



## RESEARCH ARTICLE - WASPS

## Description of a new species of *Metapolybia*, a Neotropical genus of social wasps, from the Amazon Forest

SR ANDENA<sup>1</sup>, S MATEUS<sup>2</sup>, FS NASCIMENTO<sup>2</sup>, JM CARPENTER<sup>3</sup>

1 - Universidade Estadual de Feira de Santana, Museu Zoologia, Divisão Entomologia, Feira de Santana, Bahia, Brazil

2 - Universidade de São Paulo, Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto, Ribeirão Preto, SP, Brazil

3 - American Museum of Natural History, Division of Invertebrate Zoology, New York, NY, USA

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#### Corresponding author

Sergio R. Andena

Universidade Estadual de Feira de Santana

Dept. C. Biológicas, Museu de Zoologia

Divisão de Entomologia

Av. Transnordestina, s/n, CEP: 44036-900

Feira de Santana-BA, Brasil.

E-Mail: sergioricardoandena@gmail.com

### Abstract

A new species of *Metapolybia*, which had been included erroneously among the paratypes of *M. acincta* by Richards (1978) is described as *Metapolybia fraudator* Carpenter and Andena, n. sp.

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### Introduction

The species of the genus *Metapolybia* range from Mexico to Bolivia, a typical Neotropical social wasp distribution. The genus was the subject of two revisions in the last century: one in 1945, by Araujo, who redescribed the type species, *M. cingulata* (Fabricius, 1804), raised the variety *M. unilineata* von Ihering, 1904, to species and described two new species, *M. azteca*, from Oaxaca, Mexico, and *M. bromelicola* from Itatiaia, Rio de Janeiro, Brazil, totaling five species in the genus. The other revision was by Richards (1978), who criticized the identification key of Araujo (1945) and proposed a new one. Additionally, he described five new species – *M. acincta*, *M. aztecoides*, *M. docilis*, *M. nigra* and *M. rufata*, and restored *M. decorata* (Gribodo, 1896) from synonymy. Later, six more species were described by Smethurst and Carpenter (1998), Cooper (1999),

Andena and Carpenter (2012) and Somavilla and Andena (2018). Hitherto seventeen species are recognized.

The new species was found by Carpenter (1999), who examined the type series of *Metapolybia acincta* in Leiden Nationall Natuurshistorische Museum (RMNH) and British Museum of Natural History (BMNH). According to Carpenter (1999: 10), “two species may be confused under the name *acincta*. The holotype and both paratypes from the same nest (that in the BMNH is headless) will key out in the key of Richards (1978a: 184).” Andena found more specimens of this “form” pointed out by Carpenter (1999) from several localities in Brazil and Peru (see appendix I). Mateus and Nascimento, recently, also collected this “form” in Amazonas, Brazil.

Here, we describe the “form” pointed out by Carpenter (1999) as the species *Metapolybia fraudator*, NEW SPECIES.



*Metapolybia fraudator* Carpenter and Andena, new species (Figs 1, 2 and 3)

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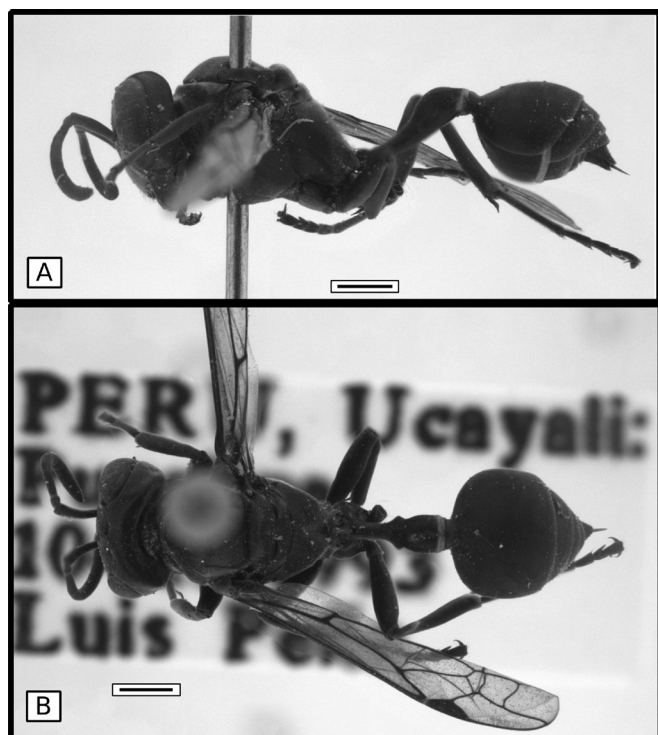
**Diagnosis:** This species is very like *M. acincta* and had been placed by Richards (1978) as paratypes of *M. acincta*. As pointed out by Carpenter (1999) this species, here named *M. fraudator* 'is larger, the humeri project more, the clypeus is hairy all the way down to the apex instead of with a polished rim, the propodeum is hairier, and metasomal tergum I has the distal part shorter and swollen'. Besides Carpenter's notes, the pretegular carina is less raised than in true *acincta*, better seen in dorsal view.

**Female:**

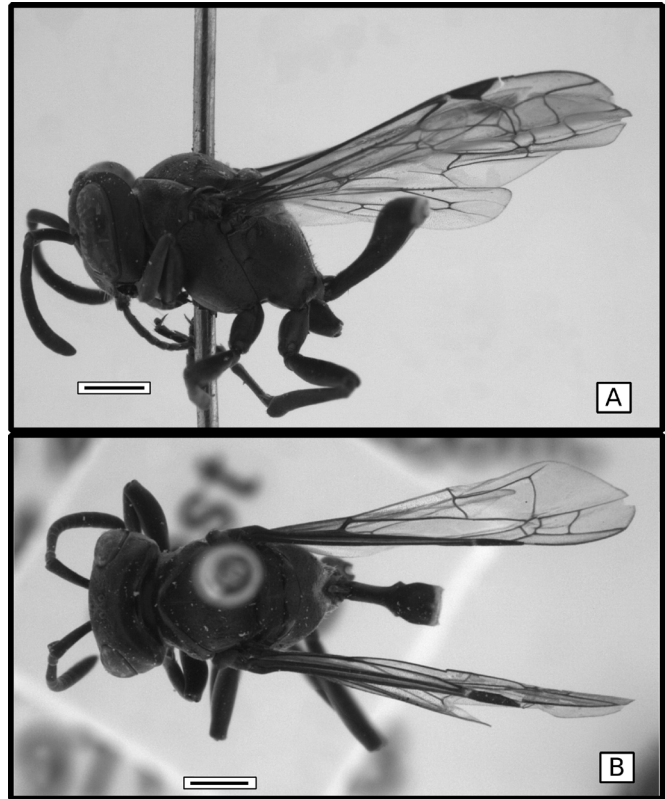
**Length:** 8.5 mm.

**Color:** Black species with yellow spots on inner orbits and tip of clypeus; Tergum I with yellow band; tergum and sternum II with evanescent yellow bands; terga III-VI, with evanescent yellow bands or absent.

**Head:** (1) clypeus 1.5 times wider than long, punctures shallow, scattered, separated by a diameter or more than two diameters; bristles extending all the way down, not forming a polished rim; (2) mandibles blackish/brownish; (3) antennal articles and scape blackish; (4) internantennal prominence raised, subacute, with a marked medial furrow; (5) frons and vertex covered with yellowish pubescence; punctures small, distinct, separated by 1-1.5 diameters, becoming sparser on vertex; (6) gena 0.7 times wider than width of the eyes, strongly narrowing to



**Fig 2.** *Metapolybia fraudator* from Peru, Ucayalli: A= lateral view; B= dorsal view. Escale bar = 1.0 mm.



**Fig 1.** *Metapolybia fraudator* from Peru, Tingo Maria (Nest G): A= lateral view; B= dorsal view. Escale bar = 1.0 mm.

mandibular condyle; punctures very small, scattered, pubescence very reduced; (7) tempora narrowing to vertex; (8) posterior region of the head excavated, strongly emarginated behind.

**Mesosoma:** (1) lateral pronotal carina raised, acute; pronotum with shallow scattered punctures; (2) humeri produced in front of tegula, subacute; (3) pretegular carina acute on upper region, curved, not interrupted, not prominent; (4) scutum 1.3 times wider than long, punctures small, shallow, scattered; (5) mesopleuron with shallow punctures separated by more than two diameters; (6) scutellum with small, though distinct punctures, separated by one diameter, slightly concave posteriorly, medial line raised anteriorly, vanishing posteriorly; (7) metanotum strongly concave with scattered punctures; (8) metapleuron with few scattered punctures, upper plate 1.3 times longer than wide; (9) propodeum with shallow scattered punctures with moderate long and sparse hairs on posterior region; (10) propodeal concavity broad, moderately deep, weakly developed anteriorly, striation distinct, extending laterally; (11) prestigma as long as wide, tip truncate (12) Fore wing: 5.0-5.3 mm.

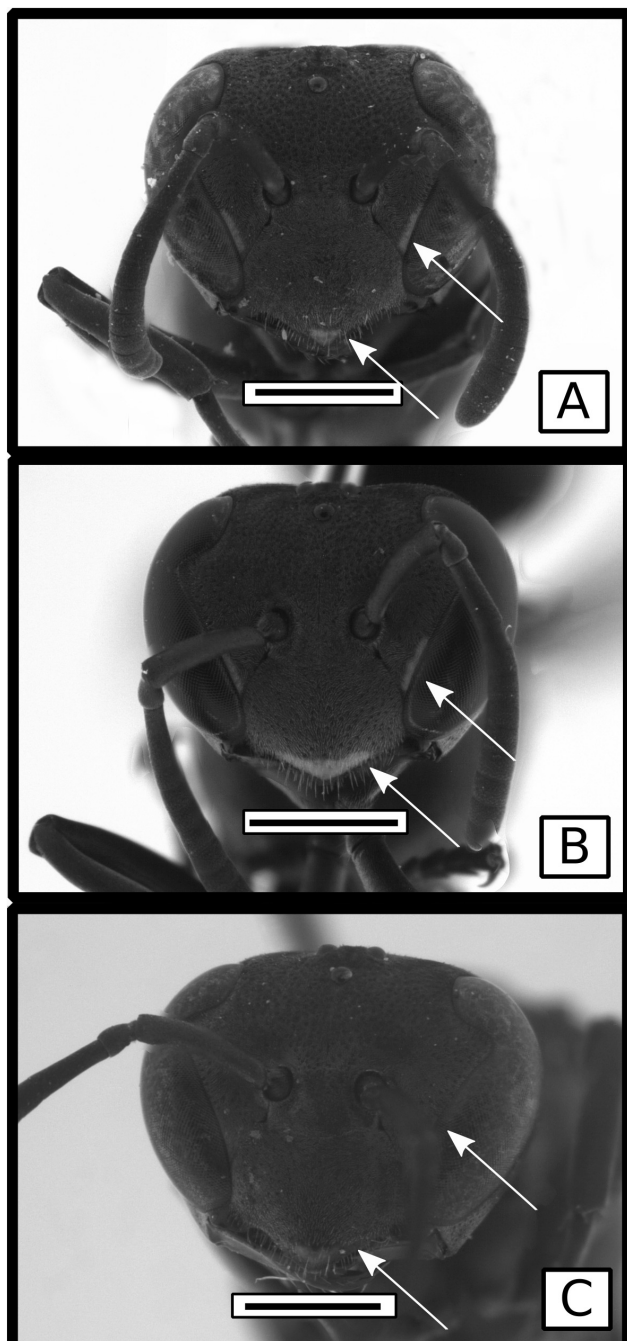
**Metasoma:** (1) first gastral tergum filiform, widening little after the prominent spiracles; (2) tergum II 1.3 times wider than long, coriaceous, punctures distinct on posterior fifth; (3) terga III-VI densely punctured

**Male:** unknown.

**Nest:** The description of the nest is based on those collected by Mateus and Nascimento in Amazon, partly fragmented (see Fig 4 A and B).

The nests were collected in small farms along the banks of Negro River, municipality of Novo Airão, Amazonas State. (S 02 37' 091" - W 060 56' 45"). The abandoned wood houses are in the edge of Amazonian rainforest. The two nests were built in the wall of those houses. One nest was complete, typical envelope with a single sheet, small clear windows formed by salivary secretion. In the extremity is a small circular entrance tube with eight-millimeter in diameter and 4 millimeter high. The other nest is in the beginning, sessile cells starting to be built on the substrate, inside the cells water drops but no eggs.

**Variation:** specimens from the nest collected in



**Fig 3.** *Metapolybia fraudator* – Head frontal view: A = Peru, Tingo Maria (Nest G); B = Brazil, Novo Airão, ME2; C = Brazil, Novo Airão, ME1. Scale bar = 1.0 mm.

Novo Airão (ME 2) have yellow marks more evident on clypeus (Figs 3B) and Terga III-VI; the bottom of the scape yellowish and punctuation on clypeus a little bigger and denser. Compared with specimens from Peru, specimens from the nest, also collected in Novo Airão (ME1) have yellow marks even more reduced on head (Fig 3C).

**Distribution:** Brazil; Peru. Besides the material listed here and in Appendix 1, Carpenter (1999) mentioned specimens from Colombia: Putumayo.

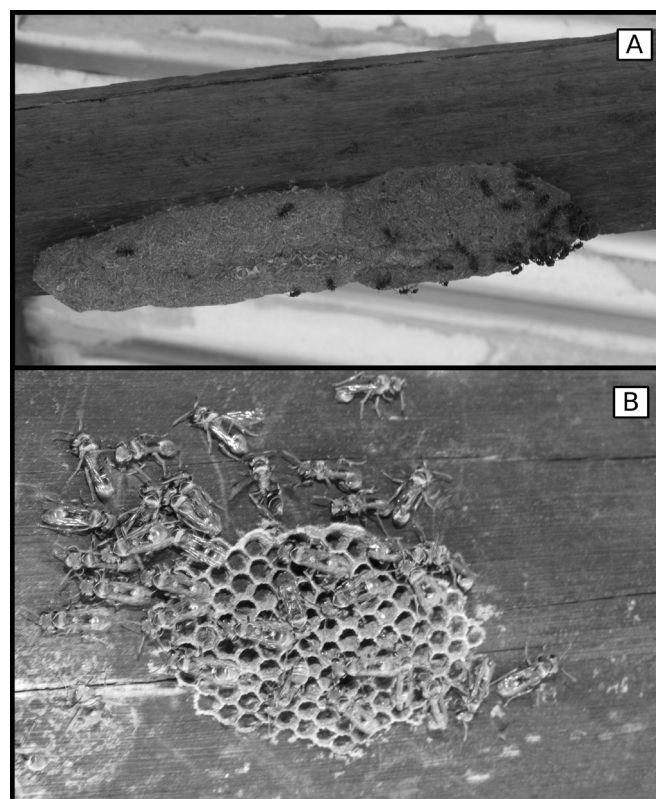
**Holotype:** female, Peru: Huanuco, Tingo Maria, 800m., 21-24.viii.1971. C. & M. Vardy, B.M. 1971-533 – Nest G (BMNH).

**Paratypes:** We are designating here 2 females (RMNH) and 250 females (BMNH) from the same locality as holotype, which had been placed as paratypes of *M. acincta* by Richards (1978).

**Etymology:** As this species was erroneously identified as *acincta* the name *fraudator* means deceiver.

#### Remarks

*Metapolybia acincta*, as pointed out by Richards (1978: 185), is very similar to *M. cingulata*, differing however in metasomal tergum II without a pale apical band, broader and on posterior fifth more sculptured with traces of relatively large punctures; and head deeply emarginated behind. Yellow marks tend to be reduced, in both species, from Peru (Richards, 1978:185). In *M. fraudator* the yellow marks are



**Fig 4.** Nest of *Metapolybia fraudator* from Brazil, Novo Airão, Amazonas: A = nest attached to the ceiling of a wood house; B = small cells of the new nest nest.

also reduced, following the trend of Peruvian specimens, however, as seen in figure 3B, specimens from one nest of Novo Airão (ME2) have such marks more evident, especially on the tip of clypeus and on the bottom of scape. Despite nest ME1 having been collected near ME2, the marks on face and metasoma are much reduced, evanescent, even compared with Peruvian specimens.

*Metapolybia acincta* and *M. fraudator* can be separated from *M. cingulata* based on stronger punctation, more evident on clypeus and on metasoma, and the head much emarginated. Also, by the humeri more projected and, in general, similar coloration.

The description of the nest, collected in Novo Airão, AM, matches the nest described by Richards (1978: 186) for Peruvian specimens (Tingo Maria, Nest G), which has many large transparent spots.

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### Appendix 1

Most of the material examined was unidentified or under the name *M. acincta*. Some may have a label "acinctoidea", a provisory name given.

***Metapolybia fraudator***: Brazil [Acre State, Rio Branco, 1 f (MPEG); Amazonas State: Paraná do Xiboreninho, 1 f (INPA); Tucuruí, Puraquequara, 2 f (INPA); Parque Nacional do Jaú, 4 f (INPA); Manaus, Reserva Ducke, 5 f (INPA), Mamirauá, 1 f (MPEG); Novo Airão (nest ME1), around 100 f and nest (ME2), around 40 f; Pará State: Acará, 1 f (MPEG); Gorotiére, 5 f (MPEG); Melgaco, Caxiuanã ECFPn, 1 f (MPEG); ]; Peru [Huanuco, Tingo Maria, 1 f (BMNH – paratype of *acincta*); Ouro Preto, Embratel, 1 f (BMNH)] – Peru, Huanuco, Tingo Maria, 800m. 21-24.viii.1971. C. & Vardy/B.M. 1971-533, NEST G (Type-AMNH); Peru [Ucayali: Pucallpa, 85f (AMNH).

