

Eocene and not Cretaceous origin of spider wasps: Fossil evidence from amber

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Spider wasps had long been proposed to originate in the mid-Cretaceous based on the Burmese amber fossil *Bryopompilus interfector* Engel and Grimaldi, 2006. We performed a morphological examination of this fossil and determined it does not belong to Pompilidae or any other described hymenopteran family. Instead, we place it in the new family Bryopompilidae. The oldest verifiable member of the Pompilidae is from Baltic amber, which suggests the family probably originated in the Eocene, not in the mid-Cretaceous as previously proposed. The origin of spider wasps appears to be correlated with an increase in spider familial diversity in the Cenozoic. We also add two genera to the extinct pompilid fauna: *Tainopompilus* gen. nov., and *Paleogenia* gen. nov., and describe three new species of fossil spider wasps: *Anoplius planeta* sp. nov., from Dominican amber (Burdigalian to Langhian); *Paleogenia wahisi* sp. nov., from Baltic amber (Lutetian to Priabonian); and *Tainopompilus argentum* sp. nov, from Dominican amber (Chattian to Langhian).

Key words: Hymenoptera, Pompilidae, solitary wasps, amber, Eocene, Dominican Republic, Baltic sea, Russia.

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