



Two new species of eumenine wasps in the genus *Zethus* Fabricius (Hymenoptera, Vespidae, Eumeninae) from the New World¹

MARCEL G. HERMES

Laboratório de Biologia Comparada de Hymenoptera, Departamento de Zoologia, Universidade Federal do Paraná, Cx. Postal 19020, 81531-980, Curitiba, PR, Brazil. E-mail: mghermes@gmail.com

Abstract

Zethus (*Zethus*) *caetetus* **sp. nov.** (Brazil) and *Zethus* (*Zethus*) *flaviventris* **sp. nov.** (Costa Rica) are described and figured. Both species belong to the *Z. heydeni* species group. A total of 218 species of *Zethus* are currently recognized for the Americas.

Key words: Eumeninae, new species, New World, *heydeni* species group, *Zethus*

Introduction

The genus *Zethus* Fabricius is the largest among the vespids, with 250 species presently recognized (Carpenter 2011). The genus is especially diverse in the New World, where 195 species were registered by Stange (1979). More recently, descriptions of new taxa within the genus were proposed by Stange (1997, 2003), Cooper (1999), Garcete-Barrett (2003), Cooper (2004), Porter (2008), Cooper (2010) and Carpenter (2011), and some taxa were raised from synonym or transferred from another genus (Cooper 2010 and Garcete-Barrett 1998, respectively), totaling 216 species for the Americas. Species of *Zethus* also occur in the Afrotropical and Indo-Malayan regions (Bohart & Stange 1965; Giordani Soika 1960, 1979, 1995). From a taxonomic standpoint, the monograph presented by Bohart and Stange (1965) remains as the most comprehensive work on the American fauna of *Zethus*.

Species of *Zethus* are mainly solitary and build nests of mud, usually within cavities. However, some may present a degree of primitively social behavior, such as the species *Zethus miniatus* de Saussure (Ducke 1914, as *lobulatus*). Females cooperate in the construction of a nest, which is built from masticated pieces of leaves plastered together with saliva. Small caterpillars are brought to the nest by the adult females, and the young larvae are fed progressively. However, cooperation in brood care is not present, each wasp tending only its own descendents.

Zethus is presently divided into four subgenera: nominotypical, *Zethusculus* de Saussure, *Zethoides* Fox and *Madecazethus* Giordani Soika. The first three occur in the Americas, and the latter is endemic to Madagascar. Bohart and Stange (1965) further divided each subgenus into several species groups, but the naturalness of both the subgenera and the groups remains to be tested. Also, Bohart and Stange (1965) mentioned that during the course of their revision, several specimens that probably corresponded to new taxa were examined (especially in the species group of *Zethus discoelioides* de Saussure), but since they were all represented by a single exemplar, they avoided providing new descriptions. On the one hand, when describing new taxa it is clear that more examined specimens are better than one. On the other hand, proposing new taxa from single specimens within the Eumeninae is usual (Bohart & Stange 1965, Hermes & Melo 2008, Hermes 2010, Carpenter 2011, Garcete-Barrett 2011, and others). The characters are more significant aspect of good taxonomic procedures than number of specimens.

Two new species in the genus *Zethus* are described herein. Both of them belong to the subgenus *Zethus* and to the *Z. heydeni* de Saussure species group, but neither of them resembles any of the already described species, being distinguished by several features as presented below.

1. Contribution number 1871, Departamento de Zoologia, Universidade Federal do Paraná.