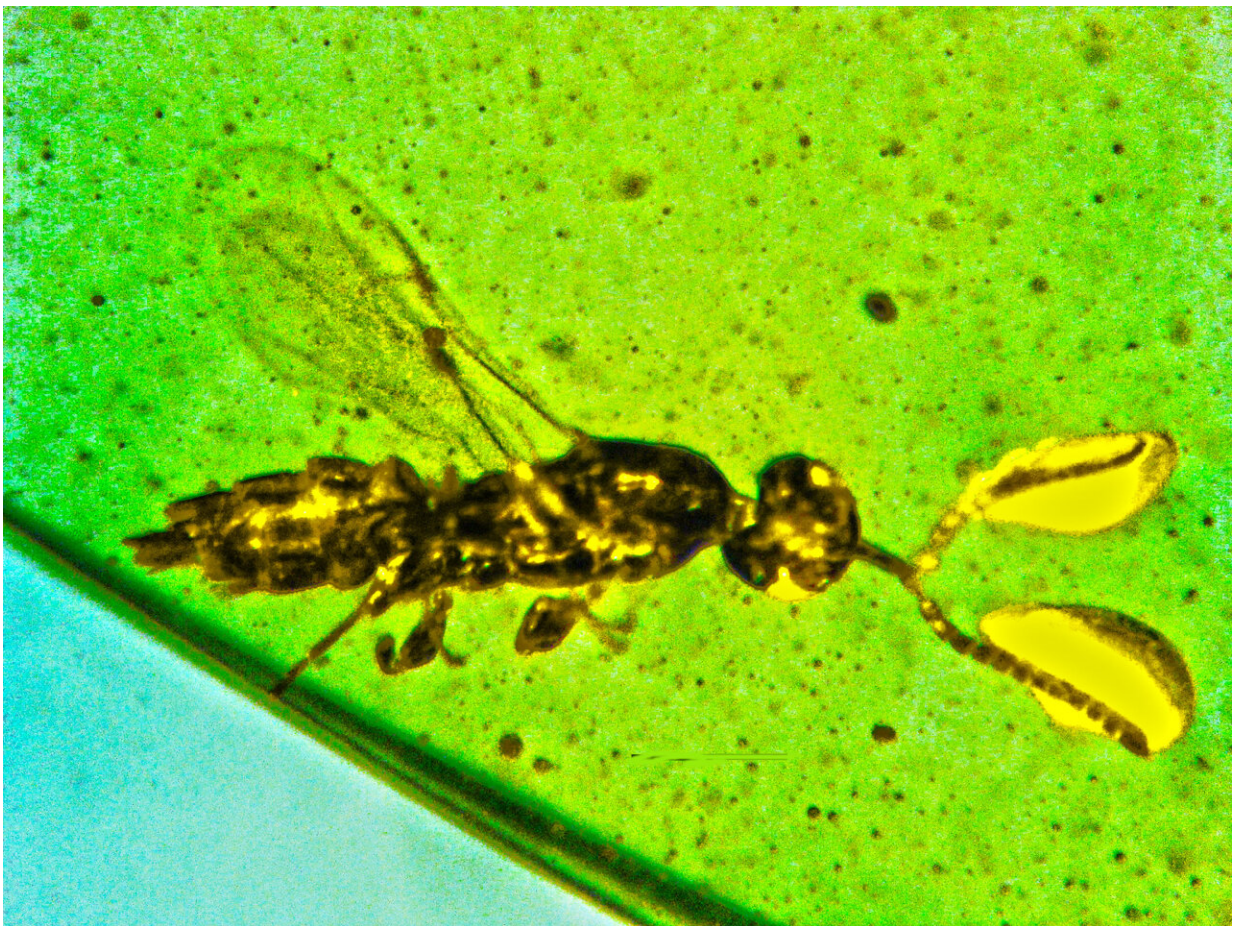


New species of tiny wasp comes with mysterious, cloud-like structures at ends of antennae

October 5 2023, by Steve Lundeberg



New genus and species of micro-wasp. Credit: George Poinar Jr., OSU College of Science.

Fossil researchers have discovered a novel genus and species of tiny wasp with a mysterious, bulbous structure at the end of each antenna.

The female micro-wasp was described from 100-million-year-old Burmese amber in a study led by George Poinar Jr., who holds a courtesy appointment in the Oregon State University College of Science. Findings were published in the journal [Life](#).

Poinar and Fernando Vega, an independent researcher based in Silver Spring, Maryland, have some ideas about the "clouds" on the antennae, but they don't know for sure what they are.

"We could find no [fossil](#) or extant insect with such antennal structures," said Poinar, an [international expert](#) in using plant and animal life forms preserved in amber to learn about the biology and ecology of the distant past. "We wondered how it could still fly with that weight."

Micro-[wasps](#) are defined as those with an adult body length of less than 2 millimeters. There are thousands of species of these parasitic insects around today, spread among hundreds of genera, Poinar said. Some are useful for controlling scale insects, which can be crop pests, he added.

"This micro-wasp has a length of only 1.3 millimeters," Poinar said. "That, as well as its 15-segment antennae, a deep cleft in the center of its head and characters of the wings distinguish it from all other micro-wasps. The unique, miniature cloudlike structures stuck to the antennae must have certainly been an annoyance to this tiny parasite."

Since the researchers could not find such structures on any other insect, current or extinct, they can only make educated guesses as to what they could be.

"They could be tiny plant seeds, plant secretions or eggs from a host the

wasp was parasitizing," Poinar said. "There is a good possibility the micro-wasp was parasitizing scale insects since there is a male scale insect embedded in the same piece of amber. Whatever they are, discovering these is one of the things that makes our work so interesting, and challenging: finding dominant, unique features on extinct organisms."

The scientists named the new specimen *Caradiophyodus saradae*. The genus takes its name from the Greek words for head (*kara*) and cleft (*diaphyodus*), and the species name is a nod to fellow scientist Sarada Krishnan.

More information: George Poinar et al, *Caradiophyodidae*, a New Family of Micro-Wasps (Hymenoptera: Platygastroidea) Based on the Description of *Caradiophyodus saradae* gen. et sp. nov. in Mid-Cretaceous Burmese Amber, *Life* (2023). [DOI: 10.3390/life13081698](https://doi.org/10.3390/life13081698)

Provided by Oregon State University

Citation: New species of tiny wasp comes with mysterious, cloud-like structures at ends of antennae (2023, October 5) retrieved 2 May 2024 from <https://phys.org/news/2023-10-species-tiny-wasp-mysterious-cloud-like.html>

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