



Conference Abstract

Molecular Phylogeny and Tribal Classification of Flanged Bombardier Beetles (Carabidae: Paussinae)

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Abstract

Members of the carabid subfamily Paussinae are known for their explosive defensive chemistry and their associations with ants, which vary from some species being facultative predators of adult ants to others being obligate predators of ant brood. This association with ants has driven extreme morphological adaptations in some lineages. Approximately 750 species are currently classified into four tribes: Metriini, Ozaenini, Protopaussini and Paussini. Here we use molecular sequence data from five genes (28S ribosomal DNA; 18S ribosomal DNA; wingless; carbamoyl phosphate synthetase domain of the rudimentary gene; and arginine kinase) to reveal patterns of deep divergence and provide a new tribal level classification reflecting evolutionary history. We recognize and describe two new tribes, and the tribe Ozaenini is redefined. Among other traits, members of each tribe has a characteristic shape of the cuticular fold at the posterolateral angle of both elytra, known as the flange of Coanda.

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