

A battle of the vampires, 20 million years ago?

February 2 2012, By David Stauth



This is the only known fossil of a bat fly, a specimen at least 20 million years old that carried malaria and fed on the blood of bats. (Photo by George Poinar, Jr., courtesy of Oregon State University)

(PhysOrg.com) -- They are tiny, ugly, disease-carrying little blood-suckers that most people have never seen or heard of, but a new discovery in a one-of-a-kind fossil shows that “bat flies” have been doing their noxious business with bats for at least 20 million years.

For bats, that’s a long time to deal with a parasite doing its best vampire impression. Maybe it is nature’s revenge on the vampire bat, an

aggressive blood consumer in its own right that will feed on anything from sheep to dogs and humans.

The find was made by researchers from Oregon State University in amber from the Dominican Republic that was formed 20-30 million years ago. The bat fly was entombed and perfectly preserved for all that time in what was then oozing tree sap and later became a semi-precious stone.

This is the only [fossil](#) ever found of a bat fly, and scientists say it's an extraordinary discovery. It was also carrying malaria, further evidence of the long time that malaria has been prevalent in the New World. The genus of bat fly discovered in this research is now extinct.

The findings have been [published](#) in two professional journals, *Systematic Parasitology* and *Parasites and Vectors*.

“Bat flies are a remarkable case of specific evolution, animals that have co-evolved with bats and are found nowhere else,” said George Poinar, Jr., an OSU professor of zoology and one of the world’s leading experts on the study of ancient ecosystems through plants and animals preserved in amber.

“Bats are mammals that go back about 50 million years, the only true flying mammal, and the earliest species had claws and climbed trees,” Poinar said. “We now know that bat flies have been parasitizing them for at least half that time, and they are found exclusively in their fur. They are somewhat flat-sided like a flea, allowing them to move more easily through bat fur.”

Not every bat is infested with bat flies, and some of the contemporary flies are specific to certain species of bats. But they are still pretty common and found around the world.

Bat flies only leave their bat in order to mate, Poinar said, and that's probably what this specimen was doing when it got stuck in some sticky, oozing sap.

Provided by Oregon State University

Citation: A battle of the vampires, 20 million years ago? (2012, February 2) retrieved 28 April 2024 from <https://phys.org/news/2012-02-vampires-million-years.html>

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