paul gave me two rocks from his hillside garden - a palm-sized crystal of quartz and a larger piece of granite. I'll put them by my pond. Belfiglio home. N 33.49974 W 117.72254, elevation: 96 m. 31861 National Park Drive, Laguna Niguel, CA, 92676. jrbelfiglio@cox.net 13547

13548 USA: CALIFORNIA: San Bernadino Co., Barstow N 34.85378 W 117.08868 711 m 31-Dec-2022 JK and CR Nelson 13548 113 iphone photos: blackbirds perching in a tree in a restaurant parking lot. 13548

13549 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 03-Jan-2023 CR Nelson 13549 114 iphone photos: started markings on military artillery shell. This shell was in the attic of my boyhood home, 211 North 300 West Brigham City, Utah 84302 all the time I was growing up I assumed my father brought it back from World War II in the South Pacific. My brother Winston Randall Nelson took it to CALiformina where my dad died in 1995. It later went to Randy's Son Chris who restored it to me: CRN 13545 13549

13550 USA: UTAH; Utah Co., Provo River, BYU River Parks, Provo, 300 W 2730 N N 40.26508 W 111.66397 1409 m 21-Jan-2023 CR Nelson 13550 Biology Classes 114 iphone First 100s start: 10:02am, air temperature: 0 degrees celsius at 10:05 am, water temperature: 2 degrees celsius at 12:40pm, tholweg velocity: 1.1 m/sec, west twnk - 76,75,766,67 fallen Fremont Cottonwood, Kept an 18 inch stomp for tree rings example and a patio chair CR Nelson counted this trunk as 68 years, class: Allison McIntyre, Jane Lykins, Abi Wagner, Nat Cannon, Brayden Wight, Spencer Temple, Matt Heap, Samir Rodriguez, Grant Lyon, Ben Walker, Megan Walker, Alexa Morrow, Emery Demill, Kylie Smith, Simon Holtz, Sophie Dorius, Hanna Willardson, Grace Schulte, Hailey Sloan, Owen Boyack, Benjamin Quinn, Joaquin Elizalde, Madison Walker, Michelle DeWitt, Maren Bylund, Lizzie Whitney, MJ (Mary Jane) Briggs, Jessica Mcomber, Hyun Sung, Charlie Hodge, Kate Hodge, Koji Kano, Ashlyn Rowe, Jacob Shefchik, Brandon Mayo, Ezekiel Goodman, Abigail Conover, Samantha Yessuth, Max, Lauryn Crabtree, Mckenna Budd, Bryce Whitworth, Sydney Crandall, Kayla Stephensen, and Elizabeth the photographer Oligochaeta, Hydropsyde, Hesperophylax, Baetis, Asellus aquaticus, Erpododella leech, Sculpin Cottus bairdi, Simuliidae, Chiromomidae - Diamesinae, 13550

13551 USA: UTAH: Utah Co., Provo, Frandsen homes, 333 East 100 South N 40.23255 W 111.65284 1386 m 28-Jan-2023 CR Nelson 13551 Christine, Paul, and new girl Frandsen 114 iphone photos: new girl Frandsem born 25 January 2023, Wednesday 11:56 pm 18 inches tall, 6lbs 12 oz 13551

13552 USA: UTAH: Utah Co., Provo River, BYU River Park near pavilion, 300 W 2730N 31-Jan-2023 CR Nelson 13552 114 iphone photos and video: winter scenes on river 13552

13552.5 USA: UTAH: Utah Co., Provo, Pando Refitters, 249 Noth University Avenue N 40.23706 W 111.65925 1390 m 02-Feb-2023 CR Nelson 13552.5 JK Nelson 114 iphone phots and video: Conserve Utah Valley, "Volunteering and Donations" Town Hall meeting Adam Johnsons, Christina Miller, Kaye Nelson, Riley Nelson, Susan Christensen, Craig Christensen, George Handly, Brenna Croker, Angela Maurik, Carol-Lyn Jardine, Jerry Johnson, Jill Johnson, Tara Bishop, Bobby Penon, Anne Allen, Ellix, Nathan Thompson 13552.5

13553 USA: UTAH: Utah Co., South Fork Creek, South Fork Park, 1.5 miles south of Vivian Park end Hwy 189 N 40.34770 W 111.54757 1640 m 12-Feb-2023 CR Nelson 13553 JK Nelson 114 iphone photos and video: Capnia nana caught: Capnia gracilaria, Zapada cinctipes 13553

13554 USA: UTAH: Salt Lake Co., Loveland Living Planet Aquarium, Draper N 40.5313 W 111.89423 1349 m 20-Feb-2023 CR Nelson 13554 JK Nelson, AT, AL, WW, LV Smith 114

iphone photos: people - anemone touch pool, Todd and Wolf at shark tank with southern stingray and grey reef shark, Leah with toads, river otter with Leah, Wolfgang's arm with Orca sculpture, penny funnel coin deposit, Kaye with friend, Wolf with penguins and Kaye, Nelson donation plaque, "the Claw" outdoor sculpture, water fountain, Wolf and Leah on sea life playground, Wolf and Kaye under "the Claw" Kayes camera: playground, starfish *Pisaster Ochraceus*, purple sea urchin *Stronulocentrotus purpureus*, bat star *Patiria miniata*, painted anemone *Urticina crassicornis*, Giant green anemone *Anthopleura xanthogrammica*, Lined seahorse *Hippocampus erectus*, Pot bellied seahorses *Hippocampus abdominalis*, common clownfish *Amphiprion ocellaris* on anemone, sea urchin, anemone with long tentacles, pink and purple anemone/coral, Pacific Spiny lumpsucker *Eumicrotremus orbis*, scallop, "brown stripped" surgeon fish, cleaner wrasse, blue *Chromis*, "blue" surgeon fish, power blue tang, umctare Elegant unicorn fish, Stingray (touch pool), Pacific giant octopus, white triggerfish, raccoon butterfly fish, black tipped reef shark and skate shark (shovel nose ray), Leah with toads, Virgin River chub, Hump backed chub, Razor back sucker, Colorado pikeminnow, flannel mouth sucker, boreal toad, June sucker, Utah chub, Water hyacinth, brine shrimp *Artemia franciscana*, tiger salamanders *Ambystoma tigrinum*, Moon jellyfish *Aurelia aurita*, Pacific sea nettle *Chrysaora fuscescens*, Bay nettle *Chrysaora chesapeakei*, penny funnel coin deposit, spotted freshwater stingray, razorside catfish, *Arapaima gigas* - Pirarecu, Paco - tambequi, Binturong, clouded leopard, Gentoo Penguins, northern sea urchin - *Strongylocentrotus olroebachiensis*, , dwarf caiman, moray eel and cleaver shrimp, Kayes camera: tardigrade, mite, starnosed mole 13554

13555 USA: UTAH: Utah Co., Springville, church 2379 River Bottom Road N 40.15072 W 111.56773 1450 m 04-Mar-2023 CR Nelson 13555 JK Nelson 114 iphone photos: funeral of Leslee Henson Rasmussen, friends from Provo Rivergrove Third Ward of 1984-1988, Doug and Nam Mower, Cathy Snyder, Orlo and Vanita Eyse, Debra (Prestwich) Winners and kids, Cindy Williamson, Mule deer in the neighborhood 13555

13556 USA: UTAH: Utah Co., Springville, Evergreen Cemetery N 40.14133 W 111.60158 1437 m 04-Mar-2023 CR Nelson 13556 JK Nelson 114 iphone photos: graveside services for Leslee Henson Rasmussen, Kaye and Ryling in or near their grave spots, headstone of Damon Wrathall son of Amy and Mark Wrathall 13556

13557 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95628 W 111.26784 1841 m 04-Mar-2023 CR Nelson 13557 JK Nelson 114 iphone photos: cabin in deep snow, selfies - Kaye and Riley Nelson, 18 inches or snow, parked at gate 13557

13558 USA: UTAH: Utah Co., Utah Lake, Utah Lake State Park and Marina N 40.23846 W 111.73960 1370 m 05-Mar-2023 CR Nelson 13558 JK Nelson, At, AL, WW, LV Smith 114 iphone photos: scenery, people, yellow perch fish, white bass fish, jets 13558

13559 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 11-Mar-2023 CR Nelson 13559 JK and AJ Nelson & JO Christopher, AT, AL, WW, and LV Smith 114 iphone play day at cabin, deep snow, started four wheelr, starteddd snowmobile, Yamaha Phazer, first time in 2-3 years needs work, photos: bald eagle, saw bald eagle 13559

13560 USA: UTAH: Utah Co., Provo, BYU, Marriot Center N 40.25408 W 111.64949 1432 m 14-Mar-2023 CR Nelson 13560 Hyan Sung 114 iphone Speaker: Elder Paul V. Johnson, April 2005- now presidency of the 70, "Beautiful Babies Blessing the World." Reference to F. W Boreha. The Babies of 1809, who follow? Following wars of Napoleon. How will you bless the world? Science medicine arts technology law... unkown groups that bless countless, for instance mothers of 2000. (great grandmother) A blow when daughter born. asked for six boys as grandchildren. Mothers. Trials and blessings cital, unsung service. 1941 Saints moved forward in faith. Moroni born into a downward spiraling society. Worthen 11:06am University Chroale Christ the Lord is Risen Paul Broomhead, conducting. 1809 Tennyson Lincoln others Elizabeth Durnhan more. No one read Moroni's work for 1400 years! We lay our efforts on the altar. Allows the Lord to lead vs. (Kirtalnd) No faith, without reason to doubt. - Align our will to God's. Boreham: we fancy that God can only manage the world by battalians. Why long ago a babe was born in Bethlehem. He lived again! H, she, they... as I will life again. Second chances, clean slates, new beginnigs. You are the babes born... to make a difference. My Confidence, because of Him. (Beautiful babies born in Bethlehem) INJCA 11:39 am Summary - Stories with nice mix of doubts of feelings them longer term success. Sat with Alyse Simmons, Hyum Sung, Hudson 13560

13561 USA: UTAH: Utah Co., Provo, Utah Valley Hospital, N 40.24782 W 111.66621 1403 m, 15-Mar-2023 CR Nelson 13561 JK Nelson and Staff 114 iphone photos: lower back and epidural, lidocaine and steroid, adminstered by Dr. Matt Nokes 13561

13562 USA: UTAH: Utah Co., Mount Timpanogos, American Fork River, Hwy 92, Sawmill Picnic Area near Little Mill Campground, Old Site 2 N 40.44774 W 111.68108 1812 m 18-Mar-2023 CR Nelson 13562 Gabriela Maria Jijon, Iris Lin, Danyon Gedris 114 iphone photos: site and stream and ice, people, air temp: 13 degrees celsius, water temp: 3 degress celsius, alcohol therm: 1.6 degrees celsius thermometer machine, conductivity 587 mmhos/cm, MS/m?, 12:40 pm Zapada circitipes videos, lumnatures, Arctopsyche - live for silk, Hydropsyche - live for silk, Epeorus, Zapadan nymphs and adults, Rhithrogens,

Capnidae, Bactis, Immatures: Chloroperlidae, Sweltson?, Perlodidae, Isoperla, Erididae, Heperoperla?, Rhyachophila - live for silk 13562

13563 USA: UTAH: Utah Co., Mount Timpanogos, Hwy 92, Pine Hollow Trailhead N 40.444778 W 111.64412 2084 m 18-Mar-2023 CR Nelson 13563 G. M. Jijon, I. Lin, and D. Gedris 114 iphone photos: selfie view with mountains scenery 13563

13564 USA: UTAH: Utah Co., American Fork River, bridge at mouth of American Fork Canyon N 40.43282 W 111.74851 1545 m 18-Mar-2023 CR Nelson 13564 G. M. Jijon, I. Lin, D. Gedris 114 iphone photos: scenery and people; air temp: alcohol thermometer 13 degrees celsius, water temp 7 degrees celsius (thermometer stockroom machine 5.6 degrees celsius), conductivity 746 ms/cm, no ice or snow Arctopsyche? Immatures, Hydropsyche, Rhyacophila, Tipulon?, Isopurla, Zapada (on bridge, adults), Prostoia 13564

13565 USA: UTAH: Utah Co., Sundance Ski Area, Hwy 92 N 40.39202 W 111.57906 1860 m 24-Mar-2023 CR Nelson 13565 Friends 114 iphone photos: lunch with entomology visitor, Jessica Ware from the American Museum of Natural History also with Clint Whipple and Paul Frandsen; Later we had a party at bus house with lab students, Heavy snow day! Friends: Kaye Nelson, Jessica Ware, Paul Frandsen, Christine Frandsen, Harvey Frandsen, Wally Frandsen, Della Ruth Frandsen, Will Warner, Lauren Warner, Lauren Crabtree Dupaix, Danyon Gedris, Gabi Jijon, Regan, Lilly Buck, Daniel Davis, Jessica Weeks, Tsherling, Bhutan 13565

13566 USA: UTAH: Utah Co., Provo River delta reconstruction, Provo N 40.23917 W 111.71678 1376 m 25-Mar-2023 CR Nelson 13566 114 iphone photos: Anna Monson's project planting willows on the delta reconstructions project About 30-50 people helped, scenery and people, the first insect I caught from the reconstructed channel, delta was a Simulium (photos), black fly larva, second was a Baetis mayfly nymph, biology 100 student Jacob Shefchik, next chironomidae; Bactis subimagos were floating on top of the water in good numbers 13566

13567 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 26-Mar-2023 CR Nelson 13567 114 iphone flea and gray hair in Curtis Davis's missionary journal of 1980, photos: scratches on church chair resembling Darwin's notebook tree, Later went to Draper to pick up Wolf and Leah from Jordan and Andrea photos: birds- spotted towhees, dark eyed juncos, white crowned sparrow, house finch, black capped chickadee, woodhouse scrub jay. Jewel fish parents and babies; flea 13567

13568 USA: UTAH: Utah Co., Provo, BYU Campus, Marriott Center, Life Science Building, demolition of Harris Fine Arts Center N 40.25375 W 111.64932 1433 m 28-Mar-2023 CR Nelson 13568 114 iphone photos: notes and scenery, including near sunset from roof of

Life Sciences Building, Mount Timpanogos from Parking lot of west of Richards Building;
Marriott Cetner section H N 40.25375 W 111.64932 elev: 1433 m; Harris Fine Arts Center N
40.24909 W 111.64855 elev: 1423 m; Life Science Building 4th Floor Picnic area N
40.24497 W 111.64961 elev: 1404 m; Parking Lot - Richards Building N 40.24831 W
111.65750 elev. 1403 m 13568

13569 USA: UTAH: Utah Co., Provo, East Foothill Drive, curve above University Avenue N
40.29355 W 111.65697 1470 m 28-Mar-2023 CR Nelson 13569 114 iphone photos: Mount
Timpanogos, Cascade Mountain, Khyv Peak, Valley to west near sunset, also view of Mount
Timpanogos from my front yard, then setting sun, Kaye near garage (home), then near
sunset from Riverwoods shopping center (Riverwoods), later return to curve=sunset, valley,
Timp; Riverwoods N 40.29995 W 111.65979 elev: 1457 m photos: bee hives, sprouting
plants at my feet 13569

13570 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.28343 W
111.64922 1495 m 29-Mar-2023 CR Nelson 13570 David Baird 114 iphone photos: Primary
Activity Day bee, lesson by David Baird=7-8 yr olds: Ty Wyatt, Amnor Haslam, Jet Young,
Wolfgang Smith, Arm wrestling 13570

13571 USA: UTAH: Utah Co., Provo, BYU, Harm Building N 40.25576 W 111.64602 1438 m
30-Mar-2023 CR Nelson 13571 J. K 114 iphone photos: sunset after college, spring dinner
13571

13572 USA: UTAH: Utah Co., Salt Lake Co., Provo, Nelson Home, 500 East Foothill Drive N
40.29343 W 111.64922 1495 m, 1283 m 01-Apr-2023 CR Nelson 13572 J. K, Andrea Nelson
114 iphone photos and videos: Nikon 27 photos in lab of Manning Canyon Shale "Sisson
fossil"; USA: UTAH: Salt Lake Co., Great Salt Lake, South Shore near Saltair N 40.76498 W
112.15310 elev: 1283 m 24 February 2023 Andrea Jill Nelson yellow crocuses in yard, April
2: purple crocus, brine shrimp, artemia franciscana males, females, mating pairs, younger
smaller nymphs, cysts; Raised from cysts by Andrea Nelson 13572

13573 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W
111.64922 1495 m 05-Apr-2023 CR Nelson 13573 J. K 114 iphone 9:00pm-look at planets:
Mercury, Uranus, Venus (bright), Mars, and Earth then moon with Wolf and Leah Smith,
Marcy and Bob Hiatt Photos: full moon tomorrow, Wolf asked for photos; April 8 2023 Matta
nd Christy Haggard visited from Georgia with their girls: Maddie, Lucy, Emily, and Ellie.
Emily especially enjoyed the turtles. 13573

13574 USA: UTAH: Utah Co., South Fork, South Fork Park, Hwy 189, and Provo Canyon N
40.34781 W 111.54883 1658 m 08-Apr-2023 CR Nelson 13574 Maria Gabriela Jijon,
Dawyon Micahel Gedris 114 iphone Adults on snow: Zapada cinctipes- many, Capnia

gracilaria- few, Capnia nana- few; Adults on trees: Zapada cinctipes (photos on bark)- many, Taenionema pallidum- one, Paraleuctra occidentalis- 1male, caddis adult, Skwala americana 1male 4f?, Immatures in stream: Rhyacophila, Baetis, Cinygwula? Jesparopaula, Sweltsa, Hesperophylax, Brachycentrus, Oligophlebodes, Neothremma?, Drunella doddsi, Drunells sp. 2, Ephemerella 13574

13575 USA: UTAH: Utah Co., Bunnells Fork Creek, jct South Fork, South Fork Park, Hwy 191, and Provo Canyon N 40.34763 W 111.54726 1658 m 08-Apr-2023 CR Nelson 13575 M. G. Jijon 114 iphone Photo at foot bridge over South Fork 50m north of Bunnells Fork jct Immatures: Rhyacophila, Arctopsyche 13575

13576 USA: UTAH: Utah Co., Springs and beaver ponds 100 m north of South Fork Park 1.5 miles south of Vivian Park, Hwy 191, and Provo Canyon N 40.34778 W 111.55102 1644 m 08-Apr-2023 CR Nelson 13576 M. G. Jijon, D. Gedris 114 iphone moose tracks and dung water cress 13576

13577 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 09-Apr-2023 CR Nelson 13577 J. K 114 iphone Happy Easter, Easter Dinner: Kaye, Riley, Andrea Nelson, Jordan Christopher, dogs Pfeif and Lupine, Todd, Amy, Wolf, and Leah Smith, Debby Smith, Lyman Moulton. Lyman is recovering from Bell's palsy - we talked fine. photos: wildflowers between home and church weeds- Bur buttercup, Veronica, Erodium, Capsella bursa-pastoris, Composite, then four colors of Crocus in yard 13577

13578 USA: UTAH: Utah Co., Provo, BYU, Museum of Art N 40.25080 W 111.64795 1427 m 13-Apr-2023 CR Nelson 13578 114 iphone photos: art work of Maynard Dixon from 1930s and of McRay Magleby from 1980s two of my favorite artists 13578

13579 USA: UTAH: Utah Co., South Fork, South Fork Park 1.5 miles south of Vivian Park, Hwy 189, and Provo Canyon; Vivian Park N 40.34781 W 111.5488 1658 m 15-Apr-2023 CR Nelson 13579 AT, WW, and LV Smith 114 iphone photos and videos: Wolf and Leah climbing a Box Elder Tree, Boisea trivittata, scenery, Wolf with vial of Zapada cinctipes, snow on roofs of Vivian Park; Vivian Park N 40.35266 W 111.57018 elev: 1603 m photos and videos: Zapada cinctipes, box elder bugs, Boisea trivittata 13579

13580 USA: UTAH: Utah Co., Utah Lake, Utah Lake State Park, South Jetty N 40.23696 W 111.74329 1368 m 15-Apr-2023 CR Nelson 13580 AT, WW, and LV Smith 114 iphone photos and video: cCollembola springtails on water, Podura aquatica?, people, Todd with black bullhead, catfish Ameiurus melas, scenery of Utah Lake and Mount Nebo, busy people use of our fine lake, Provo photos on the North Jetty, Wolf and Leah on bikes. Podura aquatica?, Ameiurus melas 13580

13581 USA: UTAH: Utah Co., Provo, East Foothill Drive junction University Avenue, Hwy 189 N 40.29776 W 111.65630 1448 m 16-Apr-2023 CR Nelson 13581 J. K 114 iphone photos: Chrysomelidae, Gastrophysa sp. On Rumex crispus Chrysomelidae, Gastrophysa, rumex crispus 13581

13582 USA: UTAH: Utah Co., Provo River, Provo Riverwoods Area N 40.29764 W 111.66104 1452 m 16-Apr-2023 CR Nelson 13582 J. K 114 iphone photos: Provo River, three crossings, high water release to allow runoff to fill reservoirs, Mount Timpanogos; 4800 North Provo River N: 40.29764 W: 111.66104 elev: 1452 m; 4577 Northgate Dr Provo River N: 40.29530 W: 111.66190 elev: 1445 m; 4620 N 300 W - Timpanogos N: 40.29500 W: 111.66403 elev: 1448 m; 5179 N River Park Way - Rprovo River N: 40.30298 W: 111.65920 elev: 1458 m 13582

13583 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 20-Apr-2023 CR Nelson 13583 J. K 114 iphone photos: cedar waxwings in waterfall and trees 13583

13584 USA: UTAH: Utah Co., Provo, Slate Canyon Trailhead N 40.22386 W 111.62549 1502 m 22-Apr-2023 CR Nelson 13584 J. K 114 iphone Earth Day, Slate Canyon Saturday, photos: insect tours, centipede, cutworm caterpillar, salticidae, potato bug, sagebrush lizard, millipede, lichen, Gryllidae, spiders, children of Bronwen Finicum looking for insects with me. Gave permission to use in Earth Day promotions. Bronwen Finicum-bronwensheall@gmail.com, Cora Finicum in green sweatshirt, Faye Finicum in grey, Mateo Finicum in blue backpack, Charlie Ellingson in black and gray. 13584

13585 USA: UTAH: Utah Co., Millsite Reservoir State Park west of Ferron N 39.09274 W 111.19251 1894 m 23-Apr-2023 CR Nelson 13585 J. K 114 iphone photos: low reservoir, releasing much water cyanobacteria signs, cliffs 13585

13586 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 23-Apr-2023 CR Nelson 13586 J. K 114 iphone photo: line from buried pipe in crossing toward upper faucet box, water in gulley turned by berm we built... good luck in future... ruby crowned kinglet, whitebreasted nuthatch, mourning dove 13586

13587 USA: UTAH: Utah Co., Provo, BYU Marriott Center N 40.25411 W 111.64932 1432 m 27-Apr-2023 CR Nelson 13587 114 iphone CYU Commencement and College of Life Sciences Convocation, photos: Marriott Center crowds, Brigham Young Statue at Smoot Building, Campus, C. Riley Nelson, Teagan Mulford, Isabella Errigo Paul Frandsen, Ben Abbott, Cordon, Anna Monson, Tegan, Anna Brinton Baird, Ellie Gamett, Carson Siebert, Liz Bailey, Rick Gill and Riley Nelson, Nicole Cuthbert, Naomi, Will Warner, Sarah Benson Secretary, Laura Bridgewater dean, Ellsworth/Mulfrd family, Lauren and Will Warner,

Teagan Mulford with Knitted (robber fly), CR Nelson, T. Mulford, and Knitted fly, CR Nelson, T. Mulford, Paul Frandsen, CR Nelson, DB Frandsen and fly, ISabella Errigs and CR Nelson, PB Frandse, I. Errigo, and CR Nelson, Ben Abbot, Ben Abbott, Teagan Mulford, and fly C (Knitted Robber Fly), Brigham Young Statue at Smoot Building, People st, Franson/Nelson Lab group shot 13587

13588 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 27-Apr-2023 CR Nelson 13588 114 iphone photos: sunset, early Happy Birthday dance from Callie McKay and Danita Mortensen. April 28, 2023: Goodbye to Desi Parker from Orem Frontrunner train station 13588

13589 USA: UTAH: Utah Co., Mount Carmel Junction, Chevron Station and Thunderbird Motel N 37.23972 W 112.67251 1614 m 28-Apr-2023 CR Nelson 13589 J. K 114 iphone photos: Diana's Throne 13589

13590 USA: ARIZONA: Coconiro Co., Colorado River, Marble Canyon, Navajo Bridge, Hwy 89A, N 36.81745 W 111.63060 1079 m 28-Apr-2023 CR Nelson 13590 J. K 114 iphone photos: scenery, road toward Bitter Springs: vast bloom of mariposa lilies and globe mallow, San Francisco Mountains from near Cameron california condor #19, white throated swifts, ravens, violet freen swallows 13590

13591 USA: ARIZONA: Marcopa Co., Table Mesa exit, 1-17 N 33.96939 W 112.12792 684 m 28-Apr-2023 CR Nelson 13591 J. K 114 iphone photo: redundant sign= "Table, "Mesa" two languages 13591

13592 USA: ARIZONA: Maricopa Co., Phoeniz, Nelson home, 2510 West Columbine Drive N 33.59933 W 112.11369 387 m 28-Apr-2023 CR Nelson 13592 J. K 114 iphone photos: people, especially birthday for 29 April Artemis Valborg Nelson, age 11 and J. 11 Kaye Wheeler Nelson, age 63, two kinds palo verde in bloom; 28 April, 2023 Kaye's photos at Monterssori Day School Spring Party and songs; 29 April- Nanoy Spurlock, Hazel, Breakfast, Kaye and Artmis, Party, Spurlockes and Kin, Jackie Begay, Vivian. Pool party at Kensie and Josh Wheelers house, 6121 W Tierra Bueno, Glendale Kids: Rock, G. G., and Ford pink faced lovebirds, house sparrows, white winged doves, mourning doves, inco doves, collared doves, vendin, great tailed grackle, canada goose, starling, embiinina - Oligotome nigra; Columbine - 1 May 2023: starling, house finch, great tailed grackle, verdin, white winged dove, house sparrow, collared dove, inco dove, curved billed thrasher 13592

13593 USA: ARIZONA: Mariposa Co., Gilbert, Gilbert Riparian Preserve N 33.36342 W 111.73495 387 m 30-Apr-2023 CR Nelson 13593 JK, CR, JR, BD, AV, AJ Nelson and Jake, Alison, Tate, Lucy, Miles, Calvin, and Penny Parker 114 iphone Great tailed grackle, house sparrow, white crowned sparrow, ladder backed woodpecker, Great blue heron, Green

heron, Aberts towhee, Annas hummingbird, starling, white winged dove, collared dove, rock dove, hawk? Sharp shinned?, least sandpiper?, double crested cormorant, American acocot, common gallinule, american coot, ruddy duck, domestic duck, american wigeon, canada goose, house finch, Nothern mockingbird, curve villed thrasher, Gambels quail, American raven, Northern shovelar duck, red winged blackbird, bronze headed cowbird, pied billed grebe, rough winged swallow? 13593

13594 USA: ARIZONA: Mariposa Co., Gilbert, Olney Street Petting Zoo N 33.35770 W 111.72958 391 m 30-Apr-2023 CR Nelson 13594 JK, CR, JR, BD, AV, AJ Nelson 114 iphone photos: domestic turkey, shaggy bull, water hyacinth on a pond 13594

13595 USA: ARIZONA: Maricopa Co., Cave Creek Park near the Sweetwater Drive entrance N 33.60283 W 112.11216 384 m 01-May-2023 CR Nelson 13595 JK Nelson, AV and AJ Nelson 114 iphone photos: pink faced lovebirds, vermilion flycatcher, great tailed grackles 13595

13596 USA: ARIZONA: Coconino Co., view north to Navajo Mountain near cut on Hwy 89 through Wingate Sandstone above Bitter Springs N 36.78431 W 111.53574 1634 m 02-May-2023 CR Nelson 13596 JK Nelson 114 iphone photos: view to Navajo Mountain 13596

13597 USA: ARIZONA: Coconino Co., Colorado River, Horseshoe Bend south of Page N 36.87917 W 111.51064 1287 m 02-May-2023 CR Nelson 13597 JK Nelson 114 iphone photos: scenery many flowers, globe mallow *Sphaeralcea*, grass- *Festua*?, Desert dandelion *Malacothrix* *Jonchoides*, *Fabaceae*- *Astragalus*?, *Oenothera* large flower white, small, *Phacelia integrifolia*, *Rumex hymenosepalus*, Canada dock, *Lepidium* sp, *Ephedra viridis*, *Yucca angustissima* 13597

13598 USA: ARIZONA: Coconino Co., Colorado River, Glen Canyon Dam N 36.93606 W 111.48187 1161 m 02-May-2023 CR Nelson 13598 JK Nelson 114 iphone photo: Glen Canyon Dam, Lake Powell 13598

13599 USA: ARIZONA: Coconino Co., Lake Powell, Wahweap Marina Overlook N 36.96890 W 111.49873 1293 m 02-May-2023 CR Nelson 13599 JK Nelson 114 iphone photos: low Lake Powell, filling this year, Wahweap Marina, panoramas 13599

13600 USA: UTAH: Kane Co., Zion Canyon National Park east entrance road, Hwy 9 N 37.22846 W 112.87894 1719 m 02-May-2023 CR Nelson 13600 JK Nelson 114 iphone views last of tunnel, checkerboard Mesa and more 13600

13601 USA: UTAH: Washington Co., Zion National Park Hwy 9, views from west of tunnel N 37.211428 W 112.95771 1345 m 02-May-2023 CR Nelson 13601 JK Nelson 114 iphone photos: scenery, Great Arch, West Temple, Virgin River at Zion Canyon bridge 13601

13602 USA: UTAH: Washington Co., Zion National Park Virgin River, South Campground N 37.20438 W 112.98001 1207 m 02-May-2023 CR Nelson 13602 JK Nelson 114 iphone photos: river in runoff flood 13602

13603 USA: UTAH: Washington Co., Virgin River, Sheep Bridge south of Virgin Town N 37.19941 W 113.21227 1049 m 02-May-2023 CR Nelson 13603 JK Nelson 114 iphone photos: ragin river; new signs for Nature Conservatory Preserve claret cup cactus 13603

13604 USA: KENTUCKY: Todd Co., Trenton, Sites Home 4280 Hammecksville Road N 36.67399 W 87.27817 172 m 06-May-2023 07-May-2023 CR Nelson 13604 JK Nelson 114 iphone photos: Jack and Joanne Sites, some at cemetary plot; took a tour of village and farm life in area of Trenton where Joanne grew up, and they decided to retire to, from a biology career at BYU. They retired 5 years ago, at age 70, so he is 75. Drove to Trenton, Kentucky after landing in Nashville, Tennessee the evening of 6 May 2023. starlings, house sparrow, mourning dove, collared dove, common grackle, great tailed grackle, brown thrasher, red winged blackbird, red tailed hawk, Northn Cardinal, eastern meadowlark, eastern bluebird 13604

13605 USA: TENNESEE: Maury Co., Natchez Trace, village of Fly N 35.79018 W 87.17841 202 m 07-May-2023 CR Nelson 13605 JK Nelson 114 iphone photos: Fly cemetary, with me wearkng a T-shirt saying "Flies are voluptuous" toher photoes, headstones of Fly fmaily members, Headstone: B. G. Daddy and Fly, "None knew thee but to love thee, named thee but to praise." Jan 27, 1855 - Mar 20, 162 (poem of Joseph Rodman Drake published before 1 January 1928 13605

13606 USA: TENNESSEE: Hickman Co., Natchez Trace Parkway Jackson Falls N 35.69640 W 87.29617 186 m 07-May-2023 CR Nelson 13606 JK Nelson 114 iphone photos: waterfall and trail 13606

13607 USA: MISSISSIPPI: Lee Co., Tupelo, Elvis Presley N 34.26018 W 88.67964 89 m 08-May-2023 CR Nelson 13607 JK Nelson 114 iphone photos: small home, granite markers, fountain, park bench donated by fan, 76 live shows 31 scarves 1 blue macrame belt, videos: fire ant nest, with my hand, face, Your Elvis eperince starts hers, laywer billboards 13607

13608 USA: MISSISSIPPI: Hinds Co., Clinton Community Nature Center N 32.34335 W 90.42052 118 m 08-May-2023 CR Nelson 13608 JK Nelson, Lida nad Bill P. Stark 114 iphone photos: people, trees, recording toad? Eastern narrowmouthed toad, Gastrophryne carolinensis 13608

13609 USA: MISSISSIPPI: Hinds Co., Clinton, Stark home 1603 Laurelwood Drive N 32.35648 W 90.30871 102 m 08-May-2023 CR Nelson 13609 JK Nelson, Lida nad Bill P. Stark 114 iphone photos: group shot and Bill (and Lida) on perch 13609

13610 USA: MISSISSIPPI: Harrison Co., Biloxi, beach N 30.39229 W 88.94176 0 m 08-May-2023 09-May-2023 CR Nelson 13610 JK Nelson 114 iphone photos: Kaye on beach at night, sand toes in surf in morning least tern, brown pelican, laughing gull? 13610

13611 USA: MISSISSIPPI: Jackson Co., Gulf Islands National Seashore Davis Bayou Area N 30.39233 W 88.7803 5 m 09-May-2023 CR Nelson 13611 JK Nelson 114 iphone photos: alligators, red slider turtles, saw eastern box turtle, brown thrasher, blue jay, saw cardinal, aspey, brown pelican, spanish moss Tillandsia 13611

13612 USA: MISSISSIPPI: Jackson Co., Gautier N 30.38451 W 88.64684 1 m 09-May-2023 CR Nelson 13612 JK Nelson 114 iphone photos: crayfish chimneys in lawn 13612

13613 USA: ALABAMA: Mobile Co., Welcome Center, I-10, Grand Bay N 30.4721 W 88.38870 13 m 09-May-2023 CR Nelson 13613 JK Nelson 114 iphone photos: sculptures of animals, fire ant videos, magnolia blossom 13613

13614 USA: FLORIDA: Escambia Co., McDavid, near Atmore border N 30.99469 W 87.48873 82 m 09-May-2023 CR Nelson 13614 JK Nelson 114 iphone photos: Kaye and Riley with Nila Vanilla Water cookies in memory of Boris Kondratieff at a Piggley Wiggley Store 13614

13615 USA: ALABAMA: Butler Co., I-85, between Georgiana and Greenville N 31.6990 W 86.74080 94 m 09-May-2023 CR Nelson 13615 JK Nelson 114 iphone videos: thunderstorm driving: sheets of rain; spent the night on eastern outskirts of Montgomery in a nice Best Western Motel 13615

13616 USA: ALABAMA: Macon Co., Tuskegee, Tuskagee University N 32.42898 W 85.70524 141 m 10-May-2023 CR Nelson 13616 JK Nelson 114 iphone photos: University Building. City of Tuskagee Airmen, George Washington Carver, Luther T. Washington 13616

13617 USA: GEORGIA: Hall Co., Flowery Branch, Haggard home, 4696 Martins Crossing West Drive N 34.19949 W 83.86926 295 m 10-May-2023 CR Nelson 13617 JK Nelson 114 iphone photos: family group shot: Matt, Christy, Maddie, Lucy, Emily, and baby Ellie; Emily likes nature 13617

13618 USA: GEORGIA:, SOUTH CAROLINA: Rabun Co., Tallulah Falls; Chatooga River, Hwy 76, South of Clayton N 34.72965, N 34.81622 W 83.38359, W 83.30622 487 m, 355 m 10-May-2023 CR Nelson 13618 JK Nelson 114 iphone photos: scenery, wandered not as

scenic as I remember from years ago. Disappointed at development. South Carolina:
Plecoptera: Perlodidae Perlidae?, saw Chloroperidae 13618

13618.5 USA: NORTH CAROLINA: Swain Co., Great Smoky Mountain National Park
Cherokee N 35.51203 W 83.30663 624 m 10-May-2023 CR Nelson 13618.5 JK Nelson 114
iphone elk in meadow, one bull elk with longer antlers in velvet walking in town 13618.5

13619 USA: NORTH CAROLINA: Swain Co., Cherokee, Rolling Hills Motel N 35.48678 W
83.31532 596 m 10-11-May-2023 CR Nelson 13619 JK Nelson 114 iphone morning birds at
feeder house finches, brown headed cowbird, catbird, mourning dove, brewers blackbird,
starlings, least goldfinch?, canada goose, crow, mallard ducks (domestic, but nice colored)
13619

13620 USA: NORTH CAROLINA: Swain Co., Mingo Falls near Cherokee N 35.53183 W
83.27536 715 m 11-May-2023 CR Nelson 13620 JK Nelson 114 iphone photos: falls, creek,
scenery, Kaye, river at bridge as leaving 11:50 am 13620

13621 USA: NORTH CAROLINA: Swain Co., Great Smoky Mountain National Park
Oconaluftee River, Hwy 441 at Kephart Prong Trailhead N 35.58609 W 83.35835 833 m 11-
May-2023 CR Nelson 13621 JK Nelson 114 iphone photos: river, Kaye photographing
Tallaperla Periodid? Adult, Pteronareye adult, Tallaperda adult, saw Chloroperidae, 13621

13622 USA: NORTH CAROLINA: Swain Co., Great Smoky Mountains National Park Hwy
441, switchbacks N 35.59490 W 83.41604 1481 m 11-May-2023 CR Nelson 13622 JK
Nelson 114 iphone spare the saws, photos: panorama, scenery, smoky distance SW
13622

13623 USA: NORTH CAROLINA: Swain Co., Great Smoky Mountains National Park Hwy
441, switchbacks 2 N 35.60758 W 83.43610 1490 m 11-May-2023 CR Nelson 13623 JK
Nelson 114 iphone sign: hardwood below evergreen above, photos: panoramas- :Phone
13623

13624 USA: TENNESEE: Sevier Co., Great Smoky Mountains National Park Clingmans
Dome, parking lot and tower-two states! N 35.56291 W 83.49841 2037 m 11-May-2023 CR
Nelson 13624 JK Nelson 114 iphone photos: scenery; Appalachian Trail; Spoke with two
through walkers on the Appalachian Trail lily, Fraser fir, Red spruce, Viola with thrips,
Thysanoptera, dark eyed junco- all somewhat pale gray 13624

13625 USA: TENNESEE: Sevier Co., Gatlinburg, Country lung and Suites by Radison N
35.71018 W 83.16587 405 m 11-May-2023 12-May-2023 CR Nelson 13625 JK Nelson 114
iphone photos: dead toad in parking lot of our hotel, Haploperla on painted wall

mockingbird, robin, house sparrow, rack dove, canada geese, American crow, starling
13625

13626 USA: TENNESEE: Sevier Co., Great Smoky Mountains National Park Roaring Fork
Motor Nature Trail Small waterfall, stop 15, Cliff Brands N 35.71128 W 83.48292 536 m 12-
May-2023 CR Nelson 13626 JK Nelson 114 iphone photos: small waterfalls black
salamanders- quick!, birch no photos 13626

13627 USA: TENNESEE: Blount Co., Great Smoky Mountain National Park Cades Cove N
35.60537 W 83.80108 542 m 12-May-2023 CR Nelson 13627 JK Nelson 114 iphone
photos: black bears (sow and two cubs), single half grown, single, single, single, sow with
triplets at Dan Lawson place, single, single, white tailed deer 13627

13628 USA: TENNESEE: Smith Co., Rest Area, I-40, Buffalo Valley N 36.13978 W 85.80618
156 m 12-May-2023 CR Nelson 13628 JK Nelson 114 iphone photos: tulip poplar flowers
and leaves, Liriodendron tulipifera 13628

13629 USA: TENNESEE: Davidson Co., Nashville, OpryMills Mall Aquarium Restaurant N
36.20540 W 86.69418 131 m 12-May-2023 CR Nelson 13629 JK Nelson 114 iphone
photos: unicorn fish, blue tang, bass, bass, angel fish, carpet shark?, surgeonfish, gray
angelfish, orange surgeon, squirrel fish, Kaye in tunnel aquarium, jacks, tarpon, stingrays,
Ariopsis catfish 13629

13630 USA: TENNESEE: Davidson Co., Nashville, Grand Ole Opry N 35.44756 W 86.69238
149 m 12-May-2023 CR Nelson 13630 JK Nelson 114 iphone photos: Kaye and Riley with
signs, Our seats 31 R 7 and 8, Acts, Jeannie Seely - 55 yrs on Opry, Larry Fleet trio, Mike
Snider, My sister, Mybrother, Del McCoury Band, Jim Lauderdale, Drake Milligan, Charlie
McCoy "Southern West Virginia ancient harmonica", Maddie and Tae 13630

13631 USA: UTAH: Utah Co., nearing landing, flight from Nashville, Tennessee to Provo, Utah
N 40.21297 W 111.80247 1369 m 13-May-2023 CR Nelson 13631 JK Nelson 114 google
earth photos: circling Utah Lake (gps is middle of Lake...) 13631

13632 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W
111.64922 1495 m 14-May-2023 CR Nelson 13632 115 iphone photos: rainy backyard,
Wolf and Leah ready for church 13632

13633 USA: UTAH: Utah Co., Provo River, 2230 North Bridge BYU River Park N 40.26365 W
111.66397 1417 m 15-May-2023 CR Nelson 13633 115 iphone photos: river and diversion
waterfall high runoff this year! 13633

13634 USA: UTAH: Utah Co., Orem, Best in Music Stone N 40.31341 W 111.70741 1444 m
15-May-2023 CR Nelson 13634 JK Nelson and family 115 iphone photos: Piano recital for

Leah and Wolf with teacher Diane Flaten and her husband Don Flaten, Amy and Todd Smith, Andrea, Riley, and Kaye Nelson, Wolf: Edel Weiss and Leah: Tangy tango and Ein Kleine nachtmusik 13634

13635 USA: UTAH: Utah Co., Provo River near Utah Lake N 40.23954 W 111.71620 1374 m 16-May-2023 CR Nelson 13635 115 iphone photo: Provo River in full spring, runoff in newly constructed delta 13635

13636 USA: UTAH: Utah Co., Provo River, near Utah Lake at Lakeshore Drive N 40.23981 W 111.71208 1376 m 16-May-2023 Cr Nelson 13636 115 iphone photos: Provo River, in stable upstream channel from new delta construction site 13636

13637 USA: UTAH:, OREGON: Utah Co., Curry Co., Provo, BYU, Nelson Lab and near 4118 Life Science Building; seep ditch, falls road cut Elk River road 208 N 40.24523, N 42.72556 W 111.64902, W 124.39572 1419 m, 75 m 17-May-2023 CR Nelson 13637 Robert William Wisseman 115 iphone photos: bruised hand from cat bite, some photos by Clint Whipple, Photo session in lab: Oregon: helped M. G. Jijon photos: terrestrial caddisfly larvae on moss from locality and slate rock from Provo, Utah Limnephilidae: Philocasca probably rivolaris or demita? 13637

13637.5 USA: UTAH: Utah Co., Provo, Lakeshore Park, small pond detached from Provo River N 40.23979 W 111.71107 1376 m 19-May-2023 CR Nelson 13637.5 115 iphone photos: river in high flow; near restrooms- live starts for aquarium and home pond duckweed, microcrustacea, Copepods, Ostracods, Daphniidae, Dytiscidae, Lymnaeidae, Lymnaea stagnalis? Snails 13637.5

13637.6 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95962 W 111.26776 1895 m 22-May-2023 CR Nelson 13637.55 JK Nelson 115 iphone check on cabin- one dead smelly pack rat in two traps, one on nose and one on tail sad! Much clean up or Kaye. I got both culinary and irrigation lines running into storage tanks with much work and climbing. Culinary flow- 8 sec to fill 12 oz can = 42 gallons/hour compare that to 2 gallons per hour in drought on 13 August 2022! Waterfall of Wheeler Sawmill Creek flowing clear at 1-2 cfs, we are capturing very little of this. Soldier Creek is in high runoff flood, more than 200 cfs, estimated. Sagebrush lizards common and healthy looking. 13637.55

13638 USA: UTAH: Davis Co., Antelope Island Causeway Great Salt Lake, and visitor center N 41.08679 W 112.19643 1282 m 29-May-2023 CR Nelson 13638 JK Nelson 115 iphone photos and video: Chironomidae swarms, "thick stacks of smoke", parallel to north shore of causeway over green vegetation including rabbitbrush Chironomidae swarms, White

faced Ibis - 25, Cliff swallows, Calif, gulls - 50, 10, American avocet - 4, Franklin gulls - 3, Chukar - 1 (flying in rocks), Burrowing owl at usual spot near visitor center 13638

13639 USA: UTAH: Davis Co., Antelope Island Great Salt Lake Bridger Bay, Buffalo Point N 41.03986 W 112.27818 1281 m 20-May-2023 CR Nelson 13639 JK Nelson 115 iPhone parked at west end of Bridger Bay Campground and walked to end of Buffalo Point, to the lakeside rocks photos: brine shrimp and eggs no freshwater pools long billed Curlew, Wimbrel - NO. more curlews, Brewers Blackbird photos, Western Meadowlark photos, Wren photos, Shrike, Willet heard, Buffalo, Lizards side blotched, Antelope pronghorn, Robberfly stenopogon small, Horned lark, Pelicans, Mallards, Western Kingbird, Ringnecked pheasant, Mourning dove, Chukar heard in rocks, bull 13639

13640 USA: UTAH: Davis Co., Antelope Island Great Salt Lake Garr Fielding Ranch Area N 40.92568 W 112.16720 1291 m 29-May-2023 CR Nelson 13640 JK Nelson 115 iPhone bison, mule deer 13640

13641 USA: UTAH: Davis Co., Great Salt Lake Shoreline Preserve Layton marshes N 41.04028 W 112.02548 1286 m 29-May-2023 CR Nelson 13641 JK Nelson 115 iPhone born swallows, Wilsons snipe - heard, sora - heard, mallard ducks 13641

13642 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 02-Jun-2023 03-Jun-2023 CR Nelson 13642 JK Nelson 115 iPhone photos: family, red buds at Ancient Golden Sunbird Place, moonrise, baby with button phlox 2 spp?, Astragalus 3 spp utahensis, 2, 3 cryptantha white, Erysimum, white top, Taraxacum officinale, Acmaeodera, Glass Cliffs and Pfeiffer the dog, draba? Out of focus, Great Basin rattlesnake, Senecio? with Acmaeodum, meadows of flowers, tick, Dermacentor andersoni, Calliphoridae, Penstemon caespitosus and catoni and entonik 2 more, Delphinium, haeckelia, Phlox and Opuntia, Streptanthus cordatus, Purshia, Showy milkweed, Old Pinyon, rice grass "circles", Hounds tongue 13642

13643 USA: UTAH: Utah Co., Wheeler Sawmill, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 09-Jun-2023 10-Jun-2023 CR Nelson 13643 JK Nelson, KJ Wheeler 115 iPhone walked to waterfall violet green swallows, rough winged swallows, robins, black chinned hummingbirds 13643

13644 USA: UTAH: Utah Co., Springville, Springville High School N 40.15485 W 111.58351 1426 m, 10-Jun-2023 CR Nelson 13644 JK Nelson and Kaily J. Wheeler 115 iPhone photos: people at Kayle's 45th high school reunion, hallways and Kaye's locker #429 13644

13645 USA: UTAH: Duchesne Co., Duchesne River, Duchesne N 40.15625 W 110.54640 1752 m 11-Jun-2023 CR Nelson 13645 Paul Bryan Frandsen, Ralph Wayne Holzenthal,

Isaac Carney Schirmer 115 iphone cliff swallows, globe neaslow, river running flood- too high to sample 13645

13646 USA: UTAH: Duchesne Co., Vinta River, 1.7 miles northwest of Ashley National Fork border sign N 40.61244 W 110.13060 2287 m 11-Jun-2023 CR Nelson 13646 I C Schirmer, RWHolzenthall, PB Frandsen 115 iphone opposite Big Springs Area to west on the Utc Lands Paralevetra, Skwala, Chrysomelidae, Baetifae, Ephemerellidae, Heptageniidae, Limnephilidae, Hydrophysche, Glossasomatidae, Rhyacophilidae, Perlidae 13646

13647 USA: UTAH: Uintah Co., Green River, 0.5 miles below Jensen, Hwy 40 bridge N 40.35481 W 109.34299 1443 m 11-Jun-2023 CR Nelson 13647 Paul Bryan Frandsen, Ralph Wayne Holzenthall, Isaac Carney Schirmer 115 iphone photos: high flooded up through willows to informal camping spots; ran black lights for an hour; howe collected many biting mosquitoes few midges and mosquitoes no caddis 13647

13648 USA: UTAH: Uintah Co., Vernal, rental house N 40.44753 W 109.56654 1674 m 11-Jun-2023 13-Jun-2023 CR Nelson 13648 Paul Bryan Frandsen, Ralph Wayne Holzenthall, Isaac Carney Schirmer 115 iphone photos: cats, female "clico" in trunk, Unitna or Uintah? Sheet 13648

13649 USA: UTAH: Uintah Co., Dinosaur National Monument quarry N 40.44054 W 109.30123 1522 m 12-Jun-2023 CR Nelson 13649 Paul Bryan Frandsen, Ralph Wayne Holzenthall, Isaac Carney Schirmer 115 google earth no photos 13649

13650 USA: UTAH: Uintah Co., Dinosaur National Monument trail from Quarry to Visitor Center N 40.44083 W 109.29956 1500 m 12-Jun-2023 CR Nelson 13650 Paul Bryan Frandsen, Ralph Wayne Holzenthall, Isaac Carney Schirmer 115 iphone photos: plants= tetradymia, Sad Verbena, Castilleja, Sarcobatus, Skeletonweed, shadscale, people, salt lover weed Helogeton, composite, Opuntia, Cleaome yellow 13650

13651 USA: UTAH: Uintah Co., Dinosaur National Monument road near Green River N 40.40976 W 109.23184 1465 m 12-Jun-2023 CR Nelson 13651 Paul Bryan Frandsen, Ralph Wayne Holzenthall, Isaac Carney Schirmer 115 iphone photos: Mormon crickets and people. Later nearby, more photos Mormon crickets on fence, tumble weed pile and cheat grass mormon crickets, tumbleweeds, cheat grass 13651

13652 USA: UTAH: Uintah Co., Dinosaur National Monument Josies's Petroglyphs Road N 40.42067 W 109.18717 1622 m 12-Jun-2023 CR Nelson 13652 Paul Bryan Frandsen, Ralph Wayne Holzenthall, Isaac Carney Schirmer 115 iphone stop 1: used petroglyphs, exploding head stop 2: lizard petroglyphs, Mormon crickets on wall, Kokpelli?, surrounding scenery mormon crickets 13652

13653 USA: UTAH: Uintah Co., Dinosaur National Monument Split Mountain Boot Ramp N 40.44555 W 109.25271 1463 m 12-Jun-2023 CR Nelson 13653 Paul Bryan Frandsen, Ralph Wayne Holzenthal, Isaac Carney Schirmer 115 iphone photo: pike minnow bench, boat ramp scenery 13653

13654 USA: UTAH: Uintah Co., Cowboy Canyon, east of Bonanza N 40.01193 W 109.11620 1676 m 12-Jun-2023 CR Nelson 13654 Paul Bryan Frandsen, Ralph Wayne Holzenthal, Isaac Carney Schirmer 115 iphone photo: end of road, drop off could get to White River 13654

13655 USA: UTAH: Uintah Co., Cowboy Canyon, east of Bonanza fossil quarries N 40.00468 W 109.11747 1697 m 12-Jun-2023 CR Nelson 13655 Paul Bryan Frandsen, Ralph Wayne Holzenthal, Isaac Carney Schirmer 115 iphone photos: quarry for Green River leaves then photos: scenery trench for gilsonite mine closer to Bonanza also some gilsonite 13655

13656 USA: UTAH: Uintah Co., White River, Hwy 45 bridge N 39.97905 W 109.17761 1535 m 12-Jun-2023 CR Nelson 13656 Paul Bryan Frandsen, Ralph Wayne Holzenthal, Isaac Carney Schirmer 115 iphone photos: river, bridge, high water, river many mosquitoes 13656

13657 USA: UTAH: Uintah Co., Maeser building N 40.46270 W 109.57630 1689 m 12-Jun-2023 CR Nelson 13657 Paul Bryan Frandsen, Ralph Wayne Holzenthal, Isaac Carney Schirmer 115 iphone photos: old furniture shop of Paul Fransen's grandfather (father of his mother) 13657

13658 USA: UTAH: Uintah Co., Ashley Creek, Remember the Maine Park N 40.51641 W 109.59725 1746 m 12-Jun-2023 CR Nelson 13658 Paul Bryan Frandsen, Ralph Wayne Holzenthal, Isaac Carney Schirmer 115 iphone photo: parking lot *Pteronarcys californica* (saw one adult), caught nymphs, nymphs *Pteronarcys californica*, *Drunella grandis*, *Optioservus* adults, *Oreodytes*?. *Ameletus*, nymphs *Isoputa fulva*? 13658

13659 USA: UTAH: Uintah Co., Dry Fork Creek at Dry Fork Flume Trailhead N 40.57213 W 109.70266 2062 m 12-Jun-2023 CR Nelson 13659 Paul Bryan Frandsen, Ralph Wayne Holzenthal, Isaac Carney Schirmer 115 iphone No insects at light Cicadas, Tipulidae, Culicidae 13659

136659.5 USA: UTAH: Duchesne Co., 0.75 miles north of Mountain Home N 40.40974 W 110.38683 2160 m 13-Jun-2023 CR Nelson 13659.5 IC Schirmer 115 iphone photos: flags Redwing, Killdeer, Meadowlark, Brewers, photos: iris flowers 13659.5

13660 USA: UTAH: Duchesne Co., Moon Lake, beach on Lake Fork Creek N 40.57072 W 110.50855 2468 m 13-Jun-2023 CR Nelson 13660 IC Schirmer 115 iphone photos: lake in rain 13660

13661 USA: UTAH: Duchesne Co., Lake Fork Creek, 0.3 miles North of Ashley National Forest Boundary on Moon lake Road N 40.52482 W 110.44836 2306 m 13-Jun-2023 CR Nelson 13661 IC Schirmer 115 iphone photos: scenery, no insects to speak of on beating sheet in the rain deep, mostly sandy bottomed Bactis, Ephemerella?, Drunella grandis, Hydropsychidae, Brachycentridae, Rhyacophilidae, No stoneflies; pond nead Talmage: tree swallow, barn swallow, cliff swalaw, common teal, ring billed duck, canada geese 13661

13662 USA: UTAH: Duchesne Co., hwy 87, 1-6 miles north of Hwy 35 N 40.27330 W 110.38040 1868 m 13-Jun-2023 CR Nelson 13662 IC Schirmer 115 iphone photos: globe mallow, Sphaerakea grossularifolia in dark orange, lighter (normal) orange, and white! 13662

13663 USA: UTAH: Duchesne Co., West Fork Duchesne River, Hwy 35 7 miles north west of Hanna N 40.45595 W 110.85279 2153 m 13-Jun-2023 CR Nelson 13663 IC Schirmer 115 iphone photos: scenery Dryopidae, Eimidae, Drunella grandis, Drunella sp., Ephemerella, Bactis, Paraleptophlebia, Epeorus, Dytiscidae, Limnephilidae Z genema leaf and Hespoisophylax, Heliopsyche borealis, Isopula, Pteronarcella, Sculpint eggs, Gyrinidae, Corixidae, Tipulidae, Uinoidae - Neothremma, Atherix, Hydropsychidae, Brachycentridae, Amphizoidae? Skin? 13663

13664 USA: UTAH: Wasatch Co., Wolf Creek Hwy 35, milemarker 21, 1.2 miles East of Wolf Creek Pass Campground N 40.48568 W 111.00991 2810 m 13-Jun-2023 CR Nelson 13664 IC Schirmer 115 iphone photos: scenery with snow; star 3.3, o.6 mi east Cold Springs Road, 1.2 mi east Duchesne Ridge Road Zapada. Prostoia No! Zapada, Glacier lilies, Miners lettuce? Claytonia>, Steershead, Dicentra uniflora 13664

13665 USA: UTAH: Wastach Co., South Fork Provo River 4.1 miles west of Wolf Creek Pass N 20.51477 W 111.06219 2462 m 15-Jun-2023 CR Nelson 13665 IC Schirmer 115 iphone photos: Sandhill Crane 13665

13666 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 15-Jun-2023 18-Jun-2023 CR Nelson 13666 JK Nelson 115 iphone extended Wheeler Family photos: Riley and Kelly hung Wheel chandelier Leah, age 6, caught her first lizard. Riley and Kelly fixed water pipe near sourc. The walked to east power pole contruction site. Worked on cabin logs and front porch many four wheeler rides. Kensie Wheeler and I hung a new board swing to replace the tire swing taht is too small for most of the family members. Kaye and I returned on 19 June Monday, to supervise the

window washers and Steven Harrison from Freeway Propane. Kaye Nelson, Riley Nelson, Kelly Wheeler, ANDrea Nelson, Joshua Wheeler, Kensie Wheeler, Rock Wheeler, G G Wheeler, Ford Wheeler, Jan Grey, Brett Wheeler, Gayle Wheeler, Benjamin Wheeler, Matthew Wheeler, D Wheeler, Kaen Wheeler, Asher Wheeler, Silas Wheeler, Tara Wheeler Sarsfield and 2 daughters, Kayla Sarsfield, Naomi Sarsfield, lisa Wheeler Astling, Wolfgang Smith, Leah Smith, Amy Smith, Todd Smith, Dell Mead, Sabryna, Onyx, Valkrie, Mychigan Mea, Dakota Jenson, Wyllow Mead, Sawyer Mead, Fyn Mead, Daisy Mead, Dogs: Pfeif and Lupine 13666

13667 USA: UTAH: Utah Co., Lake Fork Creek 1.6 miles South of Hwy 89 on Lake Fork Road N 39.98273 W 111.47311 1581 m 20-Jun-2023 CR Nelson 13667 E.E. laine Fransen, IC Schirmer 115 iphone clear running creek, Megafine Aquatic kick sample, fossil clam rock; on road, site is where barbed wire fence turns into log fence, photo: dead pocket gopher with Calliphoridae, photos on 22 June 2023 photos of fly then vial 2, 4; 1,3 Bactis, Agabus, Simuliidae, caddis, Cullerdae?, Chironomidae, Lasiopogon sticks and rocks over water, Cyrtopogon on rocks, Dytiscidae, wandering garter snake 13667

13668 USA: UTAH: Utah Co., Timpanogos Cave National Monument trail to cave then in cave N 40.43796 W 111.71126 2049 m 21-Jun-2023 CR Nelson 13668 EE Frandsen and A. K Monson 115 iphone photos: hike up to Hansen Cave main entrance through cave system = Hansen, Middle, and Timpanogos Caves, exit through Timpanogos Cave entrance then back to main entrance; photos in cave: checked placements of 84 translucent plastic cup traps! placed by EE Frandsen and AK Monson last week 14 and 15 June 2023; Summer Solstice!, Hansen Entrance, Cave personnel with us: Andy Armstrong (resource manager), Howard Hurtt (vounteer age in 70s), Off main route in Hansen Cave, Lower Passage, and to top of Soda Pop pit. Timpanogos Cave exit N: 40.43756 W: 111.72415 elev:2057 m Rocky Mountain Bighorn Sheep ewes, few arthropods in traps, but one brown Carabidae, Rhadine? in trap in Big Room 13668

13669 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 23-Jun-2023 CR Nelson 13669 JK Nelson 115 iphone photos: woodhouse scrub jay flew in house and we took photos 13669

13670 USA: UTAH: Utah Co., Provo, Nelson home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 24-Jun-2023 CR Nelson 13670 JK Nelson 115 iphone This is a year of birds entering our house. Joy. photos: blackcapped chickadee that flew into our greenhouse 13670

13671 USA: UTAH: Utah Co., Provo, Pioneer Book 450 West Center N 40.23396 W 111.66664 1394 m 24-Jun-2023 CR Nelson 13671 JK Nelson 115 iphone photos: Book

reading of: Utah Lake stories, reflections on a living landmark, edited by Amelia England and Karin Anderson; and Torrey House Press. Photos: Kaye Nelson, Teri Lyn Harman, George Handley, Dennis Marden Clark, Steven Peck, Susan Izatt - Foster, Ben Abbott, Scott Abbott, John Bennion We also heard from Amelia England, C. M. Hobson, Doug 13671

13672 USA: UTAH: Utah Co., Utah Lake, Walkara Way Jake Holdaway property N 240.28208 W 111.75230 1376 m 29-Jun-2023 CR Nelson 13672 Field Biology Class 115 iphone Utah Lake edge N: 40.28009 W: 111.75798 elevL 1376 m; Field Biology Class: Anna Monson, Rance Jensen (parking lot), Grace Peeler, Tanner Thompson, Brittany Hone, Connor Larson, Eliza Koger, Will Fredenberg, Lucas Williams, Alex Walbom collared dove, mourning dove, redwing blackbird, yellow headed blackbird, starling, brownheaded cowbird, magpie, osprey with fish, snowy egret, mallard duck, white pelican, california gull, weston kingbird no ash throated flycatcher, eastern kingbird, sparrow?, white faced ibis, Tetraopes on milkweed, midges, mosquitoes, red tailed hawk 13672

13673 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 29-Jun-2023 30-Jun-2023 CR Nelson 13673 Field Biology Class 115 iphone culinary flow three readings 11,20,9.5 sec/120z = 33.8 gal/hour; 29 June 2023 - took a slow walk up to the tanks then ran UV lights, (Limnephilidae adult) it as a bit cold so not much came. 30 June 2023 - looped down "Secret Valley" to ovoo then hiked quite quickly to tanks and Glass Cliffs. Already the Pinyon-Juniper community of plants is drying up. But saw more than usual number of sego lilies. SAw Penstemon eatoni, Penstemon palmeri, Penstemon blue?, and Penstemon caespitosus. Utah astragalus is almost all done blooming. linear leafed cream flowered one is still strong. Streptanthus still out. Field Biology Class: Anna Monson, Liza Koger, Will Fredenberg, Tanner Thopson, Lucas Williams, Rance Jensen magpie, golden eagle, mountain bluebird, rough winged swallow, ash throated flycatcher, black chinned hummingbird, Asilidae, Dicropaltume? Efferia benedicti, Heteropogon, Firecracker penstemon, seeds of Astragalus utahensis 13673

13674 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 02-Jul-2023 CR Nelson 13674 JK Nelson 115 iphone photos: fly larvae and pupae in rotten potato in kitchen 13674

13675 USA: UTAH: Utah Co., Orem, Timpanogos Hospital N 40.31303 W 111.71375 1451 m 03-Jul-2023 CR Nelson 13675 JR, BD, and JK Nelson 115 iphone photos: hospital bed with Jason Nelson after procedure to place a stent in a coronary artery after a heart attack. He doesn't hurt and it is a wake up call for all of us to think of our mortality. 13675

13676 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 04-Jul-2023 06-Jul-2023 CR Nelson 13676 JK Nelson and whole family 115 iphone rejoined one day after Jason's heart attack. Photos: croquet, parasitic plant - Orobanche, Astrid and Leah in swings, on walk to cabin overlook, Lupine with hind leg stitches, rockets at corssroads; Astragalus utahensis seeds rescued from road plant that comes up each year; whole family: Jason Riley Nelson, Brandy Dawn Nelson, Artemis Valborg Nelson, Astrid Josephine Nelson, Andrea Jill Nelson, Jordan Odell Christopher, Andrew Todd Smith, Amy Leah Smith, Wolfgang Winston Smith, Leah Valentine Smith 13676

13677 USA: UTAH: Utah Co., Provo, BYU, LSB Gardens and rooms N 40.24508 W 111.64918 1408 m 06-Jul-2023 CR Nelson 13677 Becca Teagan's friend, Rachel Hadden, Desert Mulford, Teagan Mulford, ? Pedro Diaz, Mom Jennifer Ellsworth, Dad Michael Ellsworth, Rebecca Clement Maldroedo, Samantha Smith Standring 115 iphone photos: group shot after Teagan Mulford's successful master's thesis defense; at home Thursday evening- family group shot of Brandy, Jason, Artemis, and Astrid photos: Field Biology - Field birdweed, Convolvulus arvensis morning glory, Praying mantis, Pinus monophylla - single leaf pinyon, Dolichopodidae on Rhus aromatica. Pyrrhocoris apterus - firebug, Utah Juniper 13677

13678 USA: UTAH: Utah Co., Farmington, Lagoon Amusement Park N 40.98565 W 111.89494 1304 m 07-Jul-2023 CR Nelson 13678 115 iphone photos: family at Lagoon, Jason and Brandy weren't with us because they drove home last night to get to more oxygen at lower elevation. Jason's chest still hurts after his heart problem's. 13678

13679 USA: UTAH: Wasatch Co., Wallsburg, Yarro Road 1750 Little Valley Road N 40.36484 W 111.40070 1799 m 10-Jul-2023 CR Nelson 13679 JK nelson, stake primary and grandchildren 115 iphone photos: people at activities, swimming, Samuel Hutchins with cray fish, Wolfgang swimming, Jameson Wright, Mailet Adams and kids: Mckenna, Max, Charlie, and Munroe with Riley and Kaye, Beckham Wyatt with fruit rollups, Sharon Hyatt and gratitude, Jenga, Archery; stake primary and grandchildren: Artemis Nelson, Astrid Nelson, Wolfgang Smith, Leah Smith photos: goats, cattle, crayfish 13679

13680 USA: UTAH: Utah Co., Provo River, Provo Lakeshore Drive Bridge N 40.23867 W 111.71049 1369 m 11-Jul-2023 CR Nelson 13680 Field Biology Class 115 iphone water still quite high, but clear; Field Biology Class: Anna Monson, Tanner Thompson, Grace Peeler, Liza Koger, Alex Wlaborn, Will Fredenberg, Lucas Williams, Brittany Hone, Rance Jensen, Connor Larson mink on south shore, two female june suckers plants identified: narrow leaf cottonwood, box elder, red osier dogwood, sandbar willow; downie woodpecker, yellow warbler, common yellowthroat, robin 13680

13681 USA: UTAH: Utah Co., Provo, BYU Botony Pond N 40.24473 W 111.65054 1396 m 11-Jul-2023 CR Nelson 13681 JK Nelson and grandchildren 115 iphone photos: pizza picnic in the park; grandchildren: Artemis Nelson, Astrid Nelson, Wolfgang Smith, Leah Smith 13681

13682 USA: UTAH: Utah Co., Provo, Y Mountain Trail N 40.24289 W 111.62462 1630 m 13-Jul-2023 CR Nelson 13682 R. Clement Maldonado, Anna K. Nomson and Field Biology class 115 iphone plant transects, photos: coyote; Field Biology class: Alex Walborn, Rance Jensen, Grace Peeler, Will Fredenberg, Connor Larson, Tanner Thompson, Lucas Williams, Brittany Hone, Liza Kroger 13682

13683 USA: UTAH: Tooele Co., Rush Valley, 1.5 miles east of Faust village and Hwy 36, Pony Express Trail Road N 40.18159 W 112.39720 1603 m 15-Jul-2023 CR Nelson 13683 JK Nelson and TM Mulford 115 iphone photos: shadscale study site of 1987-88, Two transects still marked by T posts, western one with two in line, rebermarkers with orange paint. Hot= near 100 degrees fahrenheit.. Unknown Asilinae - golden tan on dry annual vegetation = 5 cm above soil, also 0.4 miles west of railroad tracks, nearer than Hwy 36 Promachus aldrichii mating pair male with buprestid prey. Unknown Asilinae - golden tan on dry annual vegetation 13683

13684 USA: UTAH: Tooele Co., Great Salt Lake Basin, I-80 Tree of Life (Utah) sculpture N 40.73351 W 113.55129 1288 m 15-Jul-2023 CR Nelson 13684 JK Nelson and TM Mulford 115 iphone photos: people and sculpture 13684

13685 USA: UTAH: Tooele Co., Great Salt Lake Basin, I-80 Bonneville Salt Flats Rest Area N 40.74079 W 113.85261 1290 m 15-Jul-2023 CR Nelson 13685 JK Nelson and TM Mulford 115 iphone photos: scenery, salt flats 13685

13686 USA: NEVADA: Humboldt Co., Valmy, Interstate Highway 80 N 40.79416 W 117.13084 1376 m 15-Jul-2023 CR Nelson 13686 JK Nelson and TM Mulford 115 iphone collected into a Dr. Pepper bottle and a Fireball Cinnamon Whisky bottle photos and videos: mormon crickets, Anabrus simplex 13686

13687 USA: NEVADA: Washoe Co., Reno, Silver Legacy Resort N 39.53048 W 119.81568 1377 m 16-Jul-2023 21-Jul-2023 CR Nelson 13687 JK Nelson and TM Mulford 115 iphone Meetings of 10th International Congress of Dipterology 13687

13688 USA: NEVADA: Washoe Co., Lake Tahoe, east shore Memorial Point Scenic Overlook N 39.20937 W 119.93021 1905 m 18-Jul-2023 CR Nelson 13688 JK Nelson, Anja DeBrackeleer, and Faye Whitworth 115 iphone photos: lake, people 13688

13689 USA: CALIFORNIA: El Dorado Co., Lake Tahoe, Heavenly Village N 38.95533 W 119.94370 1925 m 18-Jul-2023 CR Nelson 13689 JK Nelson, Anja Debraekeleer, and Faye Whitworth 115 iphone photos: Zoltar, in restaurant Driftwood Café 13689

13690 USA: CALIFORNIA: El Dorado Co., Lake Tahoe, Emerald Bay Ureas Area N 38.94671 W 120.09867 2087 m 18-Jul-2023 CR Nelson 13690 JK Nelson, Anja Debraekeleer, and Faye Whitworth 115 iphone photos: scenery 13690

13691 USA: CALIFORNIA: Placer Co., Lake Tahoe, Truckee River Outlet N 39.16725 W 120.14413 1893 m 18-Jul-2023 CR Nelson 13691 JK Nelson, Anja Debraekeleer, and Faye Whitworth 115 iphone photos: water common merganser with five chicks 13691

13692 USA: NEVADA: Churchill Co., Stillwater National Wildlife Refuge Stillwater Point Reservoir N 39.51790 W 118.51010 1196 m 21-Jul-2023 CR Nelson 13692 JK Nelson and TM Mulford 115 iphone photos: scenery effortia female, swainson hawk, raven pelican, clarks grebe, duck- ruddy?, shrike, mourning dove, white faced ibis, marsh wren, redwing blackbird, starlings, leopard lizard, Sceloporus - yellow head 13692

13693 USA: NEVADA: Churchill Co., Sand Mountain Recreation Area Hwy 50, 25 miles east of Fallon N 39.29616 W 118.40392 1222 m 21-Jul-2023 CR Nelson 13693 JK Nelson and TM Mulford 115 iphone photos: scenery; helped push car of Kirsten out of sand just off the hard packed road with help from two older men. Bob Lander from Buffalo, Wyoming. Kirsten was going from California to Denver. 13693

13694 USA: NEVADA: White Pine Co., Hwy 50 roadcut Slate 25 miles southeast of Ely N 39.02599 W 114.59183 2026 m 22-Jul-2023 CR Nelson 13694 JK and CR Nelson and TM Mulford 115 iphone slate rocks for aquarium 13694

13695 USA: NEVADA: White Pine Co., Strawberry Creek, 1.5 miles south of Hwy 50 N 39.06723 W 114.25057 2036 m 22-Jul-2023 CR Nelson 13695 JK Nelson and TM Mulford 115 iphone photos at home on 23 July 2023 CRN. Photos: Teagan close ups, scenery, further up the road at the National Park Boundary Cordule gaster, Sesiidae, Perlodidae nymphs, Epeorus, photos: Dolichopodidae on truck track puddle, Pieridae on shrub, Prickly poppy 13695

13696 USA: NEVADA: White Pine Co., Loneliest Road in America, Hwy 6, 5.8 miles west of Utah border N 39.06521 W 114.15573 1673 m 22-Jul-2023 CR Nelson 13696 JK Nelson and TM Mulford 115 iphone photos: road and people on it. Soon after= Utah= Millard Co., video and photos: Notch Peak and canyon leading towards it. 13696

13697 USA: UTAH: Millard Co., North end Sevier Lake, Hwy 6 mile marker 50, 35 miles west of Delta N 39.08027 W 113.18594 1384 m 22-Jul-2023 CR Nelson 13697 JK Nelson and TM

Mulford 115 iphone photos: scenery; soon after= Delta - University of Utah Cosmic Ray Center then cement factory tube crossing Hwy between Leaminton and Nephi; start 113.6 end 149.0 $113.6 = 35.45$ no Asilidae, Leopard lizard, Sceloporus (large desert spiny?), Pygmy blue butterflies 13697

13698 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 24-Jul-2023 CR Nelson 13698 Sigita Podena, Virginija Podenieue 115 iphone photo: scenery and people; friends from Lithuania. We spent much time together in Mongolia. Later in day at home: Virginija throwing away her worn out boots. And group shot of Kaye, Riley, Jon Gelhaus, Sigitas, and Virginija Tipilidae with Sigitas. Machiners mating pair (change CRN # on permanent label), single, Dicroplatum? 1f

13699 USA: UTAH: Utah Co., Provo, BYU, 4118 LSB Nelson Lab N 40.24525 W 111.64900 1418 m 26-Jul-2023 CR Nelson 13699 A. L. Eichert and Richard W. Baumann 115 iphone photos Anne Eichert and Richard W. Baumann and CR Nelson at stonefly morphology learning session. Photos: Kayla Stephenson 13699

13700 USA: UTAH: Utah Co., Mount Timpanogos area, Hwy 92 Summit Trailhead N 40.43110 W 111.61480 2451 m 27-Jul-2023 CR Nelson 13700 Field Biology Class 115 iphone photos: scenery and people. Field Biology Class: Riley Nelson, Ranch Jensen, Anna Monson, Will Fredenberg, Alex Walbom, Liza Koger, Grace Peeler, Tanner Thompson, Connor Larson, Lucas Williams, no Brittany Hone; Riley with new collecting bag back at bYU, Benson Building Polemonium, Geranium? Closed flowers, houndstongue, skunk cabbage false hellebore Veratrum californicum, Yarrow Achillea, many Symphoromyia flies, Rumex, Aconitum near by, photos: Meloidae on Geranium?, Rhagionidae (change CRN # on permanent label) 13700

13701 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 6102 m 27-Jul-2023 CR Nelson 13701 JK Nelson and Jed Wheeler family (kids) 115 iphone kids: Jana, Jack, Elise, Renn (from Logandale, Nevada). Walked to tank crossing with Jed to consider repairs to washed out road sagebrush lizards 13701

13702 USA: UTAH: Utah Co., Utah Lake, Mill Race channel near I-15 N 40.20185 W 111.65492 1372 m 29-Jul-2023 CR Nelson 13702 JK Nelson and Angela Mourik 115 iphone photos: scenery and people at Conserve Utah Valley litter clean up project. About 20 people total. My story is told by water David Jones Duncan 13702

13703 USA: UTAH: Utah Co., Lower Hobbie Creek, near Utah Lake Lower Hobbie Creek Wildlife Management Area N 40.18362 W 111.64952 1373 m 03-Aug-2023 CR Nelson 13703 AK Monson and Field Biology Class 115 iphone Field Biology Class: Charles Riley Nelson, Anna Keturah Monson, Will Fredenberg, Brittany Hone, Lucas Williams, Liza Koger,

Connor Larson, Tanner Thompson, Alex Walbom, Rance Jensen, no Grace Peeler; 9:30-11:30 am; watercolor - marsh and Y Mountain prose on gradients Aquatics: Callibaetis, Corixidae - 3genera, Notonectidae - Notonecta, Gerridae - Aquarius?, Asellus aquaticus, Physa - left handed snail, Helix aspersa on land, Simuliidae, Oligochaeta, Chironomidae - blood worms, no Belostomatidae or Mepidae; Plants: Lactuca serriola, Ambrosia, Typha latifolia, Hordeum?, Several large unknown grasses; Birds: Mallards 3, White faced ibis 7, barn swallows 8, Collared dove 1, mourning dove 1, Golden eagle 2, Gambusia affinis 50 13703

13704 USA: UTAH: Utah Co., Lower Hobbie Creek, near Utah Lake Lower Hobbie Creek Wildlife Management Area N 40.18362 W 111.64952 1373 m 04-Aug-2023 CR Nelson 13704 AK Monson and Field Biology Class 115 iphone photos: scenery, UV at Mercury Vap or lights, insects on the sheet, people, sunset; Class: Riley Nelson, Anna Monson, Tanner Thompson, Grace Peeler, Lucas Williams, Alex Walbom photos at home: Sciomyzidae - large elongate; Conixidae, Chironomidae, Hydropsychidae, Erebidae - Catocala, Aeshna, Anax, Coenagrionidae, Chrysopidae, snowy egrets, white faced ibis, barn swallows, rough winged swallows, song sparrows, murmurations of swallows? not starlings, I think, Heteroceridae, Staphylinidae, Hydrophilidae small and 1 Hydrophilus triangularis, Dytiscidae, Baetidae - Pallibaetis and 2nd genera many aquatic beetles on sheet. 13704

13705 USA: UTAH: Utah Co., Provo, Nelsion Home, 500 East Foothill Drive N 40.292343 W 111.64922 1495 m 05-Aug-2023 CR Nelson 13705 115 iphone photos: maggot in apricot fruit, earwig in apricot fruit; Forficula auricularia male, Nitidulidae in apricot fruit, Carpophilus? 13705

13706 USA: UTAH: Utah Co., Provo, Nelsion Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 08-Aug-2023 CR Nelson 13706 AK Monson and Field Biology Class 115 iphone Class: Riley Nelson, Anna Monson, Will Fredenberg, Alex Walbom, Rance Jensen, Brittany Hone, Tanner Thompson, Lucas Williams, Liza Koger, no shows Grace Peeler, Conner Larson; photos: journal writing in backyard, many by pond; Also: Corner of of Foothill Drive and Timpview Drive N 40.29329 W 111.64803 elev 1500 m Estimate population size of Pogonomyrmex occidentalis ant nest that I've observed for 24 years. mark and recapture - marked 6 ants waited 30 minutes so they mixed in. counted marked and unmarked ants crossing 15 cm line 15 cm from colony opening for 5 minutes. marked: 1 unmarked 32 (counter1) 33 (counter 2) 13706

13707 USA: UTAH: Duchesne Co., Yellowstone Creek at Yellowstone Campground 10 miles north of Mountain Home N 40.54265 W 110.33594 2313 m 10-Aug-2023 CR Nelson 13707 AK Monson, Brittany Lee Hone, Rance Karl Jensen, Grace Halley Peeler 115 iphone photos: scenery and people photos: Deuterophlebiidae larvae and pupae, Hydropsychidae,

Chloroperlidae - Suwallia? , Perlidae skins and nymph, Perlodidae adult with Brittany long wings, Simuliidae, Rhyacophiliade, Philopotamidae, Chironomidae, Brachycentridae - comon, photos: Bryzoan? Plant: photos: Ericaceae Pterospora andromedea NoHall 1818, Legums uprigh fruit large, Lupine 13707

13708 USA: UTAH: Duchesne Co., Uinta Canyon, 12 miles north of Neola pond south of Uinta Canyon campground N 40.59527 W 110.11796 2250 m 10-Aug-2023 11-Aug-2023 CR Nelson 13708 AK Monson, Brittany Lee Hone, Rance Karl Jensen, Grace Halley Peeler 115 iphone set up lights to learn for night, mourning cloak - with Grace Peeler small leopard frogs, lesser nighthwaks, dragonflies, trap had many Limnephilidae, August 11 morning: Anax?, Aeshna, Enallagma, Lestes, "Libellula", heard red crossbills, singing while flying violet green swallows 13708

13709 USA: UTAH: Duchesne Co., Uinta Canyon, 12 miles north of Neola pond south of Uinta Canyon campground N 40.62161 W 110.14310 2319 m 10-Aug-2023 11-Sug-2023 CR Nelson 13709 AK Monson, Brittany Lee Hone, Rance Karl Jensen, Grace Halley Peeler 115 iphone camp, set up UV and Mercury vapor light turned off mercury at 10:30 pm. Ran small UV until battery dead. I pinned some Trichoptera collected at Mercury vapor lamp sheet. Visited Moon Lake between 13707 and 13709. Quick Stop, 2 photos: N 40.57080 W 110.50809 elev. 2462 m many Trichoptera, 5-7 genera, photos: huge dark Limnephilidae; Hydropsychidae, other small caddis, Tipulidae, photos: vouchers, may trichoptera 13709

13710 USA: UTAH: Uintah Co., Green River 2 miles south of Jensen Bridge on Hwy 40 N 40.35416 W 109.34387 1444 m 11-Aug-2023 CR Nelson 13710 AK Monson, Brittany Lee Hone, Rance Karl Jensen, Grace Halley Peeler 115 iphone group selfie photo photos on morning at CRN13712: Proctacanthus arenophilus 1m, Cicindelidae, Libellulidae - several species, Gomphidae, Chysomelidae 13710

13711 USA: UTAH: Uintah Co., Dinosaur National Monument Cub Creek Petroglyphs N 40.42061 W 109.18716 1621 m 11-Aug-2023 CR Nelson 13711 AK Monson, Brittany Lee Hone, Rance Karl Jensen, Grace Halley Peeler 115 iphone photos: scenery and people; visited Dinosaur fossil gallery before Cub Creek N 40.44062 W 109.30123 elv. 1528 m photos: people and fossils Efferia benedicti in hot afternoon 13711

13712 USA: UTAH: Uintah Co., White River, Hwy 45 bridge camp and boat ramp, 3 miles south of Bonanza N 39.97744 W 109.17931 1515 m 11-Aug-2023 12-Aug-2023 CR Nelson 13712 AK Monson, Brittany Lee Hone, Rance Karl Jensen, Grace Halley Peeler 115 iphone photos in lab 14 Aug 2023 dead adult benthics and subimago skin; pit toilet, no tables, storm threatened at dusk, mersely spint on us Leptophlebiidae or Choroterpes? Also at light, Heptageniidae, Ephemeridae small, Baetidae, Leptohyphidae, Perlodidae, Isoperla

longigera, Perlidae Acroneuria, Hydropsychidae, Hydroptilidae, Leptoceridae - two genera/species!, Petrophila, Poplar moth Pachysphinx, Phylophaga decemlineata, Dissosteira carolina, Elmidae! in light trap; mosquitoes, free camp no water pit toilet, sorted light trap on 22 Aug 2023, in lab thousand of Hydroptilidae 13712

13713 USA: UTAH: Wasatch Co., Wallsburg Girls Camp 4 miles southeast of Wallsburg N 40.33672 W 111.38058 1937 m 18-Aug-2023 19-Aug-2023 CR Nelson 13713 JK Nelson 116 iPhone Edgemont 10th ward campout; photos: people and scenery - stream (18 Aug); night ran UV light, 19 Aug photos: stream pictures millipede with Lynden Chapman; night: Trichoptera: Hesperophylax, Hydropsychidae, Limnephilidae - dark other - slender dark, Tipulidae, Berothidae, Curculionidae, Curculis (from oaks?) 13713

13714 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 19-Aug-2023 20-Aug-2023 CR Nelson 13714 JK Nelson 116 iPhone UV light trap. All preserved in 95% ethanol, moths discarded Sciaridae dominant, Myrmeleontidae, Chrysopidae, Hydropsychidae, Tipulidae - Tipula male, Scarabaeidae, Tiphiidae 13714

13715 USA: ARIZONA: Mariposa Co., Phoenix, Nelson home, 2510 West Columbine Drive N 33.59929 W 112.11363 393 m 24-Aug-2023 CR Nelson 13715 JK Nelson and Nelson's 116 iPhone flew down evening of Thursday 24 August 2023 for Astrid Nelson's ninth birthday on Friday 25 August 2023. Made eBird list; Nelsons: Riley Nelson, Kaye Nelson, Jason Nelson, Brandy Nelson, Artemis Nelson, Astrid Nelson, Vivian eBird list 25 August 2023: Canada goose 2, mourning dove 1, gila woodpecker 1, starling 5, curve billed thrasher 3, house sparrow 5; list 26 August 2023: curve billed thrasher 1, house sparrow 4, abert towhee 1, rock pigeon 3, collared dove 1, inca dove 1, rosy faced lovebird 2, mallard 2 13715

13716 USA: ARIZONA: Mariposa Co., Phoenix, Cave Creek Park between Sand Lilly south of Cactus Road and the end of Sweetwater Avenue N 33.60042 W 112.11105 387 m 27-Aug-2023 CR Nelson 13716 Artemis Valborg Nelson 116 iPhone We started with Kaye Nelson, Astrid Nelson, and Vivianne Dawes but they turned around part way down Sand Lilly. Rosy faced lovebirds, great tailed grackle, mourning dove, mocking bird, house sparrow, mallard duck 13716

13717 USA: UTAH: Utah Co., Provo, near Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 28-Aug-2023 CR Nelson 13717 116 iPhone photos: Wolf and Leah Smith in Apple treehouse. The spider wasp had trimmed the legs off the spider and have difficulty carrying it over the overhangs where mortar joined the white bricks. It fell with the prey up to seven feet, then started up the chimney again repeatedly. photos and videos: spiderwasp, Pompilidae carrying spider prey straight up chimney on house. 13717

13718 USA: UTAH: Utah Co., Little North Fork Canyon, Aspen Grove Family Camp north of Sundance ski area N 40.40437 W 111.6011 2088 m 31-Aug-2023 CR Nelson 13718 116 iphone photos: BYU Biology Department Retreat slides from presentation on becoming a better teacher 13718

13719 USA: UTAH: Utah Co., Little North Fork Canyon Stewarts Falls walk to and from Aspen Grove N 40.38624 W 111.60430 2087 m 31-Aug-2023 CR Nelson 13719 Biology Department 116 iphone photos: scenery to east and north, with former Biology 100 student Evan Dantzcher, wife Madeline, and son Milton, also Seth, Madeline's brother took the photo. Kyle (education intern), Clint Whipple, Steve Pack *Melanoplus differentialis* on *Rudbeckia occidentalis* Nutt. , *Penstemon*, Stewarts Falls, *Mimulus guttatus*?, Frass of *Parnassius* 13719

13720 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 02-Sep-2023 4-Sep-2023 CR Nelson 13720 JK Nelson 116 iphone USU friends: Hank and Rexanne, Blair and Cynthia Parrish; Sept 4: rainy Sept 2: Berothidae at UV light, no photos Pond, photos: Rhipiceridae - Sandalus, Rock wren, photos: sagebrush lizard, wandering garter snake, broad tailed hummingbird, rufous hummingbird; 3 Sept: pine siskin, udt sparrow, scrub jay, red-naped sapsucker, robin; photos: phone, yellow Meloidae on *Grindelia squarrosa* 13720

13721 USA: UTAH: Utah Co., Provo, East Lawn Cemetery N 40.29713 W 111.64426 1554 m 04-Sep-2023 05-Sep-2023 CR Nelson 13721 116 iphone Sept 4: *Grindelia squarrosa* insects: photos: Meloidae, small shiny yellow with long mouthparts, galeae of maxilla, *Nemognatha* or *Zonitis*, photos and video: Meloidae, large, yellow with black spots/bands short galeae, photos: Meloidae, medium black with heavy, rather long golden setae; Sept 5: more *Grindelia* for lab today, more yellow and black meloid, black, yellowhaired meloid, Curculionidae on *Grindelia* 13721

13722 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 05-Sep-2023 CR Nelson 13722 JK Nelson 116 iphone photos: Timpanogos and Nebo Peaks, Kaye and Riley first day of class Fall Semester BYU 13722

13723 USA: UTAH: Utah Co., Provo, Foothill Drive to University Avenue N 40.29576 W 111.66652 1456 m 05-Sep-2023 CR Nelson 13723 116 iphone photos: Timpanogos and Nebo Peaks 13723

13724 USA: UTAH: Utah Co., Provo, BYU, Life Sciences Building, north east corner N 40.24520 W 111.64885 1412 m 05-Sep-2023 CR Nelson 13724 116 iphone photos: campus and Mount Timpanogos. 13724

13725 USA: UTAH: Utah Co., Provo, BYU, upper botany pond, Chestnut Pond N 40.24522 W 111.66511 1412 m 05-Sep-2023 CR Nelson 13725 Lauryn C. Dupaix and students in Field Biology 116 iphone students in Field Biology: Riley Nelson, Lauryn Crabtree Dupaix and 22 students: Emma Barton, Nyah Bison?, Emma Crabtree, Devin Davis, Jade Dean, Brynley Ellsworth, Isabella Hunter, Brynlee Jensen, John Austin, Anna Jones, Kailee Kakazu?, Lauren Kulesa, Hunter Lambert, Daniel Lopex, Bryson McGee, Asai Melgar, Reed Ogden, Valeria Prieto Hurtodo, Caroline Trowbridge, Madison "Maddie" Vincent, Brooklyn Wood?; photo: students in Field Biology, Journal Prompt: Where discover diversity?, What are adaptations?; discuss field journal types talk Lestidae mating, milkweed beetle, quiz plants: *Atriplex canescens*, *Melilotus alba*, pinned beetles from CRN 13721 back in classroom 13725

13726 USA: UTAH: Utah Co., Utah Lake, Walkara Way, Holdaway property N 40.28221 W 111.75234 1375 m 07-Sep-2023 CR Nelson 13726 Field Biology Class 116 iphone photos: scenery and people; Field Biology Class: Riley Nelson, Lauryn Dupaix, Luke Ashworth, Lauren Kulesa, Reed Ogden, Devin Davis, Asai Melgar, Connor Beardell, Emma Crabtree, Brynley Ellsworth, Brooklyn Wood, Anna Jones, Madison Vincent, Brynlee Jensen, Valeria Prieto, Jadelyn Dean, Isabella Hunter, Danny Lopez, Bryson McGee, Austin John Ashthroated flycatcher or western kingbird 13726

13727 USA: UTAH: Carbon Co., Fish Creek, Fish Creek Campground, west of Scofield Reservoir N 39.77511 W 111.19721 2338 m 07-Sep-2023 08-Sep-2023 CR Nelson 13727 PB Frandsen and RW Holzenthal 116 iphone photos: scenery and people, ran UV light at 50 degrees fahrenheit Limnephilidae, photos: *Dicosmoecus*, two more genera, one *Hesperophylax* and two smaller sized dark genera, Glossomatidae, Mayfly adults or subs, rubycrowned kinglet, chickadee, raven photos: *Alucita hexadactyla* in outhouse; Scofield Reservoir - mallard, Canada goose, Great Blue Heron, ringbilled? gull, Brewers blackbird, magpie, black chinned hummingbird, osprey, red tailed hawk, sharp shinned hawk. 13727

13728 USA: UTAH: Emery Co., Left Fork Huntington Creek, Forks of Huntington Creek Campground N 39.50225 W 111.16554 2351 m 08-Sep-2023 CR Nelson 13728 PB Frandsen and RW Holzenthal 116 Paul and google earth photos: scenery, stopped later to talk to Dell Mead at Ace Hardware in Castle Dale, Utah *Rhyacophila* adult, *Lasiopogon* 1m 1f, Chloroperlidae 13728

13729 USA: UTAH: Sevier Co., Fish Lake, Bowery Creek Campground, Site 17 near small stream N 38.56174 W 111.70849 2703 m 08-Sep-2023 09-Sep-2023 CR Nelson 13729 PB Frandsen and RW Holzenthal 116 google earth CRN GPS N 38.56155 W 111.70850 elev. 2706 m Bowery Creek? Ran a UV light from 8:00 - 10:00pm many moths discarded; We came to Fish Lake by way of Hwy 10, Ferron, Moore, Emery, crossed under I-70 and veered

west on Hwy 72, took right hand road on north end of Johnson Valley Reservoir then wound down to Wigeon Lake and Fish Lake. All on paved roads. Camped at Bowery creek Campground, US Forest Service Culicidae, Chironomidae 13729

13730 USA: UTAH: Sevier Co., Lake Creek, just north of Wigeon Lake and Fish Lake N 38.56155 W 111.70850 2706 m 08-Sep-2023 CR Nelson 13730 PB Frandsen and RW Holzenthal 116 iphone ran UV light from 8:00 - 10:00pm, sparse catch, caught one of same alive on scouting trip earlier in the day only caddis and few Limnephilidae, large brown, Chironomidae four specimen, 13730

13731 USA: UTAH: Sevier Co., Jorgensen Creek, tributary of Fish Lake (within 100 m) N 38.58696 W 111.68628 2706 m 08-Sep-2023 CR Nelson 13731 PB Frandsen and RW Holzenthal 116 iphone ran UV light 8:00 - 10:00pm heavy catch of large moths and chironomidae, few? Trichoptera 13731

13732 USA: UTAH: Sevier Co., Twin Creek, tributary of Fish Lake (within 100 m) near pavilion N 38.54925 W 111.72341 2690 m 08-Sep-2023 09-Sep-2023 CR Nelson 13732 PB Frandsen and RW Holzenthal 116 iphone 8 Sep: wedding supplies in pavilion, ran UV light 8:00 - 10:00pm Heavy catch of large moths, 9 Sep morning - I swept Nemouridae and Chloroperlidae from thidyllic?? edges of this small stream 13732

13733 USA: UTAH: Sevier Co., Fish Lake shoreline, facing east, 100 m South of Bowery Creek Marina N 38.56025 W 111.70776 2697 m 09-Sep-2023 CR Nelson 13733 116 iphone calm sunrise on the beach drawing and photos of sunrise caught up field notes from yesterday; photos: scenery, sunrise, round bubbles of brownish algae up to 2 cm in diameter washed up on beach, - pleasant, thought-rich morning, 7:30 - 9:00am 13733

13734 USA: UTAH: Sevier Co., Fish Lake, Pando Aspen Grove N 38.52290 W 111.75122 2717 m 09-Sep-2023 CR Nelson 13734 PB Frandsen, RW Holzenthal 116 iphone 106 acres, 44,000 stems, 9,000 years old, 13.2 million pounds photos: largest tree on earth 13734

13735 USA: UTAH: Wayne Co., Bicknell, Sunglow Campground N 38.34305 W 111.51839 2210 m 09-Sep-2023 CR Nelson 13735 PB Frandsen and RW Holzenthal 116 iphone short walk photos: odd rocky mountain juniper side by side with Utah juniper 13735

13736 USA: UTAH: Wayne Co., Torrey N 38.31438 W 111.38655 1992 m 09-Sep-2023 CR Nelson 13736 PB, Christine Carruth Harvey, Wally, Della Rose Frandsen and RW Hozenthal 116 iphone photo: cliff and rainbows, Christine and Harrvey and rainbows 13736

13737 USA: UTAH: Wayne Co., Fremont River, Hwy 12 near Teasdale and Grover N 38.26996 W 111.37558 2006 m 09-Sep-2023 CR Nelson 13737 PB, Christine Carruth

Harvey, Wally, Della Rose Frandsen and RW Hozenthal 116 iphone ran UV trap
Hydropsyche? 13737

13738 USA: UTAH: Wayne Co., Boulder Mountain, Larb Lookout to east N 38.32585 W
111.32585 2667 m 09-Sep-2023 CR Nelson 13738 PB, Christine Carruth Harvey, Wally,
Della Rose Frandsen and RW Hozenthal 116 iphone photos: scenery and people 13738

13739 USA: UTAH: Gardfield Co., Boulder Mountain, Hwy 12, Pleasant Creek at Pleasant
Creek Campground N 38.10244 W 111.33683 2639 m 09-Sep-2023 CR Nelson 13739 PB,
Christine Carruth Harvey, Wally, Della Rose Frandsen and RW Hozenthal 116 iphone
photos: stream with UV lights, Christine holding Della Limnephilidae, Hesperophylax
magnus?, Rhyacophilidae, small caddis - 1, Nemouridae - Malenka?, mouse hopping,
spiders on bark of ponderosa pine, Isoperla? Missed catching 1 male with short wings,
13739

13740 USA: UTAH: Wayne Co., Capitol Reef National Park, Cohab Canyon N 38.28109 W
24396 1766 m 10-Sep-2023 CR Nelson 13740 PB, Christine Carruth Harvey, Wally, Della
Rose Frandsen and RW Hozenthal 116 iphone photos: people, some in rain, slot canyon
with mother and child, Riley Nelson portrait, rocks and rain, view to west in mists silverleaf
buggalo berry, purple convolvulus? Check ID, rock wren 13740

13741 USA: UTAH: Wayne Co., Hanksville, Hollow Mountain Store N 38.37353 W
110.70460 1311 m 10-Sep-2023 CR Nelson 13741 PB Frandsen and RW Holzenthal 116
iphone photos: store front, odd baseball cap Chironjongen?, 2 webezele? 13741

13742 USA: UTAH: Grand Co., La Sal Mountains, Warner Lake N 38.51785 W 109.27453
2855 m 10-Sep-2023 11-Sep-2023 CR Nelson 13742 PB Frandsen and RW Holzenthal 116
iphone photos: scenery and people, set out UV pan traps 13742

13743 USA: UTAH: Grand Co., La Sal Mountains, Warner Lake, south east main (but
unnamed) tributary N 38.51637 W 109.27325 2861 m 10-Sep-2023 CR Nelson 13743 PB
Frandsen and RW Holzenthal 116 iphone set out UV pan traps, I checked location on the
2023 Warner Lake 7.5 minute map and the stream had no name Discosmoecus 13743

13744 USA: UTAH: Grand Co., La Sal Mountains, Mill Creek or small tributary below Lake
Oowah, 1.5 miles north of La Sal Loop Road N 38.50920 W 109.28515 2514 m 10-Sep-2023
CR Nelson 13744 PB Frandsen and RW Holzenthal 116 iphone Nemouridae in side seep,
Chloroperlidae Triznaka 13744

13745 USA: UTAH: Grand Co., Green River at Crystal Geyser, 4 air miles south of Green
River City N 38.93778 W 110.13579 1230 m 11-Sep-2023 CR Nelson 13745 PB Frandsen
and RW Holzenthal 116 iphone in river and kick samples good photos 12 Sep in lab:

Gerridae - Metrobates, Veliidae - Rhagovelia ?distincta?; Baetidae, Heptageniidae, Heptagenia elegans?, Ephemerellidae - Drunella, Coenagrionidae - Argia, Gomphidae Ophiogonophus?, caught subimago Heptagenia? Quickly emergent to images, Aeshnidae, Libellulidae; UV light about 8:00 - 9:00pm: Hydroptilidae, Hydropsychidae, Smicridea, "Hydropsyche", Leptoceridae?, Heptagenia 13745

13746 USA: UTAH: Utah Co., Provo, BYU, Chestnut Pool by LSB N 40.24517 W 111.65112 1411 m 12-Sep-2023 CR Nelson 13746 Lauryn Dupaix and Field Biology Class 116 iphone coordinates from west bench; painted a grass flashcard plants: Picea pungens, Pinus monophylla, Pinus edulis, Juniperus ostersperma; mosquitos in pool, Lestidae - common flying, Archilestes grandis, all females 13746

13747 USA: UTAH: Utah Co., Provo River at Hwy 89 bridge in Provo N 40.25320 W 111.66848 1402 m 13-Sep-2023 CR Nelson 13747 Bio 100 116 iphone Bio 100 Class: Bryce Whitworth, Michelle DeWitt, Kayla Sephensesn, Ruth Wright, Lexi Christensen, Katrina Thornton, Sophie Withers, Isaac Wright, Sam Cordon, Tacey Faraoni, Helen Lott, Mia Bangerter, Courtney Sabey, Avie Karren, Teagan Mounter, Olivia Wren, Hayden smith, Riley Memll, Maddie Stunt, Peter Gordon, Kaily Willis (group photographer), Caleb Calderwood, Mick Buck, Kira Gibson, Marianne Cox, Anna McClellan, Zach Clawson, Ethan Willson, Katie Sant, Alexis Dennison, Annie Wlaker, Tyler Judd, Rachel, Maughan, Allison Mareth, Abby Ashton, Jaine Nelson, Grace Dyer, Mason Andersen, Garrett Jarvis, Corey Dickson, Ryan Scoffiedl, Zachary Boston. 39 Students 1 friend 3 instructors 43. First 100s; photos: people, group shot, candids, mottled sculpin and people; water velocity near thalweg: 1.5 m/sec. 10 measures ran average for 10 runs Baetidae small instars, snails, leech, isopod, Oligochaetes, mottle sculpin 13747

13748 USA: UTAH: Utah Co., Provo, Provo River, Lakeshore Drive Bridge N 40.23992 W 111.71214 1377 m 14-Sep-2023 CR Nelson 13748 Field Biology Class 116 iphone Field Biology Class: Riley Nelson, Lauryn Dupaix, Emma Crabtree, Anna Jones, Isabella Hunter, Brynley Ellsworth, Brynlee Jensen, Asai Melgar, Valeria Prieto, Reed Ogden, Devin Chandler, Danny Lopex, Hunter Lambert, Brooklyn Wood, Luke Ashworth, Jade Dean, Lauren Kulesa, Maddie Vincent; Air temp 81 degrees fahrenheit = 27 degrees celsius, water temp 60 degrees fahrenheit - 16 degrees celsius, First 100s, not present: Austin John, Bryson McGee dominant? Baetidae, small, Platyhelminthes, Hirudinea, Simuliidae, also Aeshnidae adults, Pieridae. Saw monarch or viceroy, northern rough winged swallow, belted kingfisher 13748

13749 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 15-Sep-2023 16-Sep-2023 CR Nelson 13749 Lauryn Dupaix and Field Biology Class 116 iphone Field Biology Class: Riley Nelson, Lauryn Dupaix, Emma

Crabtree, Danny Lopez, Hunter Lambert, Jade Dean, Lauren Kulesa, Valeria Ellsworth, Brylee Jensen, Brooklyn Wood, Devin Davis, Asai Melgar (hurt foot), Anna Jones, Bella Hunter, Reed Ogden; 15 Sep walked and fourwheeld (for Asai) to tanks. Spoke of cabin building and water systems. Few insects at UV ights. Culinary at 30 sec/12 ounce can. 16 Sep 2023 Mark and Recapture of *Pogonomyrmex occidentalis* colony and *Formica* sp. photos: people, walk to ant colonies and ovoo, painted rabbitbrush west of house, students wrote for an hour, not present: Maddie Vincent, Luke Ashworth, Bryson McGee, Austin John, photos: wandering garter snakes *Pogonomyrmex occidentalis* colony, *Formica* sp., saw or heard: Clark's nutcracker, raven, magpies, red breasted nuthatch, red naped sapsucker, mountain chickadee, black - headed grosbeak, heard golden eagle, 8 Sep 2023 photos: bombyliidae large dark winged, also awful video of the fly on a pin, beating its wings I feel awful. 13749

13750 USA: UTAH: Utah Co., Provo, Y Mountain Trail, ridge south of first switchback turn, Y Mountain Trail N 40.24282 W 111.62450 1645 m 21-Sep-2023 CR Nelson 13750 Field Biology Class 116 iphone Field Biology Class: Riley Nelson, 3 Emma Crabtree, 3 Reed Ogden, 3 Devin Davis, 2 Brooklyn, 2 Brynlee Jensen, 3 Lauren Kulesa, 2 Anna Jones, 2 Bella Hunter, 3 Hunter Lambert, 2 Luke Ashworth, 3 Jade Dean, 2 Maddie Vincent parking lot: 1 Asai Melgar, 1 Austin John, 1 Danny Lopez, not present: Valeria Prieto, Brynley Ellsworth, Lauryn Dupaix. Set out 3 transects of yellow pans spaced by 10m, pans open 50 minutes and set time. 1 in parking lot, east 2 going up mountain on ridge, west 3 going down mountain ridge. Steep slope. rock squirrel, big sage brush in bloom, Flash card plants: net leafed hackberry *Celtis reticulata*, Big toothed Maple *Acer grandidentata* 13750

13751 USA: UTAH: Wasatch Co., Strawberry River, US Forest Service Visitor Center, Hwy 40 N 40.23739 W 111.18633 2321 m 23-Sep-2023 CR Nelson 13751 A. L. and A. T. Smith 116 iphone photos: cement trap runs during fall spawning photos: Kokanee Salmon in river 13751

13752 USA: UTAH: Wasatch Co., Strawberry Reservoir, near Strawberry Marina N 40.17951 W 111.13273 2315 m 23-Sep-2023 CR Nelson 13752 AL and AT Smith 116 iphone photos: fishing and people Bear Lake cutthroat trout, western or clarks grebe 13752

13753 USA: UTAH: Utah Co., Provo, BYU Bean Life Science Museum N 40.25342 W 111.64738 1463 m 28-Sep-2023 CR Nelson 13753 Field Biology Class 116 iphone Field Biology Class: Riley Nelson, Emma Crabtree, Devin Davis, Jade Dean, Brynley Ellsworth, Isabella Hunter, Austin John, Anna Jones, Danny Lopez, Bryson McGee, Reed Ogden, Maddie Vincent, Brooklyn Wood, Not present: Valeria Prieto, Asai Melgar, Hunter Lambert, Luke Ashworth, Lauryn Dupaix(TA to Lytle), Brynlee Jensen, Lauren Kulesa. photos: people and exhibits 13753

13754 USA: UTAH: Utah Co., Kyhv Peak Road and overlook (formerly Squaw Peak Road) N 40.32217 W 111.63110 1614 m 29-Sep-2023 CR Nelson 13754 JK Nelson 116 iphone photos: fall leaves, especially big toothed maple and people. Both on road to overlook and at the overlook. Overlook: N 40.30098 W 111.62501 elev. 2035 m 13754

13755 USA: UTAH: Washington Co., North Creek dispersed camping Kolob Terrace Road, 2 miles north of Virgin N 37.21931 W 113.16158 1095 m 05-Oct-2023 06-Oct-2023 CR Nelson 13755 Field Biology Class 116 iphone Field Biology Class: Riley Nelson, Jadelyn Dean, Asai Melgar, Reed Ogden, Devin Davis, Emma Crabtree, Lauryn Dupaix - TA, Bryson McGee; 5 Oct evening photos: scenery at sunrise, UV light at night. Chose the camping spot after none empty at Leeds Canyon or Red Cliffs. photos: walked to west Moenkopi formation and alluvium/ lava, in morning UV light: *Pseudohemihyalea edwardsii*? Tiger moth, large centipede, Tenebrionidae, *Paradejeania rutiloides* on *Ericameria nauseosa*. :ater I determined/guessed? that the tachinid was the parasite of the tiger moth. 13755

13756 USA: UTAH: Washington Co., St. George, Tonaquint Park N 37.08033 W 113.60023 787 m 06-Oct-2023 CR Nelson 13756 Field Biology Class 116 iphone Field Biology Class: Riley Nelson, Jadelyn Dean, Asai Melgar, Reed Ogden, Devin Davis, Emma Crabtree, Lauryn Dupaix - TA, Bryson McGee; photos: people, pie; ate lunch and then sour cream lemon and cherry pies from Kroshaw's Pies on Bluff street photos wood ducks, coot, turtles red eared slider, bullfrog adult tadpole, mallards, red breasted nuthatch 13756

13757 USA: UTAH: Washington Co., White Dome Conservation area, 5 miles SE of St. George on River Road N 37.01152 W 113.56327 853 m 06-Oct-2023 CR Nelson 13757 Field Biology Class 116 iphone Field Biology Class: Riley Nelson, Jadelyn Dean, Asai Melgar, Reed Ogden, Devin Davis, Emma Crabtree, Lauryn Dupaix - TA, Bryson McGee, photos: *Uta stansburiana* photos: dwarf bear poppy with many dried stems of flowers from earlier in the year. 13757

13758 USA: UTAH: Washington Co., Beaver Dam Wash, Lytle Ranch Preserve, 10 miles west of Castle Rock N 37.14271 W 114.02285 842 m 06-Oct-2023 07-Oct-2023 CR Nelson 13758 Field Biology Class 116 iphone Field Biology Class: Riley Nelson, Jadelyn Dean, Asai Melgar, Reed Ogden, Devin Davis, Emma Crabtree, Lauryn Dupaix - TA, Bryson McGee, photos: people, Bryson McGee with sarado larva, people at UV lights *Proboscidea parviflora*, Devil's Claw plant, 2 species in wash: scorpions with UV light, Mantidae, wolf spider, Lycosidae with prey 13758

13759 USA: UTAH: Washington Co., Beaver Dam Wash, Lytle Ranch Preserve, Bens Bluff Sunrise N 37.14405 W 114.025192 890 m 07-Oct-2023 CR Nelson 13759 Reed Ogden,

Lauryn . Dupaix, Emma Crabtree 116 iphone photos: sunrise and plants, people, shadows self-portrait 13759

13760 USA: UTAH: Washington Co., Beaver Dam Wash, Kaye's Bluff, Lytle Ranch Preserve N 37.14651 W 114.02628 923 m 07-Oct-2023 CR Nelson 13760 116 iphone photos: scenery, especially to Ben's Bluff with Bryson McGee, Lauryn Dupaix, Emma Crabtree, and Reed Ogden on top photos: Nyctaginaceae: Allionia incarnata - trailing windmills 13760

13761 USA: UTAH: Washington Co., Beaver Dam Wash, Lytle Ranch Preserve, Joshua Tree forest, east of bunkhouse N 37.14346 W 114.01840 884 m 07-Oct-2023 CR Nelson 13761 Field Biology Class 116 iphone Field Biology Class: Riley Nelson, Jadelyn Dean, Asai Melgar, Reed Ogden, Devin Davis, Emma Crabtree, Lauryn Dupaix - TA, Bryson McGee, photos: scenery, including view up north in the wash that I made into a "pleine air" watercolor, photos: people Baileyella multinadiata, desert marigold, photos: Joshua trees, Lamiaceae: Scutellaria mexicana, Paper bag bush, Tettigoniidae - Insara colvilleae on creosote bush, Efferia - male with prey Sintoria cazieri? Female alone 13761

13762 USA: UTAH: Washington Co., Mountain Meadows, Hwy 18 trail to overlook N 37.47718 W 113.63113 1808 m 07-Oct-2023 CR Nelson 13762 Field Biology Class 116 iphone Field Biology Class: Riley Nelson, Jadelyn Dean, Asai Melgar, Reed Ogden, Devin Davis, Emma Crabtree, Lauryn Dupaix -TA, Bryson McGee, photos: trail to overlook monument, memorial of Mountain Meadows Massacre of 7-11 September 1857, people, photos: vicinity of memorial on valley floor, people. Valley floor: N 37.47555 W 113.64301 elev. 1736 m 13762

13763 USA: UTAH: Utah Co., Utah Lake, Provo Airport Dike Road, north end N 40.23179 W 111.73660 1375 m 12-Oct-2023 CR Nelson 13763 Field Biology Class 116 iphone Field Biology Class: Riley Nelson, Lauryn Dupaix, Devin Davis, Reed Ogden, Danny Lopez, Brynlee Jensen, Austin John, Isabella Hunter, Anna Jones, Hunter Lambert, Bryson McGee, Maddie Vincent, Jade Dean, absent: Emma Crabtree, Brynley Ellsworth, Lauren Kulesa, Asai Melar, Brooklyn Wood? photos: people and scenery Bird Watching: canada geese, mallard, california quail, ring necked pheasant, western grebe, collared dove, virginia rail, blacknecked stelt, Bonpartes Gull?, California gull, caspian tern, american white pelican, great blue heron, great egret, white faced ibis, bald eagle, belted kingfisher, downy woodpecker, northern flicker, magpie, black capped chickadee, marsh wren, starling, house sparrow, house finch, song sparrow, redwinged blackbird 27 species 13763

13764 USA: UTAH: Garfield Co., Boulder Mountain, Hwy 12, Larb Hollow Overlook N 38.13240 W 111.32588 2672 m 13-Oct-2023 CR Nelson 13764 JK Nelson, AL, WW, LV

Smith 116 iphone photos: views to east, Henry Mountains, Capitol Reef National Park, photos also, 15 October 2023 6:48am presunrise view of Henry Mountains 13764

13765 USA: UTAH: Garfield Co., Burr Trail Scenic Backway dispersed camping 1.5 miles northeast of Deer Creek bridge N 37.87035 W 111.33437 1825 m 13-Oct-2023 15-Oct-2023 CR Nelson 13765 JK Nelson, AL, WW, LV Smith, J Nelson, and JO Christopher 116 iphone campsite of viewing of Annular Exlipse of 14 Oct 2023, 13 Oct photos: top of slickrock knobs near road "tea pot" hoodoos, 14 Oct photos: Leah at Tea Pot rock sunrise, photos: annular eclipse 930-1030am, odd crescent shadows *Cordylanthus wrightii*, unknown forb, spectacle pod, yellow flax, puff ball fungus, *Sintoria cazieri*? Asilids 13765

13766 USA: UTAH: Garfield Co., Grand Staircase Escalante, National Monument, Wolverine Petrified Forest N 37.79712 W 111.22048 1630 m 14-Oct-2023 CR Nelson 13766 JK Nelson, AL, WW, LV Smith, J Nelson, and JO Christopher 116 iphone photos: petrified wood, 225 mya, people, videos: "like putting beans in a jar" a new quaint saying that sounds like it means something. I made it up and don't really have a meaning for it in mind. Silly saying. Photos: Jordan on log, panoramas *Araucarioxylon arizonicum* chinle Formation, ant nest? Formica?, *Pogonomyrmax*, bees on rubber rabbit brush *Ericameria nauseosa*, photos: shadscale, *Poecilognathus*? Beeflies on *Ericameria nauseosa*, soldier beetles. Painted lady butterfly, Apache plume 13766

13767 USA: UTAH: Garfield Co., Grand Staircase Escalante National Monument, Long Canyon Overlook N 37.91840 W 111.23915 1946 m 14-Oct-2023 CR Nelson 13767 JK Nelson, AL, WW, LV Smith, J Nelson, and JO Christopher 116 iphone photos: view to Chinle Formation, views to rim of Wingate? Formation 13767

13768 USA: UTAH: Utah Co., Provo, Provo River Delta below Lakeview Parkway Bridge N 40.24115 W 111.71865 1372 m 19-Oct-2023 CR Nelson 13768 Field Biology Class 116 iphone Field Biology Class: Riley Nelson, Lauryn Dupaix, Luke Ashworth, Lauren Kulesa, Emma Crabtree, Isabella Hunter, Jadelyn Dean, Reed Ogden, Dvbin Davis, Bryson McGee, Asai Melgar, Danny Lopez, Madison Vincent, Brooklyn Wood, Brynlee Jensen, Anna Jones, Austin John, Brynley Ellsworth, Paula Trater from Delta, no show: Hunter white faced ibis, great blue heron, mallard duck, cormorant, coubirds?, First 100s (about 9): Baetidae, Hydropsychidae, Oligochaeta, Hirudinea, Asellus, Polycelis, water mites, sculpin 13768

13769 USA: UTAH: Utah Co., Provo, Provo River Delta, just below Lakeview Parkway bridge to mouth of Utah Lake N 40.24561 W 111.73264 1371 m 21-Oct-2023 CR Nelson 13769 J. S. Bennion, Paula Trater, and birding group including Dr. Steven Peck and Rachel Helps 116 iphone photos in lab: *Azolla mexicana* mosquitofern. Bird watching - made eBird list of 34 species: 1 muteswan, 1 american pigeon, 20 mallard, 4 ring necked pheasant, 50 american

coot, 1 shosebird, 20 ring billed gull, 10 california gull, 3 caspian tern, 1 double crested cormorant, 4 american white pelican, 10 great blue heron, 1 snowy egret, 2 white faced ibis, 2 bald eagle, 1 red-tailed hawk, 1 belted kingfisher, 1 downy woodpecker, 1 northern flicker, 1 american kestrel, 1 vermilion flycatcher, 7 black billed magpie, 3 common raven, 3 black capped chickadee, 1 ruby crowned kinglet, 2 orange crowned warbler, 4 yellow rumped warbler, 1 european starling, 1 american robin, 1 lesser goldfinch, 1 white crowned sparrow, 1 song sparrow, 50 red-winged blackbird, 10 brewers blackbird 13769

13770 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 11.26763 1829 m 21-Oct-2023 CR Nelson 13770 JK Nelson and AT Smith 116 iphone turned off the water in the house, rabbitbrush all gone to seed, a good year, used box elder and green ash leaves to insulate the house water value pits, culinary water unhooked by a tree fall so I checked the flow: 22 sec/12 oz = 15.2 gallons/hour 13770

13771 USA: UTAH: Wasatch Co., Strawberry Reservoir between Strawberry Marina and halfway down the Narrows N 40.16148 W 111.11972 2321 m 22-Oct-2023 CR Nelson 13771 JK Nelson 116 iphone 4 Smiths, Todd, Amy, Wolf, Leah, and Andrea Nelson, and Jordan Christopher; photos: family on pontoon boat, scenery 13771

13772 USA: UTAH: Wastach Co., Strawberry River, US Forest Service Visitor Center, Hwy 40 N 40.23739 W 111.18633 2321 m 21-Oct-2023 CR Nelson 13772 JK Nelson, Andrea Nelson, Jordan Christopher, Todd, Amy, Wolf, Leah 116 iphone water to the holding runs is gone, empty with dead crayfish and one live one crawling around looking for water in a dry trough/run. I kept the head of a hooked beaked male Kokanee as a specimen. photos: Kokanee Salmon, males old and battered in the Strawberry River 13772

13773 USA: UTAH: Utah Co., South Fork Creek, at South Fork Park, 1.5 miles south of Vivian Park and Provo Canyon N 40.34762 W 111.54762 1670 m 26-Oct-2023 CR Nelson 13773 Field Biology Class 116 iphone Field Biology Class: Riley Nelson, Lauryn Dupaix, Emma Crabtree, Ian Crabtree, Reed Ogden, Devin Davis, Brynlee Jensen, Anna Jones, Austin John, Hunter Lambert, Bella Hunter, Lauren Kulesa, Asai Melgar, Brooklyn Wood, Maddie Vincent, Luke Ashworth, Jade Dean, Danny Lopez, Bryson McGee, no Brylney Ellsworth. photos: dried hops, box elder burl, people, scenery First 100s: Baetis, Cinygmula?, Hesperoperla, Menounidae, Rhyacophila, Arctopsyche, Polyscelis, Oligochaeta, Microsema or Neothema, Hesperophylax 13773

13774 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 27-Oct-2023 28-Oct-2023 CR Nelson 13774 JK Nelson, KJ Wheeler, SJ Gray, JO Christopher and AJ Nelson 116 iphone 27 October work day, photos: sunset. 28 October photos: Kelly and Kaye at fireplace Kaye photos: work crews, Kelly and Riley with

new door. Jordan;s iphone photos: by Jordan Christopher of wrecked and abandoned antique wagon or implement on steep mountainside, see CRN 13780 GPS of 28 Oct 2023 N 39.95837 W 111.26914 elev. 1974 m 13774

13775 USA: UTAH: Utah Co., Orem, University Place Mall N 40.27512 W 111.68290 1451 m 28-Oct-2023 CR Nelson 13775 JK Nelson, with Andrea Nelson; Todd, Amy, Wolf, and Leah Smith; Debby Smith and Lyman Moulton 116 iphone photos: Wolf and Leah's piano recital "Utah Valley Monster Concert" 13775

13776 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 28-Oct-2023 29-Oct-2023 CR Nelson 13776 116 iphone 28 October: photos: full moon near Jupiter in view elsewhere in the world people saw a lunar eclipse. 29 October, morning: full moon near setting in the morning 13776

13777 USA: UTAH: Utah Co., Provo, BYU, South Hillside below Heber J, Grant Building N 40.24499 W 111.65191 1408 m 02-Nov-2023 CR Nelson 13777 Field Biology Class 116 iphone Field Biology Class: Maddie Vincent, Riley Nelson, Devin Davis, Austin John, Anna Jones, Bella Hunter (nice photo writing), Brynlee Jensen, Brooklyn Wood, Lauren Wood, Lauren Kulesa, Brynley Ellsworth, Bryson McGee, Emma Crabtree (left with migraine), Asai Melgar, Jade Dean, Luke Ashworth, Reed Ogden, no Lauryn Dupaix, Danny Lopex, or Hunter Lambert; photos: people, scenery, water painting of trees and bugs. Pictures earlier in day of Dr. Kirk Winemuller, friend from Texas giving seminar in 2102 LSB - Periodic Chart of Niches Box Elder Trees, box elder bugs, Boisea trivittata, mule deer, downy woodpecker 13777

13778 USA: UTAH: Utah Co., Orem, Smith home 75 north 850 west N 40.29868 W 111.71631 1459 m 03-Nov-2023 CR Nelson 13778 JK Nelson, KJ Wheeler, AT and AL Smith 116 iphone photos: repairing back step, loading logs to go to cabin 13778

13779 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle N 39.95623 W 111.26763 1829 m 03-Nov-2023 04-Nov-2023 CR Nelson 13779 JK Nelson 116 iphone KJ Wheeler for night, then add WW Smith and LV Smith for afternoon of 4 November 2023. photos: work day at cabin. 4 November: Wolf with vacuum and flies, wolf on swing, Leah on swing, Leah spreading rabbit brush seed, Kaye, Wolf and Leah stacking wood. (photos) 3 November photos: sunset with box elders on west porch, sunset views south from cabin, Box Elder seeds and sunset 4 November photos: Golden Eagle 13779

13780 USA: UTAH: Utah Co., Wheeler Sawmill, Hwy 6, 12 miles east of Thistle walk from cabin overview road to remains of horse drawn wagon N 39.95841 W 111.26941 1941 m 04-Nov-2023 CR Nelson 13780 KJ Wheeler 116 iphone photos: wagon discovered last week by Jordan Christopher on steep mountainside, east facing slope above tanks wheels about 24

inch diameter, steel spokes. Steel tread width 3-4 inches. Confusing array of hitch and "wagon" parts. "bed" of wagon scattered uphill, many photos. CRN estimated age of 1920? or earlier. Jordan Christopher found this implement remains last week CRN 13774 his photo GPS was N 39.95837 W 111.26914 elev. 1974 m on 28 October 2023. Remember - this reading was same place as CRN 13780! margin of error, for "fun" variation measurement 13780

13781 USA: UTAH: Utah Co., Provo, Hollingworth home, 523 East 4300 North N 40.29102 W 111.64944 1479 m 05-Nov-2023 CR Nelson 13781 J and B Hollingworth 116 iphone videos and photos: bed bugs and exuviae *Cimex lectularius* 13781

13782 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 12-Nov-2023 CR Nelson 13782 116 iphone photos of broken sliding glass dorr, 11 November 2023 photos: Psychodidae from green house, small spider on rock used to photograph fly, spider is Linyphiidae, perhaps 13782

13783 USA: UTAH: Utah Co., Utah Lake, Vineyard end of West Center Street N 40.29576 W 111.76254 1371 m 12-Nov-2023 CR Nelson 13783 JK Nelson, AJ Nelson; AL, WW, and LV Smith 116 iphone photos: sunset and Utah Lake, Kaye, Amy, Jared Tamez, the photographer 13783

13784 USA: UTAH: Utah Co., Provo, BYU west and south hillsides N 40.24468 W 111.65492 1407 m 14-Nov-2023 CR Nelson 13784 Field Biology Class 116 iphone Field Biology Class: Riley Nelson, Hunter Lambert, Danny Lopez, Lauren Kulesa, Brooklyn Wood, Brynlee Jensen, Devin Davis, Lauryn Dupaix, Emma Crabtree, Maddie Vincent, Asai Melgar, Luke Ashworth, Reed Ogden, Jade Dean, Anna Jones, no: Austin John, Bryson McGee, Bella Hunter, Brynley Ellsworth; photos: Danny Lopez in Linden Tree, cottonwood journaling spot, drawing of cottonwood leaf with comorants, class on west lawn of Maeser Building. I saw about 5 former students on this walk that took the time to say hello. 13784

13785 USA: UTAH: Utah Co., Provo, BYU, South Hillside and park, Harrison Arboretum, Sequoia stump N 40.24464 W 111.65146 1298 m 14-Nov-2023 CR Nelson 13785 116 iphone photos: sequoia grove and stump, self portrait with sequoias (C. R. Nelson), Bald Cypress in Botany Pond. Later: photos of Kent Harrison entering Jamestown, his adult assisted living center. N 40.27804 W 111.65600 elev. 1436 m 13785

13786 USA: UTAH: Utah Co., Provo, Rock Canyon hike from parking lot to 200m past green Forest Service gate N 40.26571 W 111.62239 1634 m 16-Nov-2023 CR Nelson 13786 Field Biology Class with Dr. Steven Leavitt, lichenologist 116 iphone Field Biology Class: Riley Nelson, Lauryn Dupaix, Steve Leavitt, Jade Dean, Emma Crabtree, Devin Davis, Brooklyn Wood, Brynlee Jensen, Brynley Ellsworth, Danny Lopez, Bryson McGee, Luke Ashworth,

Asai Melgar, Maddie Vincent, Bella Hunter, Reed Ogden, no: Hunter Lambert, Lauren Kulesa, Anna Jones, Austin John; photos: lichen assemblages on rocks, wood, and cliffs, photos: people and scenery. Many lichen species (used macrostrat.org) program for geology saw downy woodpecker, heard crows, mountain chickadees, scrub jays 13786

13787 USA: UTAH: Utah Co., Provo, Nelson Home, 500 East Foothill Drive N 40.29343 W 111.64922 1495 m 19-Nov-2023 CR Nelson 13787 116 iphone colony originally started at home CRN # 13572, 1 April 2023. Raised from cysts by Andrea Nelson USA: UTAH: Salt Lake Co., Great Salt Lake South Shore near Saltair N 40.76498 W 112.15310 elev. 1283 m 24 February 2023 Andrea Jill Nelson photos and videos: brine shrimp, *Artemia franciscana* in petri dish and martini glass 13787

13788 USA: UTAH: Utah Co., Provo, 272 West Center Street, Jay's Jungle Pet Store N 40.23421 W 111.66332 1385 m 20-Nov-2023 CR Nelson 13788 AJ Nelson 116 iphone locality source unknown, pet trade. IMG_3351.heic is nice 4459 is better videos and photos: red angler fish, *Antennarius* sp. 13788

13789 USA: UTAH: Millard Co., I-15 near Holden N39.08834 W 112.27209 1563 m 22-Nov-2023 CR Nelson 13789 JK Nelson 116 iphone photos and videos: sunset and freeway 13789

13790 USA: UTAH: Kane Co., Orderville, cabin, 254 West Pinyon Pine Drive N 37.26151 W 112.64372 1699 m 22-Nov-2023 26-Nov-2023 CR Nelson 13790 JK Nelson and family 116 iphone family: Riley Nelson, Kaye Nelson, Amy Smith, Wolfgang Smith, Leah Smith, Andrea Nelson Jordan Christopher, Jason Nelson, Brandy Nelson, Artemis Nelson, Astrid Nelson; 23 November - morning walk in nearby woods (pinyon-juniper), photos: views to Diana's Throne, Utah Juniper and rubber rabbitbrush, cabin; 25 November - photos: late afternoon walk to water tank, photos: sunset at edge of White Cliffs to the east, Jordan Christopher at edge of White Cliffs; 24 November photos: snow! people making snowmen, people in living room from above, Pfeiffer the dog; 25 November - morning - Haplo the dog portraits, photos: evening grandchildren in loft beds; 26 November photos: Kaye and Leah playing piano, Jason portrait outdoors 13790

13791 USA: UTAH: Kane Co., White Cliff, Highway 89, 5.3 air miles south east of Mount Carmel Junction, view to Diana's Throne N 37.17012 W 112.17012 1839 m 23-Nov-2023 CR Nelson 13791 AL Smith 116 iphone photos: views west to Diana's Throne and north to more White Cliffs, tooth in sand, snow and shrub, deer jaw, Utah Juniper Skeleton, Amy Smith, including with new denim shirt. photos: fairy circles of *Muhlenbergia pungens*, photos: *Yucca angustifolia*, side and top views 13791

13792 USA: UTAH: Kane Co., Hwy 89 3.55 SE of Mount Carmel Junction N 37.18127 W 111.63710 1879 m 23-Nov-2023 CR Nelson 13792 AL Smith 116 iphone 10:10am morning photos: view to West Temple of Zion, view to south flank Diana's Throne, evening photos 5:17pm view to West Temple 13792

13793 USA: UTAH: Kane Co., Hwy 89 road cut, 800m south of Mount Carmel Junction N 37.21338 W 112.68422 1594 m 23-Nov-2023 CR Nelson 13793 AL Smith 116 iphone photos: colorful soil layers, some with barbed wire, ice in puddle, Amy Leah Smith, colorful stones and clay 13793

13794 USA: UTAH; Kane Co., Orderville, Cottonwood Road near Highway 89 N 37.25908 W 112.65677 1636 m 23-Nov-2023 CR Nelson 13794 AL Smith 116 iphone photos: suffolk sheep in shed 13794

13795 USA: UTAH: Kane Co., Orderville, Red Hollow Trail to back of slot canyon N 37.27071 W 112.62754 1699 m 24-Nov-2023 CR Nelson 13795 JK Nelson and family 116 iphone family: Riley Nelson, Kaye Nelson, Amy Smith, Wolfgang Smith, Leah Smith, Andrea Nelson Jordan Christopher, Jason Nelson, Brandy Nelson, Artemis Nelson, Astrid Nelson. Photos: people, dogs, scenery, trail, slot canyon, wet sand on dank wall, group shot at end of slot, complete group near mouth of slot; back of slot canyon (GPS off exact) N 37.26683 W 112.62158 elev. 1768 m; group shot N 37.26728 W 112.62136 elev. 1752 m photos: perched ponderosa pine, *Penstemon pseudospectabilis*? Photo examined by Robert Johnson 2023, he said, "could be, if yes new for Utah" Blooming, *Dieteria canescens* - *hoarytansyaster*; photo by Amy Smith, 13795

13796 USA: UTAH: Kane Co., White Cliffs, Hwy 89 5.3 air miles south east of Mount Carmel Junction, view to and trail to base of Diana's Throne N 37.18105 W 112.6375 1875 m 24-Nov-2023 CR Nelson 13796 Andrea J. Nelson, Jordan O. Christopher, and Amy Leah Smith 116 iphone photos: scenery, trail we used, base of Diana's Throne, wavy Navajo sandstone. Line of sight walk from "gate" trailhead to base. Start 4:39pm Trailhead east gate (general area of #13791) base of Diana's Throne N 37.18614 W 112.62966 elev. 1912 m 13796

13797 USA: UTAH: Washington Co., Zion National Park, main visitor center N 37.20069 W 112.98658 1202 m 25-Nov-2023 CR Nelson 13797 JK Nelson and family 116 iphone family: Riley Nelson, Kaye Nelson, Amy Smith, Wolfgang Smith, Leah Smith, Andrea Nelson Jordan Christopher, Jason Nelson, Brandy Nelson, Artemis Nelson, Astrid Nelson photos: Tachinidae - *Paradejeania*, rutiloides adult on hiking tourist's hat 13797

13798 USA: UTAH: Washington Co., Zion Nation Park, Kayenta Trail to Emerald Pools, Middle, Upper, and Lower, Grotto Bridge N 37.25982 W 112.95132 1311 m 25-Nov-2023 CR Nelson 13798 JK Nelson and family 116 iphone family: Riley Nelson, Kaye Nelson, Amy

Smith, Wolfgang Smith, Leah Smith, Andrea Nelson Jordan Christopher, Jason Nelson, Brandy Nelson, Artemis Nelson, Astrid Nelson; photo: scenery view to Angels Landing, Virgin River downstream from Grotto Bridge, view to south flank, Great White Throne, *Opuntia engelmannii*, green moss after yesterday's rain and snow, view to southeast, family, people on trail - Leah's face, Artemis face, Brandy Face, Wolfgang face, mossy walls, Middle Emerald Pool, Reflections southeast canyon, small Middle Pool to waterfall, Andrea expressions, Jordan sitting, Amy face, lower pool of Upper Pool, Upper Emerald Pool with ice, Roots, Leah and Amy work look, Upper Pool tall waterfall, Andrea watching ruby crowned kinglets, Kaye magic tricks, Jason resting, Wolfgang with root foot rest, yellow leaves highlight, Artemis and Astrid smiles, behind the falls, Lower Pool, Riley Nelson lower falls selfie, Grotto Bus Stop photos: lichens, moss, *Astragalus zionis*, *Yucca baccata* 13798

13799 USA: UTAH: Washington Co., Zion National Park, East Side, east of short tunnel, Clear Creek N 37.22197 W 112.91476 1620 m 25-Nov-2023 CR Nelson 13799 JK Nelson, Artemis and Astrid Nelson, Leah and Wolfgang Smith 116 iphone photos: nearly full moon rising; (maybe Kane Co., check with good map) 13799

13800 USA: UTAH: Garfield Co., Arches Trail, Losee Canyon Road N 37.76976 W 112.33373 2179 m 26-Nov-2023 CR Nelson 13800 JK Nelson, WW and LV Smith, AJ Nelson, and JO Christopher 116 iphone photos: fantastic scenery and people, trailhead, Claron limestone, panoramas, arches and windows; very nice place, four species of gymnosperms close together in photo!. Picturesque Pinyons! photos: conglomerate, manzanita, *Arctostaphylos patula*, Gymnosperms-, *Pinus ponderosa* Ponderosa, *Pinus edulis* Pinyon, *Pinus longaeva*, Bristle cone, *Pseudotsuga menziesii* Douglas fir, *Juniperus osteosperma* Utah Juniper, Phlox in bloom with snow! 13800

13801 USA:

13802 USA:

13803 USA:

13804 USA:

13805 USA:

13806 USA:

13807 USA:

13808 USA:

13809

13810