



Notes on the Neotropical *Zethus* Fabricius, 1804 (Hymenoptera, Vespidae, Eumeninae) with the description of two new species from Brazil

ROGÉRIO B. LOPES^{1,3} & FERNANDO B. NOLL²

¹Universidade de São Paulo, Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto, Departamento de Biologia. Av. Bandeirantes, 3900. CEP 14040-901. Ribeirão Preto, São Paulo, Brazil. E-mail: rbotlopes@gmail.com

²Universidade Paulista “Júlio de Mesquita Filho”, Instituto de Biociências, Letras e Ciências Exatas, Departamento de Zoologia e Botânica, Laboratório de Aculeata. Rua Cristóvão Colombo, 2265. CEP 15054-000. São José do Rio Preto, São Paulo, Brazil. E-mail: noll@ibilce.unesp.br

³Corresponding author: E-mail: rbotlopes@gmail.com

Abstract

Two new species, *Zethus* (*Zethus*) *aliceae* Lopes, **sp. nov.** (Brazil) and *Z.* (*Zethus*) *sinuostylus* Lopes, **sp. nov.** (Brazil) are described and figured. New synonymy is proposed for *Zethus* (*Zethoides*) *biglumis* Spinola, 1841 (= *Zethus ferrugineus* de Saussure, 1852, **syn. nov.**

Key words: taxonomy, *spinosus* group, *heydeni* group, *biglumis* group, distribution

Introduction

Amongst the Vespidae, the Eumeninae contain the largest number of representatives. *Zethus* Fabricius, 1804 comprises the largest genus with 253 species world-wide (Carpenter, 2011), 218 of which are Neotropical (Hermes, 2012). Although highly diverse, the last revision of Neotropical species was made almost 50 years ago (Bohart & Stange, 1965). In that work, the authors further divided the three proposed subgenera at the time—nominotypical *Zethus* Fabricius, 1804, *Zethusculus* de Saussure, 1855 and *Zethoides* Fox, 1899—into species groups, each one considered a natural phylogenetic group, even though this subdivision was carried out without any kind of analysis. Since Bohart & Stange’s (1965) revision, several isolated works describing new species, synonyms and new combinations have been published, a few of them as regional revisional accounts: Stange (1969, 1975, 1976, 1978, 1997, 2003); Garcete-Barrett (1997, 2003); Cooper (1999, 2004, 2010); Porter (2008); Carpenter (2011); Hermes (2012).

Most of the species within *Zethus* Fabricius are solitary and build nests in cavities, but some species in subgenus *Zethoides* Fox build exposed nests out of masticated fiber and some even present primitively social behavior, with several females sharing a nest but each one tending their own brood.

In this work, two new species are described and specimens of the two subspecies of *Zethus biglumis* Spinola, 1841 so far separated only by coloration, are examined in order to find out of their status.

Material and methods

The following material was examined: two females and three males fitting two unidentified distinct species in *Zethus* (*Zethus*); three females and three males of *Z.* (*Zethoides*) *biglumis biglumis* Spinola, 1841; and two males and four females of *Z.* (*Zethoides*) *b. ferrugineus* de Saussure, 1852.

Below are listed the institutions and facilitators of loans of the examined specimens.

great color variation within species in the genus when he declared regretful on describing many species in his monograph (de Saussure, 1852) based only on coloration.

Another detail about this species is the finding of a female in the Southeastern region of Brazil, in a fragment of semideciduous forest. The specimen follows a coloration pattern similar to “*ferrugineus*” but the second tergum tends to be lighter. This expands greatly the distribution of the species, since it was known to occur only in the Amazon and the southernmost location collection site was in Buena Vista, Santa Cruz, Bolivia (Bohart & Stange, 1965).

Material. PERU: Loreto: Iquitos/14.VIII.1906/Ducke/ Peru Amazonico/ MPEG HYM 11009088 [♀, MPEG]; Pucallpa/ 16.XI.1962/ J. M. Schunke [♀, MSNVE]; (idem)/ 23.XI.1962 [♂, MSNVE]; BRAZIL: Amazonas: S. Antônio do Itá/ 27.IX.1906 /Ducke/Zettus/*Discoelius biglumis*/ MPEG HYM 11009087 [♂, MPEG]; Teffé/ 28.VI.1906/Ducke [♂, MPEG]; (idem)/MPEG HYM 11009088 [♀, MPEG]; Pará: 14.VIII.1907/Ducke/MPEG HYM 11009072 [♀, MPEG]; (idem)/MPEG HYM 11009076 [♂, MPEG]; Alenquer/21.VII.1903/Ducke/MPEG HYM 11009069 [♀, MPEG]; Prainha/ 12.V.1903/Ducke/MPEG HYM 11009073 [♀, MPEG]; (idem)/ 12.V.1903/MPEG HYM 11009075 [♂, MPEG]; São Paulo: Vicentinópolis, 21.IX.2007/2^a arm. – preta [♀, IBILCE].

Distribution. Surinam: Para; Brazil: Amazonas, Pará, São Paulo; Peru: Loreto; Bolívia: Santa Cruz.

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