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## SHORT COMMUNICATION

### First record of *Huarpea wagneriella* (Hymenoptera: Sapygidae) as a cleptoparasite of large carpenter bees (Hymenoptera: Apidae, Xylocopinae)

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The species *Huarpea wagneriella* (Hymenoptera: Sapygidae), a cleptoparasite of nests of bees of the genera *Xylocopa* Latreille and *Megachile* Latreille (Hymenoptera: Apoidea), is reported for the first time as a cleptoparasite of *Xylocopa ciliata* Burmeister (Hymenoptera: Apidae) in Buenos Aires, Argentina. Biological notes on species of *Xylocopa* and a morphological characterization of *Huarpea* are given.

**Keywords:** *Xylocopa*; *Sapygidae*; Argentina

#### Introduction

The family Sapygidae (Hymenoptera: Vespoidea) is a group of robust solitary wasps, widely distributed worldwide, except in the Australian region (Grimaldi & Engel 2005). The four species currently described in the genus *Huarpea* Gerstaecker (belonging to the subfamily Sapyginae) are restricted to South America and are known to be cleptoparasites in the nests of bees (Hymenoptera: Apoidea) in the genera *Xylocopa* Latreille, *Megachile* Latreille and *Anthidium* Fabricius (Pate 1947; Torretta 2014). The female wasp oviposits in the brood cells of the solitary bees, and later the larvae destroy the host larvae and consume the pollen masses. There are several records of species of *Huarpea* parasitizing species of *Xylocopa*; *H. fallax* (Gerstaecker) was recorded as a parasite of *X. splendidula* Lepeletier, *X. augusti* Lepeletier and *X. brasiliatorum* L. (probably actually *X. atamisquensis* Lucia & Abrahamovich, see Lucia et al. 2014) (Friese 1923; Hurd & Moure 1961). Pate (1947) believed that Friese's identifications of the sapygid as "*Polochrum*" *fallax* Burmeister was questionable, and he suggested that it may actually have been *H. wagneriella* or a still-undescribed species of sapygid. Because little is known about the biology of these wasps, more studies are needed to understand their impact on these important pollinators. The present note is the first record of a species of *Huarpea* parasitizing nests of *Xylocopa* (*Nanoxylocopa*) *ciliata* Burmeister from Argentina.

#### Results

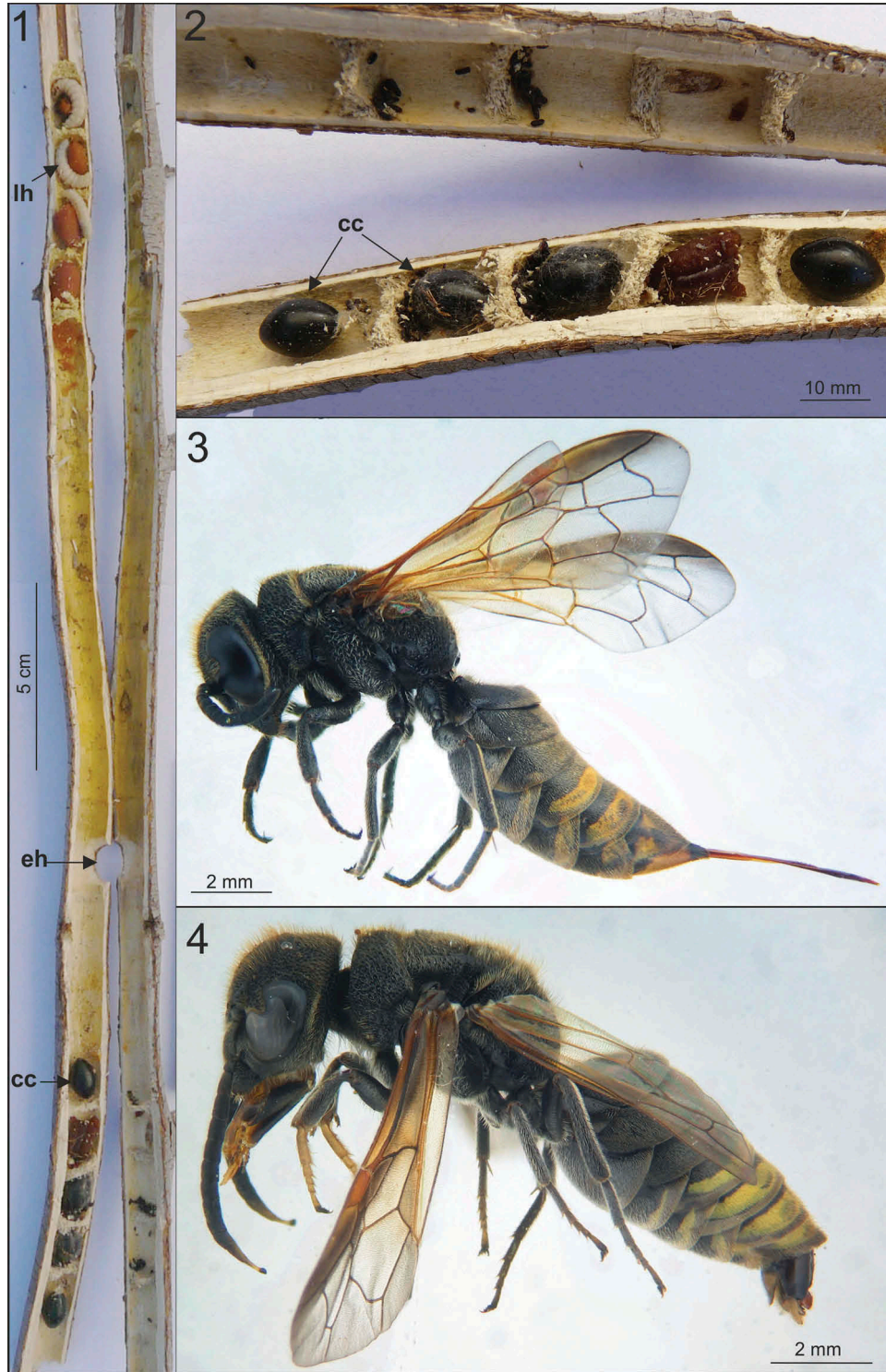
##### *Biological notes*

A nest of *Xylocopa* (*Nanoxylocopa*) *ciliata* Burmeister was found in Punta Lara, Buenos Aires province on 6 February 2013, in a vertical stem of *Hibiscus striatus* Cav. (Malvaceae). It housed nine adults and four larvae of *X. ciliata* and five cocoons of a sapygid wasp when opened. The brood cells beneath the entrance hole were parasitized by the sapygid wasp while those located above the entrance were occupied by larvae of *Xylocopa* (Figure 1). The bee larvae were reared inside the nest in the laboratory and were observed daily; only three of them reached the adult stage (2♀♀, 1♂ and one larva dead) and emerged between 7 and 14 March 2013, approximately one month after the nest was opened. The cocoons of the wasp were dark brown and shiny, and measured approximately 11.5 mm in length, with a maximum width of 7.6 mm ( $n = 5$ ) (Figure 2). In contrast to their host, the wasps spent the winter as pupae. Each wasp cocoon was individually placed in an acrylic container and kept in the laboratory until the emergence of the adult. Two males emerged on 27 November 2013 and 13 December 2013 and three females between 3 and 10 December 2013, totaling a period of about nine months.

##### *Identity of the parasite*

The wasps were identified as *Huarpea wagneriella* (du Buy) using the key provided by Pate (1947). The males

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Figures 1–4. Nest of *Xylocopa* (*Nanoxylocopa*) *ciliata* and its sapygid cleptoparasite. 1. Longitudinal section of the nest in a stem of *Hibiscus striatus*. 2. Close-up of the lower part of the nest with five brood cells, of which nos. 1, 2, 3, and 5 contain cocoons of *Huarpea wagneriella* and no. 4 contains only pollen mass. 3. Lateral habitus of *Huarpea wagneriella* female. 4. Lateral habitus of *Huarpea wagneriella* male. Abbreviations: eh: entrance hole, lh: host larva, cc: cocoon of cleptoparasite.

are similar to the females except for the regular structural differences and the following yellow markings: stripe flanking lower inner orbit up to the level of the

antennal socket; shorter narrow band along outer orbit of gena; stripe on outer face of foretibia; narrow transverse band – medially interrupted and

weakly marked – along posterior margin of pronotum; transverse bands on T4–T7 and S2–S6 (most extensive on S6). Mean adult body lengths are 12.33 mm (12–12.7) (female) and 11.25 mm (11–11.5) (male) (Figures 3, 4).

### Material examined

3♀♀, 2♂♂. ARGENTINA, Buenos Aires, Punta Lara, (−34.798668°S, −58.029185°W, 2 m asl), 6 February 2013, Col. M Lucia-L. Alvarez. (ex brood cells of *X. ciliata*). The specimens and cocoons are now deposited in the collection of the Museo de La Plata, Argentina (MLP).

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### Disclosure statement

No potential conflict of interest was reported by the author.

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