



## SHORT NOTE

### A New Species of the Swarming Social Wasp *Chartergellus* Bequaert, 1938 (Vespidae: Polistinae: Epiponini) from Acre, Brazil

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#### Abstract

A new species, *Chartergellus flavoscutellatus*, collected in Acre, Northern Region of Brazil, is described and comparative remarks are given.

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Until 2010, *Chartergellus* had only eight species described, the last one having been described by Cooper (1993 – *C. afoveatus*). The genus was the subject of the PhD thesis of Andena (2007), who, at that time, had proposed the phylogeny of the group, which remains unpublished. However, since then, another four new species (*C. golfitensis* West-Eberhard, 2010; *C. jeannei* Andena & Soleman, 2015; *C. zucchini* Mateus & Andena, 2015; and *C. trinitatis* Carpenter & Andena, 2019) were described. The genus seems more diverse than expected, based on it being uncommon, as pointed out by Jeanne (1991) as well as Chavarría and West-Eberhard (2010).

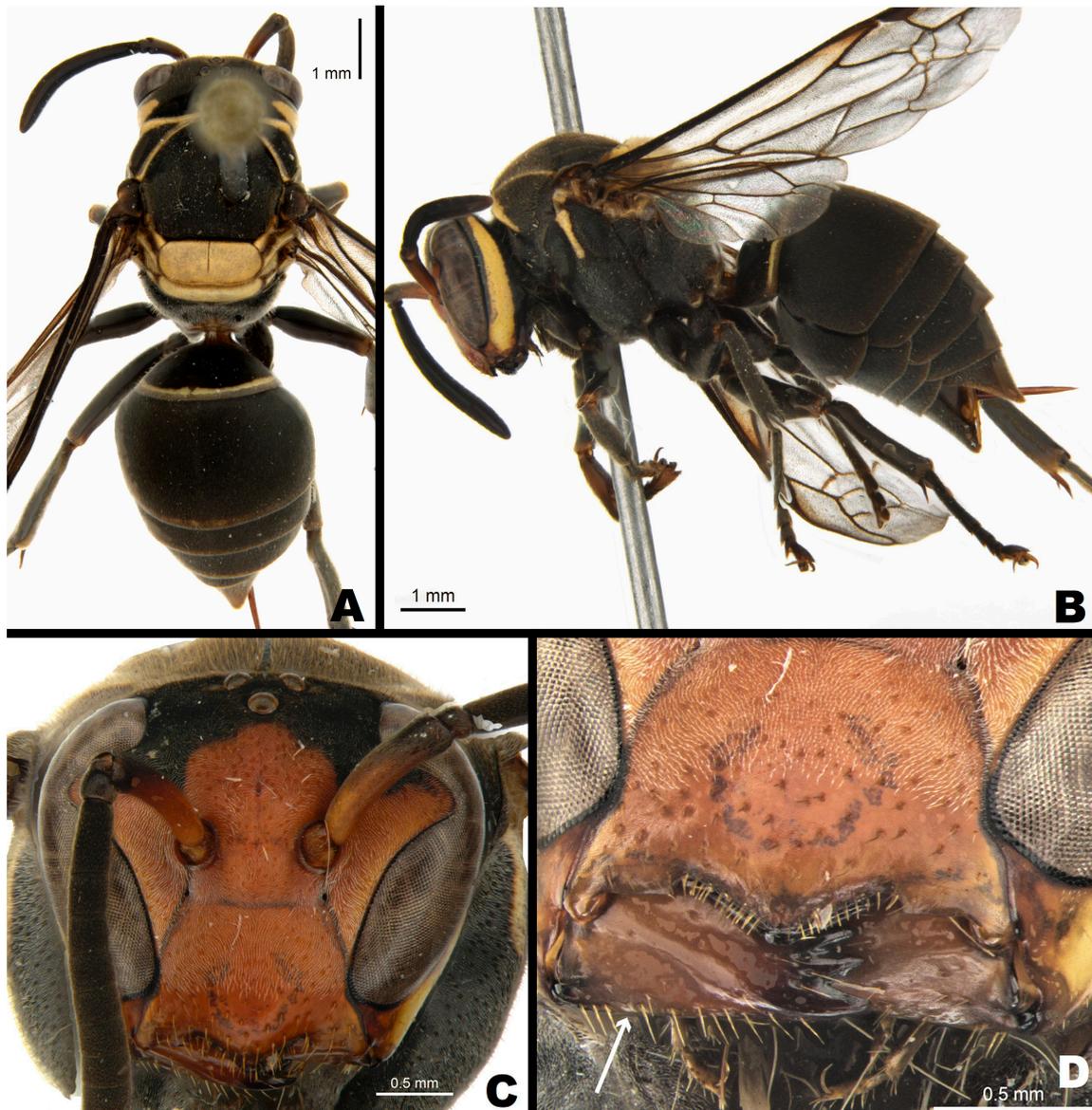
The genus is easily recognized by a curved bristle on the third labial palpomere; the maxillary and labial palpi five and three segmented, respectively; the metanotum rounded, lacking an occipital carina and a dorsal groove on mesepisternum (Carpenter & Marques, 2001; Carpenter 2004).

The new species described herein was collected by *Malaise* trap during a survey of the “Biodiversity of Insects of the Amazon (Rede BIA)” project, in Acre State, Northern Region of Brazil. The species was deposited in the Invertebrate Collection of Instituto Nacional de Pesquisas da Amazônia – INPA. Terminology employed follows Richards (1978), West-Eberhard et al. (2010), Grandinette et al. (2015), Mateus et al. (2015) and Carpenter et al. (2019). The photos were taken with a digital camera Leica DMC4500 attached to a stereomicroscope Leica M205A and combined using the Leica Application Suite software V4.10.0.

***Chartergellus flavoscutellatus* Somavilla, new species**  
(Figure 1 A–D)

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**Fig 1.** *Chartergellus flavoscutellatus* Somavilla, new species. (A) Dorsal view; (B) Lateral view; (C) Face, frontal view; (D) mandible in detail, the arrow indicates the mandible is little raised not forming a rim.

**Diagnosis:** The species is easily diagnosed by the following combination of characters: scutellum and metanotum completely yellow; the clypeus touching the eyes for a distance equal to the width of antennal socket; mandible little raised, not forming a rim; mandibles and malar space, clypeus, inner orbits and supra-clypeal plate reddish, extending nearly up to median ocellus, base of antennal scape; tergum I–VI black; yellow apical band on tergum I and inconspicuous on tergum II.

**Description:**

Female

Size: 9.0 mm.

Forewing length 7.0 mm.

**Color:** Blackish species; mandibles and malar space reddish; apex of teeth black; clypeus, inner orbits and supra-clypeal plate reddish, extending nearly up to median ocellus; base of antennal scape reddish, flagelomeres with dark brown appearance; gena with a wide yellow band; yellow band

along the pronotal carina, posterior border of pronotum, in dorsal view; scutum blackish, anterior margin with a yellow band; anterior margin of mesopleura with a yellow band, in lateral view; scutellum and metanotum completely yellow (Figure 1A); tegula black; legs black to dark-brown in tibiae and tarsi; tergum I–VI black; yellow apical band in tergum I and inconspicuous in tergum II; sternum totally black without apical yellow bands; wings hyaline, venation dark-brown.

**Head** (Figure 1C, D): (1) clypeus about 1.3 times wider than long, evenly convex, touching the eyes for a distance equal to the width of the antennal socket; lateral margins of the clypeus straight and upper margin sinuous; upper margin separated by antenna by less than the width of the antennal socket; surface of clypeus with gold pubescence and long bristles covering top half; punctures shallow, medium sized, separated by more than one diameter; (2)

frons and vertex with moderately long and spaced bristles and yellowish to white pubescence; punctures shallow, medium sized, separated by about one diameter; (3) eyes bare; (4) inner orbits and supra-clypeal plate with gold pubescence; (5) malar space shorter than second antennal flagellomere, shining; (6) mandible about 2.5 times longer than wide, little raised basally not forming a rim, with a band of long bristles on lower region; (7) gena about 0.75 width of eyes in profile; pubescence evident except on lower end, which is shining, reaching the malar space; punctures medium sized, separated by about little more than one diameter; (8) diameter of the medial ocellus 0,25 mm; (9) interocellar distance 0,23mm; (10) posterior region of head without occipital carina.

**Mesosoma** (Figure 1A, B): (1) pronotum with short and dense pubescence, prominent on lateral part, some scattered short bristles on the anterior part of pronotum; punctation medium sized, separated by about 1.0 diameter; pronotal carina produced, slightly lamellate, extending to medial region; pronotal fovea in a shallow and oval concavity; punctures shallow, separated by less than one diameter; (2) mesopleura with same pattern of punctuation as pronotum, becoming sparser laterally, short and dense pubescence; scrobal furrow wide, shallow; (3) dorsal plate of metapleuron 1.5 times longer than wide at middle; lower plate with punctuation very shallow and spaced, separated by more than two diameters, short and dense pubescence; (4) scutum as wide as long, with pubescence very spaced, present only on the borders, central area shining; punctuation small, shallow, separated by one diameter or more, becoming sparser centrally; thin line in the anterior central region present; (5) scutellum with same pattern of punctuation as that of scutum, with a line in the anterior central region reaching a little more than half of the length of the scutellum; (6) metanotum with pubescence denser than that of scutellum, but not as that of pronotum; punctuation very small and scattered; (7) propodeum with dense yellowish pubescence; long bristles centrally and laterally; (8) propodeal concavity shallow, wide; propodeal orifice large, rounded; (9) propodeal valvula narrow throughout and linear; (10) bristles on entire anterior and posterior wings.

**Metasoma** (Figure 1A, B): (1) Tergum I cap-shaped, punctures very weak, spaced; (2) tergum II wider than long, coriaceous, punctures very weak, spaced, pubescence present with a few bristles scattered; (3) posterior apical region of terga III–VI with punctures very weak, spaced, pubescence present; (4) punctures on sternum II–V very weak on posterior apical region, pubescence very weak.

**Male:** unknown.

**Holotype:** female ♀, BRAZIL: Acre, Senador Guimard, Fazenda Experimental Catuaba (coordinates: 10°04'28" S, 67°37'00" W). 14–31.i.2017. E.F. Morato and J.A. Rafael leg., [Malaise trap]. Instituto Nacional de Pesquisas da Amazônia, INPA Collection.

**Paratype:** 1♀: BRAZIL: Acre, Bujari, Fazenda Experimental Antimary (coordinates: 09°20'01" S, 68°19'17" W). 22.ix–06.x.2016. E.F. Morato & J.A. Rafael leg., [Malaise trap]. Instituto Nacional de Pesquisas da Amazônia, INPA Collection.

**Measurements:** total size 8.8 to 9.0 mm; forewing length 7.0 mm; clypeus width 1.3 mm; scutum width 2.4 mm, tergum II width 3.5 mm.

**Etymology:** The name derives from Latin, where *flavus* = yellow and *scutellatus* = scutellum. The name evokes the diagnosis, where the scutellum is completely yellow, resembling the yellow form of *C. zonatus*.

**Distribution:** Brazil: Acre.

### Comments

We compared *Chartergellus flavoscutellatus* specimens with the holotype and paratypes of six *Chartergellus* species: *C. afoveatus*, *C. amazonicus*, *C. atectus*, *C. communis*, *C. nigerrimus*, and *C. punctator*, all of them deposited in the Natural History Museum (London). Additionally, we also compared *C. flavoscutellatus* with the four recently described species: *C. golfitensis*, *C. jeannei*, *C. trinitatis*, and *C. zucchii*. We did not have access to type specimens of *C. sanctus*, described by Richards (1978) and *C. zonatus* by Spinola (1851), however we checked the original descriptions, and we compared it with a specimen of *C. zonatus* determined by James M. Carpenter, and also specimens with the “yellow form” of *C. zonatus*, cited by Richards (1978).

*Chartergellus flavoscutellatus* is similar to the yellow form of *C. zonatus*, which also has a yellow scutellum (Fig 1A), the metanotum entirely yellow and yellow bands on terga I and II. However, in *C. zonatus* the clypeus is separated from the eyes vs clypeus touching the eyes in *C. flavoscutellatus* (Fig 1C), *C. afoveatus*, *C. amazonicus*, *C. atectus*, *C. golfitensis*, *C. punctator*, and *C. trinitatis*, although, as pointed out by Cooper (1993) and Mateus et al. (2015), *C. communis*, and *C. punctator* may have the clypeus narrowly separated from the eyes. *Chartergellus afoveatus* and *C. jeannei* also present both states (clypeus narrowly separated from the eyes, sometimes touching).

The mandible of *C. flavoscutellatus* is about 2.5 times longer than wide, a little raised not forming a rim. The rim of the mandible is a variable character, ranging from very feeble, as in *C. sanctus* (Richards 1978), to strongly produced, as in *C. communis* (Richards 1978). In *C. flavoscutellatus* the mandible is little raised not forming a rim as in *C. afoveatus*, *C. atectus*, *C. jeannei*, *C. nigerrimus*, *C. trinitatis*, and *C. zucchii*. Regarding this structure, we must emphasize that previous authors used the base of the mandible as the inferior region in frontal view (as in Fig.1D). The pubescence covering the top half of the clypeus is another character of *C. flavoscutellatus* shared with *C. communis*, *C. nigerrimus*, *C. punctator*, *C. sanctus*, *C. zonatus*, and *C. zucchii*. *Chartergellus afoveatus* and *C. trinitatis* have the pubescence covering the entire clypeus, with only the apex bare.

Moreover, the new species resembles, in some structures, the black form of *C. punctator* and *C. nigerrimus*, but can be easily distinguished by the scutellum completely yellow. In addition, these two species have a smaller yellow band in the gena and the scutum black. Moreover, the eyes of *C. flavoscutellatus* are bare, different from *C. punctator*, which has hairy eyes. In *C. afoveatus*, the anterior margin of the scutellum and metanotum present yellow bands, differing from *C. flavoscutellatus* which is completely yellow.

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