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Acanthoponera mucronata (Roger, 1860) (Hymenoptera: Formicidae), first record in Peru and Rio Grande do Sul, Brazil, with description of its male*

Jochen Ketterl [1] *Manfred Verhaagh* [2]

SUMMARY

KETTERL J, VERHAAGH M. 2004. Acanthoponera mucronata *(Roger, 1860) (Hymenoptera: Formicidae), first record in Peru and Rio Grande do Sul, Brazil, with description of its male. Rev. per. Ent. 44.-* The male of *Acanthoponera mucronata* is described. This represents the first detailed description of a male in this genus. It is also the first record of *A. mucronata* in Peru and Rio Grande do Sul, Brazil. The male possesses tarsal claws with a prominent basal lobe as a typical character of *Acanthoponera*. In contrast to workers and females the propodeum is unarmed and the posterior apex of the petiole is only angulate without a distinct tooth.

Key words: *Acanthoponera mucronata*, Brazil, Formicidae, geographic distribution, male, Peru.

RESUMEN

KETTERL J, VERHAAGH M. 2004. Acanthoponera mucronata *(Roger, 1860) (Hymenoptera: Formicidae), primer registro para Peru y Rio Grande do Sul, Brasil, con descripción del macho. Rev. per. Ent. 44.-* El macho de *Acanthoponera mucronata* aún no ha sido descrito. Este trabajo representa la primera descripción detallada de un macho de este género. Es igualmente el primer registro de *A. mucronata* para Perú y Rio Grande do Sul, Brasil. El macho posee garras tarsales con un lóbulo basal prominente como cáracter típico de *Acanthoponera*. En contraste a las obreras y las hembras, el propodeo carece de espinas y el ápice del pecíolo es sólo angulado sin diente desarrollado.

Palabras clave: *Acanthoponera mucronata*, Brasil, distribución geográfica, Formicidae, macho, Perú.

Introduction

The neotropical ant genus *Acanthoponera* is known from only five species: *A. goeldii* Forel, 1912; *A. minor* Forel, 1899; *A. mucronata* (Roger, 1860); *A. peruviana* Brown, 1958 and a hitherto unnamed queen mentioned by BROWN (1958). The specimens of most taxa are rarely collected. This is especially true for gynes, known from only two species, and males. Besides a morphological study about a supposed male of *Acanthoponera* (BROWN 1958) and one study about the hind wing of ants including an *Acanthoponera mucronata* male (KUSNEZOV 1962) there still exists no description of a male.

Here we describe the male of *A. mucronata* in detail. *A. mucronata* is recorded for the first time from the most southern state of Brazil, Rio Grande do Sul and from Peru, where it is now the second known taxon of this genus besides *A. peruviana*.

Material and methods

A male and a winged female were sampled at a light trap in the forest reserve of Tambopata, Madre de Dios, Peru; the wingless female from Rio Grande do Sul, Brazil was collected in an arboreal photo-eclector in the forest reserve Pró-Mata (KETTERL *et al*. 2003).

Morphological measurements were made at 40x on a Wild stereo microscope M3C. All measurements are in mm. Head length (HL) is taken from the maximum measurable length of the head in full-face, dorsal view, from the anterior clypeal margin to the vertex, excluding ocelli. Head width (HW) is represented by the maximum width of the head in full-face, dorsal view, including the eyes. The Cephalic Index (CI) is calculated by HW / HL x 100. Scape length (SL) represents the maximum measurable length of the scape. The Scape Index (SI) is calculated by SL / HL x 100. Eye diameter (ED) is measured in lateral view at its greatest diameter. Alitrunk length (AL) is represented by the diagonal length of the alitrunk measured in lateral view from the anterior pronotal margin to the posterior extremity of the pleural lobe. Pronotal width (PW) is measured in dorsal view. Total length (TL) is

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1 Staatliches Museum für Naturkunde Stuttgart, Entomologie, Rosenstein 1, 70191 Stuttgart, Germany. E-mail: ketterl.smns@naturkundemuseum-bw.de

2 Staatliches Museum für Naturkunde Karlsruhe, Entomologie, Erbprinzentr. 13, 76133 Karlsruhe, Germany. E-mail: manfred.verhaagh@smnk.de

obtained by the sum of the following lengths: head in full-face view from apex of mandibles to occipital margin, AL, petiole length and gaster length (all in dorsal view).

The terminology for sculpture conforms to HARRIS (1979), for wing venation to BROWN & NUTTING (1950). The material is deposited in the collection of the Staatliches Museum für Naturkunde Karlsruhe (SMNK).

Acanthoponera mucronata (Roger, 1860)

Material examined. - 1 single ♂ from **PERU**, Madre de Dios, Reserva de Tambopata, vic. Explorer's Inn, 200m, 12°50'S 69°17'W, 11.XI.1997, leg.: C. Häuser & B. Kreusel; 1 winged ♀, same data, but collected on 14.XI.1997; 1 wingless ♀ from **BRAZIL**, Rio Grande do Sul, Serra Geral, Pró-Mata, 900m, 29°30'S 50°10'W, 01.V.1997, leg.: J. Ketterl.

Distribution: Argentina: provinces of Santiago del Estero and Tucumáan (SANTSCHI 1921, KEMPF 1972); Bolivia (KEMPF 1972); Brazil: states of Goiás, Mato Grosso, Paraná, Rio de Janeiro, Rio Grande do Sul, Santa Catarina and São Paulo (EMERY 1894, FOREL 1912, WHEELER 1923, DONISTHORPE 1938, BORGMEIER 1939, KEMPF 1972, this publication); Colombia (FERNÁNDEZ 1993); Peru (this publication); Venezuela (KEMPF 1972).

Description of the male (Figs. 1-3): The male may be recognized by the following characters: Convex propodeum without teeth. Petiole with a moderate posterodorsal spine and a nearly translucent subpetiolar flange, similar to that of the worker. Tarsal claws as in worker and female well developed, with a submedian tooth and a prominent basal lobe. The fore wing with first radial crossvein continuous, reaching Rs. The hind wing with two closed cells, veins not reduced.

TL 7.63, HL 1.15, HW 1.45, CI 126, ED 0.68, SL 0.25, SI 22, AL 3.08, PW 1.40.

Anterior part of the clypeus with a median longitudinal costa, anterior border of clypeus nearly straight. Eyes large, oval and strongly convex. Inner side concave giving the eyes a reniform appearance in frontal view. Vertex with three prominent translucent ocelli (Ø 0.21-0.23). Mandibles well developed, triangular. The masticatory margin of the mandible apically with one large tooth followed by three smaller and 2-3 nearly indistinct ones including the edge with the basal side of the mandible. Antennae long and 13-segmented, situated almost in the middle of the frons. Antennal scrobes not present. Scape short, more than twice as long as the first funicular segment, but shorter than all following segments.

Pronotum dorsally at the posterior margin with a small median tooth. Broadest part of pronotum posteriorly, just before the insertion of the wings. Prominent mesonotum. Mayrian furrow obvious with numerous cross-bridging carinae. Parapsidial furrows indistinct from ground sculpture. Frontal part of scutellum deeply impressed, lateral and posterior sides of scutellum steeply sloping. Metanotum only a small bulge. Posterior border of metapleura protruding as a round lobe. Propodeal declivity convex without clear teeth but with just the same elevated carinae of the sculpture. Propodeal spiracle elliptical and directed distad. Legs each with a single pectinate spur. Metatarsus (1.23) only little shorter than metatibia (1.25). Pretarsal claws with a prominent basal lobe, and a large submedian tooth.

Wings transparent with yellowish veins and numerous short setae. Total length of fore wing 5.45 and greatest width 1.85. Stigma well defined. The first radial crossvein continuous, reaching the radial vein, cells as in fig. 2. Total length of hind wing 4.1 and greatest width 1.07. Anterior margin with 10 hooks, cells as in fig. 3.

Petiolar node from above rectangular, with convex sides. Posterior part of petiole with a moderate blunt spine. Moderate subpetiolar flange with an anterior angle and almost entirely translucent, except of sharp posterior tooth. Gaster from above conical. First gastral sternite with a rounded frontal median tooth. Second gastral segment with a strong anterior constriction.

Frontal part of head covered with numerous partly wrinkled carinae, densely crowded between eyes and antennal sockets, more widely spaced on clypeus and between antennae. Clypeus with a prominent median keel. Vertex between and behind ocelli irregularly areolate or reticulate. Frontal border of pronotum scrobiculate, rest of pronotum irregularly reticulate. Scutum superficially reticulate to irregularly carinate, scutellum and propodeum grossly areolate on the sloping part of the latter passing into a gross vermiculate sculpture. Scutum separated from scutellum by a deep scrobiculate furrow. Sternites of pleural walls smooth, partly finely punctate or foveolate. Petiole except subpetiolar flange grossly areolate some prominent carinae of the reticulum joining in the dorsal petiolar tooth. Helcium and presclerit of abdominal segment 4 scrobiculate. Tergite of segment 3 distinctly areolate, the reticulum dissolving in the posterior median part similar to the sternal situation. Frontal part of the tergite of abdominal segment 4 superficially reticulate becoming indistinct in the posterior part where the surface becomes smooth with widely spaced hair bearing punctures as on the remaining abdominal segments. Legs, antennae and mandibles smooth and shining.

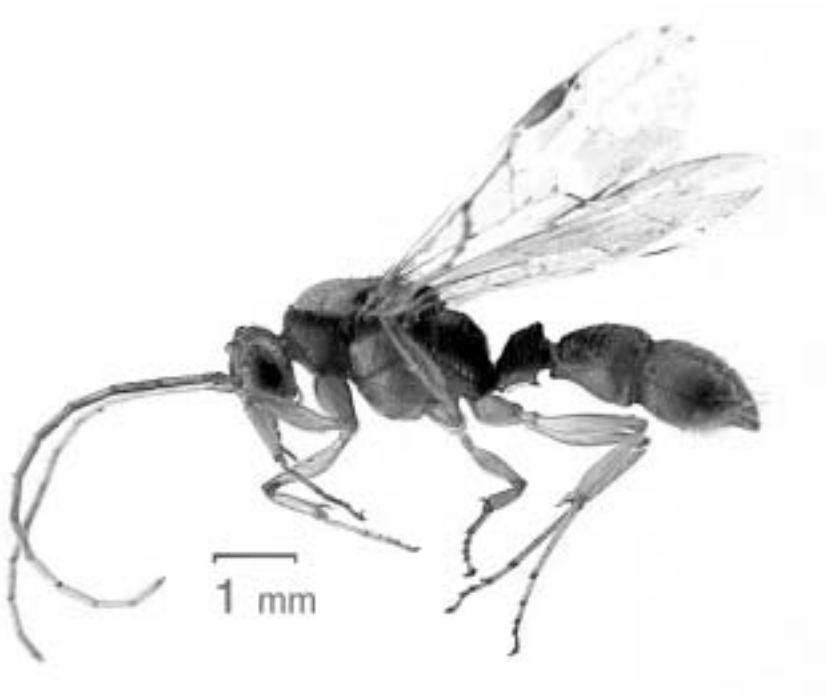

FIGURE 1.- Lateral view of *Acanthoponera mucronata*, ♂

FIGURE 2.- Fore wing of *Acanthoponera mucronata*, ♂

FIGURE 3.- Hind wing of *Acanthoponera mucronata*, ♂

Body color ferruginous yellow except dark brown to blackish parts at the posterior margin of pronotum, lateral parts of the scutum (just above wing insertion), the whole scutellum and propodeum (except two indistinct yellow spots at the anterior margin), petiole (without flange) and the surface of the reticulum of the anterior part of the first gastral tergite. All body surfaces densely covered with yellowish small suberect and long erect setae, the longest on vertex, scutum, petiole and at the apex of the gaster.

Genitalia not examined.

Discussion

BROWN (1958) mentioned a single male of *Acanthoponera* collected by Borgmeier, but neither described it thoroughly nor attached it to one of the known taxa. He described an extensive ventral excavation of the gaster which does not exist in our specimen. Also, the character of the fore wing showing only traces of the first radial crossvein, running down from R toward Rs, but not reaching Rs, is different to our specimen, which has a continuous connection.

KUSNEZOV (1962) studied the hind wings of different ant species, recording a male specimen of *A. mucronata*. He noticed that its hind wing possesses 9-10 hooks on the anterior margin similar to our observations. However it is not clear if the figure of the hind wing from *Acanthoponera mucronata* illustrated by Kusnezov is from a male or a female. The venation is almost similar to our specimen except for the presence of a costal cell whereas the wing of our male shows no connection between costa and subcosta (see fig. 3).

The examined female from Peru showed also differences in venation of the fore wing as described in BROWN (1958). The first radial crossvein is present and continuous, similar to that of the male.

The finding of *A. mucronata* in Rio Grande do Sul and Peru closes some important gaps in its hitherto known distribution. It can be expected that the species may be found in the future also in the central Amazonian regions of Brazil.

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