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Taxonomic notes and description of the male of *Xenochlora nigrofemorata* (Smith, 1879) (Hymenoptera: Apidae: Halictinae)

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Abstract

The present work describes for the first time the male of the bee genus *Xenochlora* Engel, Brooks & Yanega, 1997. The male of *X. nigrofemorata* (Smith, 1879) is described and illustrated. Additionally, *Megalopta opacicollis* Friese, 1926 is placed as a junior synonym of *X. nigrofemorata* (Smith, 1879).

Key words: Augochlorini, Halictidae, Neotropical, taxonomy, systematics

Introduction

Xenochlora Engel, Brooks & Yanega, 1997, a Neotropical bee genus in the tribe Augochlorini, contains four species, known from Guyana to Amazonas, in Brazil, and the Amazon basin in Peru and Ecuador (Michener 2007). Specimens of *Xenochlora* are rarely collected and before the study by Tierney *et al.* (2008) the genus was known from only six females, five of them type specimens (Engel *et al.* 1997). The nesting biology of the genus was studied recently by Tierney *et al.* (2008), based on four nests of *X. nigrofemorata* (Smith, 1879) and one of *X. ianthina* (Smith, 1861). Females of *Xenochlora* build their nests in dead wood, mostly small dead branches suspended in the understory vegetation, and exhibit nest sharing behavior, with conspicuous variation in body size among nestmate females (Smith 1861; Tierney *et al.* 2008).

When originally proposed by Engel *et al.* (1997), *Xenochlora* was considered most closely related to *Megalopta*, a position supported by the phylogenetic study of Engel (2000), in which *Xenochlora* was placed as sister group of *Megalopta*. This same relationship has also been retrieved in some of the analysis from a more recent study by Tierney *et al.* (2012), when using data from the gene coding for the long-wavelength green opsin. However, in the analysis combining the three genes sampled, *Megalopta* came out paraphyletic, with *Megalopta atra* Engel, 2006 forming a basal group together with *Xenochlora*. This latter arrangement has prompted Tierney *et al.* (2012) to place *Xenochlora* as a subgenus of *Megalopta*. Michener (2000, 2007) has also considered placing *Xenochlora* within *Megalopta*, but refrained from changing its status arguing that the position of *Xenochlora* could not be determined unequivocally, since its males were then unknown.

In this way, we describe here for the first time the male of a species of *Xenochlora*, based in a specimen of *X. nigrofemorata* from Rio Branco, in Acre, Brazil, showing that it differs in many aspects from males of *Megalopta*. We also provide new distribution records for *X. nigrofemorata* and notes on *Megalopta opacicollis* Friese, 1926, placing it as a junior synonym of *X. nigrofemorata*.

Material and methods

Listed museums and their respective acronyms are as follows: Coleção Entomológica Padre Jesus Santiago Moure,

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