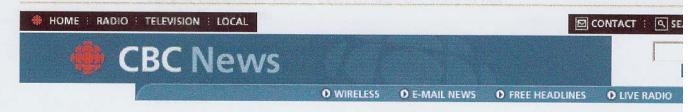
Subject: Canadian Broadcasting Company w/ prominent Allison credit To: "Michael F. Whiting" <michael_whiting@byu.edu>



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in

Insects' wings pose challenge to evolutionary theory

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PROVO, UTAH - New DNA tests suggest a group of insects lost their wings and then re-evolved the ability to fly. The researchers say it's the first time an organism has been shown to re-evolve a complex trait.

Biology Prof. Michael Whiting of Brigham Young University in Provo, Utah, and his colleagues analyzed DNA from 35 species of walking sticks – insects that mimic twigs and leaves to evade predators.

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copyright® CBC 2003 All rights reserved The finding challenges the idea that for complex functions like flight or sight, organisms either "use it or lose it," said Whiting.

Many species of insects have lost the ability to fly.
But scientists assumed that insects evolved wings only

Walking stick
New Guinea
Courtesy: Al

insects evolved wings only Courtesy: Allison Whiting/BYU once, and that once a lineage lose their wings, their descendents would continue to be flightless.

Walking stick native to Papua

The researchers collected samples of walking sticks from Australia, New Guinea and Chile that appeared to be the most primitive species. The team then used a supercomputer to sequence DNA markers from the samples.

"To our knowledge, this is the first example of a complex feature being lost and later recovered in an evolutionary lineage," the researchers wrote in Thursday's issue of the journal, *Nature*.

"It is possible that the reacquisition of complex

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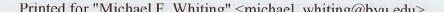
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features may have an important role in evolutionary diversification."

The researchers say the insects seem to retain the underlying genetics needed to construct wings over tens of millions of years, even though the wing is not physically present.

Whiting thinks some walking sticks may have lost wings to help blend into their surroundings. Wingless insects also tend to lay more eggs than their winged relatives.

Written by CBC News Online staff

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