



Host records of *Physocephala wulpi* Camras, with a description of the puparium (Diptera: Conopidae)

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Abstract

Physocephala wulpi Camras was reared from *Xylocopa artifex* Smith, *Xylocopa augusti* Lepeletier, and *Xylocopa splendula* Lepeletier. The puparium is described. An overview of conopid host records from the Neotropic Region, and records from Conopidae that develop in *Xylocopa*, is provided.

Key words: Diptera, Conopidae, *Physocephala*, puparium, cephalopharyngeal skeleton, Hymenoptera, Apidae, *Xylocopa*, Neotropics, Argentina

Introduction

The knowledge concerning the neotropical Conopidae is, compared with other Diptera families, good: in all, there are about 200 valid conopid species described from the Neotropical region. Skevington *et al.* (2010) announce a "Conspectus of the Neotropical Conopidae" which includes a key to the genera, a species list and a bibliography (Thompson *et al.* in press). Nevertheless, the biology of most species is unknown, although there are a few host records from the Neotropical region arising as a result of recent research into the ecology of Apidae (Table 1). All of these records relate to the conopid genus *Physocephala*.

Lucia *et al.* (2010) published a host record of a *Physocephala* spec. from *Xylocopa augusti* in Argentina. The conopid species could not be identified at that time because only the puparium was found. Recently adults were reared and were identified as *Physocephala wulpi*. This paper will give information concerning the biology of the species and presents a description of the puparium.

Material and methods

The adults of *Physocephala wulpi* were obtained from pupae found within the metasoma of dead female carpenter bees. These bees were found in or near the entrance of the nest. Each of the metasoma was placed individually in acrylic containers and kept in the laboratory until the emergence of the adult conopid. *Physocephala wulpi* was identified with the key of Camras (1996) and the illustrated key of Stuke & Skevington (2007). Material has been compared with specimens from Costa Rica. Reared specimens are illustrated at figure 1. Additional puparia were found in the metasoma of dead *Xylocopa* females in their nests (table 1). These puparia were identified as *Physocephala* using the key of Smith & Peterson (1987). However, the absence of adults made the species identification impossible. The preparation of the puparium is described in Stuke (2000). The description of the puparium employs the terminology of Stuke (2000).