

# Review of: "[Mini Review] The Family Micropezidae (Insecta: Diptera)"

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**Potential competing interests:** No potential competing interests to declare.

The Micropezidae are acalyptrate Diptera sleeved under the Schizophora. Close to 600 species known mostly from the tropics and sub-tropics and placed under c. 50 genera and five subfamilies are known through the world. These slender-bodied dark-bodied Diptera bear characteristically long hind legs and narrow wings endowed with fascinating patterns. The most striking element about the Micropezidae is that they mimic the Ichneumonidae (Hymenoptera) and Formicidae (Hymenoptera). Adults are predaceous on smaller arthropods; but a few records suggest that they feed on decaying organic material. Most of the known treatments of the Micropezidae are old: e.g., Bigot, J.M.F., 1866, *Annales de la Société Entomologique de France*, **6**, 201–202 and Enderlein, G. 1922, *Archiv für Naturgeschichte, Abteilung A*, **88**, 140–229. The most-recent work is that of David Kendray McAlpine on the Australian Micropezidae, published in the *Invertebrate Taxonomy* (**12**, 1998, 55–134). In such a context, an article referring to the Micropezidae, although confined to Brazil, is, I believed is a welcome contribution.

The author clarifies at the start that this submission is a literature survey of Brazilian Micropezidae, consulting various published articles and archived unpublished theses. In p. 13 of the submitted manuscript, under section 1.5 (identified as 'Objective') the author indicates as follows: 'The objective of this manuscript is to verify the mimicry behavior of ants and wasps in the Family Micropezidae (Insecta: Diptera)'. What I did not understand was the intended meaning of the word 'verify', used in section 1.5. Notwithstanding the above-identified lack of clarity of 'verify', when I made repeated attempts to relate (or interpret) the behavior of the Micropezidae mimicking the Ichneumonidae and the Formicidae, I found nothing --- no clear statements at all nor any experiments pertaining to measurement of mimicry, except for casual statements referring to *Strongylophthalmyia* and their apparent similarity to some Ichneumonidae (p. 14). Another unsubstantiated statement occurs on the static behaviour of *Mimegralla* in p. 15. I understand 'mimicry' as explained, by Wolfgang Wickler in the classic, *Mimicry in plants and animals* (1968) and more recently by Anastasia Dalziel and Justin Werlbergen in their elegant commentary entitled 'Mimicry for all modalities' in the *Ecology Letters* (2017?).

The author speaks of five studies (pp. 14–23), which are disjointed and offer no meaning to the reader. Further, these studies have not been explained with regard to their intents (= purposes) and the methods employed, which have no empirical substantiation and verification.

The conclusion (p. 23) does not make sense as a conclusion. I wondered how the author arrived at this conclusion especially when the investigations lack rigour.

The paper suffers from excessive use of casual words: for example, what would 'medium' mean? Although measurement data are supplied: 5—17 mm, the use of 'medium' is unhelpful. 'Medium' in relation to what? Use of '30s' is yet another example. Unclear terms abound: *e.g.*, 'plant exudates' (p. 7), 'human' or 'mammalian'? (p. 7).

Reading this submission, I am not convinced that this submission deserves publication. Rating 0.5/5.