

New Records of Social Wasps (Hymenoptera: Vespidae: Polistinae) in Amazonas State, Brazil

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Abstract. In this paper we record the occurrence of *Clypearia apicipennis* (Spinola, 1851), *Leipomeles pusilla* (Ducke, 1904), *Metapolybia nigra* Richards, 1978, *Parachartergus richardsi* Willink, 1951 and *Pseudopolybia langi* Bequaert, 1944 in Amazonas State for the first time, including distribution notes.

Keywords: Biogeography; Distribution; Jaú National Park; Ducke Reserve.

Novos Registros de Vespas Sociais (Hymenoptera: Vespidae: Polistinae) no Estado do Amazonas, Brasil

Resumo. Nesse trabalho registramos a ocorrência de *Clypearia apicipennis* (Spinola, 1851), *Leipomeles pusilla* (Ducke, 1904), *Metapolybia nigra* Richards, 1978, *Parachartergus richardsi* Willink, 1951 e *Pseudopolybia langi* Bequaert, 1944 pela primeira vez no estado do Amazonas e incluímos notas de distribuição.

Palavras-chave: Biogeografia; Distribuição; Parque Nacional do Jaú; Reserva Ducke.

Wasps (Family Vespidae) play a valuable role in agroecosystems, since they visit a large number of plants (HERMES & KÖHLER 2006; SÜHS *et al.* 2009; SOMAVILLA & KÖHLER 2012), acting as pollinators and biological control agents of many crops (CARPENTER & MARQUES 2001). There are six subfamilies of Vespidae in the world, three of which occur in Amazonas state, Brazil: Eumeninae, Masarinae and Polistinae; the first two subfamilies comprise solitary or primitively social wasps and the third one includes only eusocial species (CARPENTER 1993).

Brazilian Polistinae fauna is the richest in the world with 304 species, where 104 of which are endemic (*op cit.*). This subfamily is divided into three tribes: Mischocyttarini (*Mischocyttarus*, 117 species), Polistini (*Polistes*, 38 species) and Epiponini (19 genera and 150 species) (NOLL *et al.* 2004; ANDENA *et al.* 2007a, 2007b; NOLL & WENZEL 2008; ANDENA *et al.* 2009a, 2009b; ANDENA & MATEUS 2011).

In the Brazilian Amazon, the pioneer works of DUCKE (1904, 1905, 1907) on social wasps are regarded as the first significant studies about the biology, systematics and distribution of this group in the Eastern Amazon, especially in Pará state. So far 20 genera and 200 species of social wasps have been recorded to the Brazilian Amazon region, representing about 70% of the Brazilian Polistinae fauna (SILVEIRA 2002), which makes this biome with the greatest number of wasp species. However, there are many sample gaps in the Amazon region and distribution and occurrence studies are necessary for improving this prior knowledge. Therefore, this study aimed to contribute for the knowledge on the Amazonian social wasp fauna reporting five new occurrence records in the Amazonas state.

MATERIAL AND METHODS

Specimens of social wasps were collected with entomological nets or *Malaise* traps during expeditions in the Ducke Reserve at the city of Manaus (02°55'S/059°58'W) and the Jaú National Park at the city of Novo Airão (02°15'S/062°38'W) (Figure 1). All specimens were deposited in the Zoological Collection of Invertebrates at the Instituto Nacional de Pesquisas da Amazônia (INPA) in Manaus. For identifications we followed the keys proposed by RICHARDS (1978), CARPENTER & MARQUES (2001) and CARPENTER (2004).

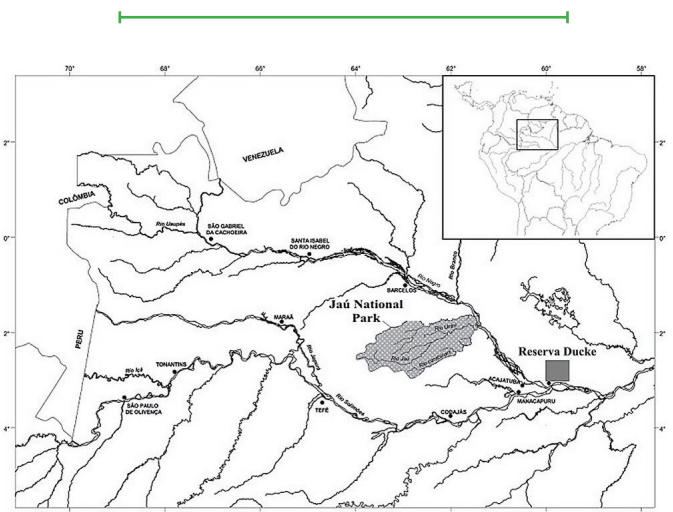


Figure 1. Localization of Jaú National Park and Ducke Reserve, Amazonas – Figure modified from BORGES (2004).

RESULTS AND DISCUSSION

Five species of Epiponini were collected for the first time in these localities, *Clypearia apicipennis* (Spinola, 1851) (Figure 2a), *Leipomeles pusilla* (Ducke, 1904) (Figure 2b), *Metapolybia nigra* Richards, 1978 (Figure 2c), *Parachartergus richardsi* Willink, 1951 (Figure 2d) and *Pseudopolybia langi* Bequaert, 1944 (Figure 2e).

The genera *Clypearia* de Saussure, *Leipomeles* Moebius, *Metapolybia* Ducke, *Parachartergus* R. von Ihering and *Pseudopolybia* Von Dalla Torre are distributed in the Neotropical region from Mexico to Argentina, and many species of these genera have been found in Brazil and in the Amazon Region (CARPENTER & MARQUES 2001).

There are eight described species of *Clypearia* which is a genus distributed from Mexico to Bolivia. Seven species are recorded from Brazil and three are endemic (*op cit.*). Specimens of *Clypearia apicipennis* were collected on Ducke Reserve, Amazonas.

The genus *Leipomeles* has only four described species and its distribution ranges from Costa Rica to Brazil. Three species are recorded from Brazil (*op cit.*). Specimens of *L. pusilla* were collected on Ducke Reserve, Amazonas state. This species was also previously registered in Pará state.

There are sixteen described species of *Metapolybia* and this genus is distributed from Mexico to Paraguay. Among the seven species recorded in Brazil, only one is endemic (*op cit.*). Specimens of *M.*

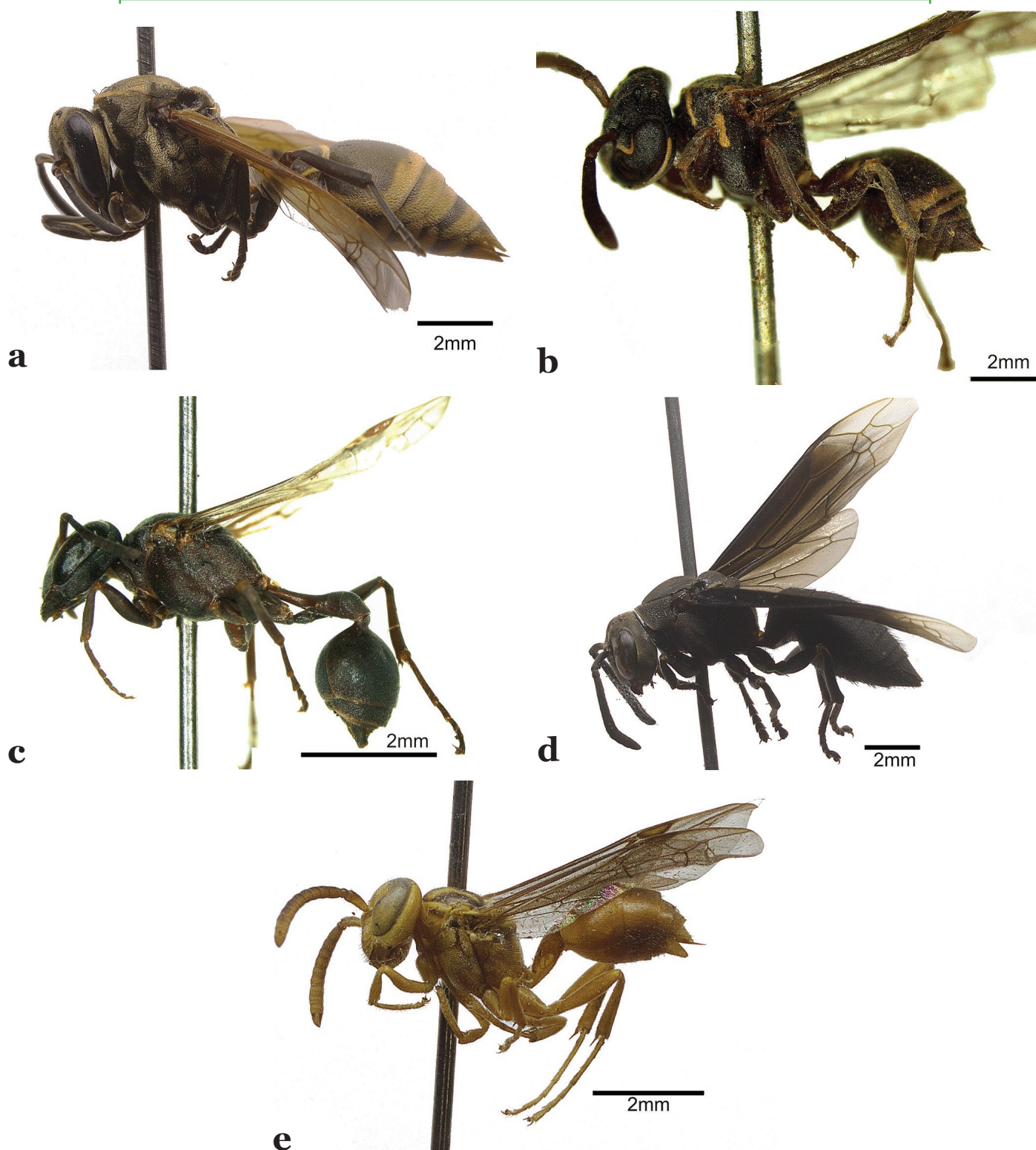


Figure 2. (a) *Clypearia apicipennis*; (b) *Leipomeles pusilla*; (c) *Metapolybia nigra*; (d) *Parachartergus richardsi*; (e) *Pseudopolybia langi*. Scale: 2 mm.

nigra were collected at the Ducke Reserve and the Jaú National Park, Amazonas state.

The genus *Parachartergus* has sixteen described species of and it is distributed from Mexico to Argentina. Ten species were recorded in Brazil, and only three are endemic (*op cit.*). Specimens of *P. richardsi* were collected on the Ducke Reserve and the Jaú National Park, Amazonas state. This species was also previously registered in Pará state.

The genus *Pseudopolybia* has only four species and its distribution ranges from Nicaragua to Bolivia. Three species are recorded from Brazil (*op cit.*). Specimens of *P. langi* were collected on the Ducke Reserve, Amazonas state. This species was previously registered in Amapá state.

This new distribution records along with the data about diversity and biology of the social wasps in the Amazonas state suggest that many species of this group has not been collected in this state yet (SILVEIRA *et al.* 2008). This is especially true due to the fact that investigations were not performed in many localities (e.g. upper Solimões river near the city of Tefé; the border region with Peru and Colombia; southwest Amazonas near the Acre state Amazon region; south Amazonas near the states of Rondônia and Mato Grosso and to the east near the state of Pará). Therefore, further studies on the Amazonas state will certainly increase the knowledge of Polistinae fauna.

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