



### Description of two new cases of gynandromorphism in *Paratrigona Schwarz* and *Augochlora Smith* (Hymenoptera: Apidae and Halictidae)

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#### Abstract

Two new records of gynandromorphism in bees are described and illustrated for *Paratrigona glabella* and *Augochlora amphitrite*. The specimens show a mixture of male and female features, complete in *Augochlora* and on head and mesosoma in *Paratrigona*. Including the specimen described herein, gynandromorphs are now known for a total of three species in Meliponini bees and three species in Augochlorini bees.

**Key words:** Anthophila, Gynandromorph, Stingless bees, Sweat bees, Argentina

#### Introduction

Gynandromorphs are sexually abnormal individuals that display secondary characters of both sexes (some regions of the body are male while others are female) (Lucia & Gonzalez 2013). These specimens are interesting because they provide the possibility to recognize female and male characters, allowing matching the different sexes with reasonable certainty when unknown (Lucia *et al.* 2012). The first case of gynandromorphy in the tribe Meliponini (Apidae) was published by Schwarz (1929) based on a specimen of *Partamona testacea* (Klug) (as *P. cupira* var. *rhumblersi* (Friese)) from Peru. Recently two cases of *Melipona mondury* Smith based in specimens collected in Brazil were described by Oliveira & Andrade (2006a, 2006b). On the other hand, only two cases of Augochlorini (Halictidae) gynandromorphs were published (Wcislo *et al.* 2004; Engel & Hinojosa-Díaz 2011). In this contribution we describe two new gynandromorphs on bees: *Paratrigona glabella* Camargo & Moure, 1994 and *Augochlora amphitrite* (Schrottky, 1909). These are the first records for both genera.

#### Material and methods

External morphological structures were studied using a Nikon SMZ 745T stereomicroscope and photographs were taken with a Canon Power Shot® A520 digital camera attached to it. Digital images were mounted using CombineZM open source software (Hadley 2011). Terms for morphological features follow Michener (2007). The following morphological abbreviations are used: flagellar segment (F), metasomal tergum (T) and metasomal sternum (S). Voucher specimens are deposited in the entomological collection of Museo de La Plata, Argentina (MLP).

#### Description of gynandromorphs

##### *Paratrigona glabella* Camargo & Moure, 1994

(Figs. 1–4)

**Description.** Body length 4.5 mm, head length 1.56 mm, head width 1.63 mm, mesosoma width (intertegular distance)

Halictidae) are less represented in literature and collections. We believe that the diversity of these groups must be greater than currently known.

## Acknowledgements

Thanks to Claus Rasmussen and two anonymous reviewers for their helpful comments on the manuscript. Thanks also to Organismo Provincial de Desarrollo Sustentable (OPDS) for assistance and collecting permit N° 57/12 and to Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina (CONICET) for continued support.

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