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*Science*Shot: A 44-Million-Year-Old Hitchhiker

by Elsa Youngsteadt on 8 November 2011, 7:03 PM | 0 Comments

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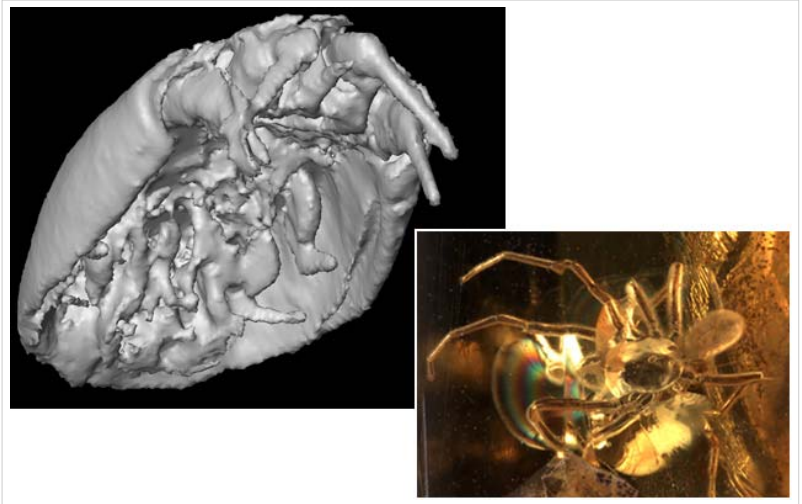

Credit: (left) Andrew McNeil; (right) Jason Dunlop

Talk about a ride gone wrong. This tiny mite climbed onto a spider's back at least 44 million years ago, but the spider stumbled into a glob of sticky tree sap. That makes the duo the oldest known fossil evidence of hitch-hiking behavior, or phoresy, in a large group of mites called the Astigmata. Immature mites still use the method to migrate to new habitats—although today, they usually ride on insects, not spiders. Researchers had tried to study the fossilized mite before, but they couldn't see it clearly through the amber. (It's a small bump on the center of the spider's back in the color photo above.) To make matters worse, its underside was hidden against the spider. So a team of biologists, paleontologists, and materials scientists used a method known as high-resolution phase-contrast computed tomography to take thousands of x-ray images and compile them into a digital model of the two arachnids. At less than two-tenths of a millimeter long, the mite (left image) pushed the limits of the method. But the resulting images, published online today in *Biology Letters*, provide enough detail to tentatively identify the mite and even see the suckers it used to hold onto its ride.

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