

**A NEW SPECIES OF *GNAMPTOGENYS* ROGER OF THE *SULCATA* GROUP
(HYMENOPTERA: FORMICIDAE) FROM BOLIVIA**

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Abstract.—*Gnamptogenys flava*, n. sp., was discovered in litter extractions from a montane evergreen forest in Bolivia. It is a yellow species of the *sulcata* group. The description of the species is included, as well as a modification of the previous key to the species and a discussion of characters that separate it from the other species in the *sulcata* group.

Resumen.—*Gnamptogenys flava*, n. sp., fué descubierta en extracciones de hojarasca en un bosque montañoso de Bolivia. Es una especie amarilla del grupo *sulcata*. Se presenta la descripción de la especie, como también la modificación de la clave previa para identificación de las especies, y una discusión de los caracteres que la separan de otras especies del grupo *sulcata*.

Key Words: *sulcata* group, montane evergreen forest, litter extraction, Bolivia

Gnamptogenys Roger is a genus of predaceous, mostly Neotropical ants usually easily recognized by their costulate sculpture. The genus was revised recently by Lattke (1990, 1991, 1994, 1995, 2002). A recent extraction of litter from the State of Cochabamba, Bolivia, yielded a new, yellow, moderately hairy species. Its mandibles are subtriangular, the anterior margin of the clypeus is nearly straight with angulate lateral corners, the promesonotal and metonotal sutures are developed poorly, and the sculpture of the body is completely longitudinally costulate.

METHODS AND MATERIALS

Measurements were made with a micrometer in a Wild stereoscope. The abbreviations follow Lattke (1990), with the addition of eye width.

HL Head Length: measured in full face

dorsal view, from the anterior clypeal margin to the posterior margin of the head.

ML Mandibular Length: measured in the same plane as HL, from the anterior clypeal margin to the apices of the mandibles.

SL Scape Length: length of first antennal segment, excluding basal condyle.

ED Eye Diameter: measured along long axis in lateral view.

EW Eye Width: measured along short axis in lateral view.

HW Head Width: maximum width of head, excluding eyes, measured in full face dorsal view.

WL Weber's Length of the mesosoma: diagonal length from the anterior, dorsal margin of the pronotum to the posterior margin of the metapleural lobe.

CI Cephalic Index: $HW/HL \times 100$.

- MI Mandibular Index: $ML/HW \times 100$.
 SI Scape Index: $SL/HW \times 100$.
 OI Ocular Index: $ED/HW \times 100$.
 SSC Scape Setal Count: the number of standing hairs (not pubescence) visible in outline on the scape, in lateral view.

RESULTS AND DISCUSSION

***Gnamptogenys flava* Pacheco, Mackay, and Morgan, new species**

(Figs. 1–6)

Diagnosis.—The mandibles are subtriangular with abundant hairs, especially on the apices, the anterior margin of the clypeus is nearly straight with 6 erect hairs. The promesonotal and metonotal sutures are poorly developed when viewed from above, and the sculpture of the body is completely longitudinally costulate, including the head, mesosoma, petiole, and dorsum of the gaster. The dorsal surface of the scape and mandibles are smooth and polished. The node of the petiole is low, and the anterior peduncle is short. The costulae on the posterior face of the propodeum are longitudinal and on the posterior face of the petiole are horizontal. The dorsum of the postpetiole (first tergite of the gaster) has longitudinal costulae, with the ventral and medial surface smooth and glossy.

Description.—HL 1.34, ML 0.69, HW 1.10, SL 1.14, ED 0.36, EW 0.27, WL 1.87; Indices: CI 82, SI 104, OI 75.

Mandibles subtriangular, when closed probably cross at midlength; anterior border of clypeus nearly straight, sharply angulate at lateral corners; frontal carinae covering most of antennal insertion; eyes large, with approximately 140 ommatidia, eyes extend 0.01 mm past sides of head; scape extends 0.40 mm past posterolateral corner; promesonotal and metonotal sutures poorly developed and do not break sculpture of longitudinal costulae as seen from above; metacoxal spine present, acute, length 0.30 mm; anterior face of petiole sloping posteriorly, meeting posterior face at angle and

not overhanging vertical, posterior face; subpetiolar process angulate anteriorly and posteriorly.

Surfaces of clypeus, head, mesosoma, petiole, and gaster, including lateral surface of dorsum of postpetiole, longitudinally costulate; mandible, scape and medial surface of sternum of postpetiole smooth and polished.

Moderately hairy; mandible with several suberect hairs, especially at apices; 6 erect hairs on anterior border of clypeus, with several suberect hairs, few suberect hairs on dorsum of clypeus; few suberect hairs present on head; several suberect hairs on scape, with 3–6 longer, erect hairs on scape; 12 erect hairs on mesosoma; 5 erect hairs on petiole; gaster abundantly hairy, especially apex.

Female and male.—Unknown.

Holotype.—Worker, Bolivia, Cochabamba, 109 k E Cochabamba at Lagunitas, 17°6'22"S 65°40'57"W, 1-ii-1999, R. Anderson # 18640. Deposited in the Museum of Comparative Zoology, Harvard University, Cambridge, MA.

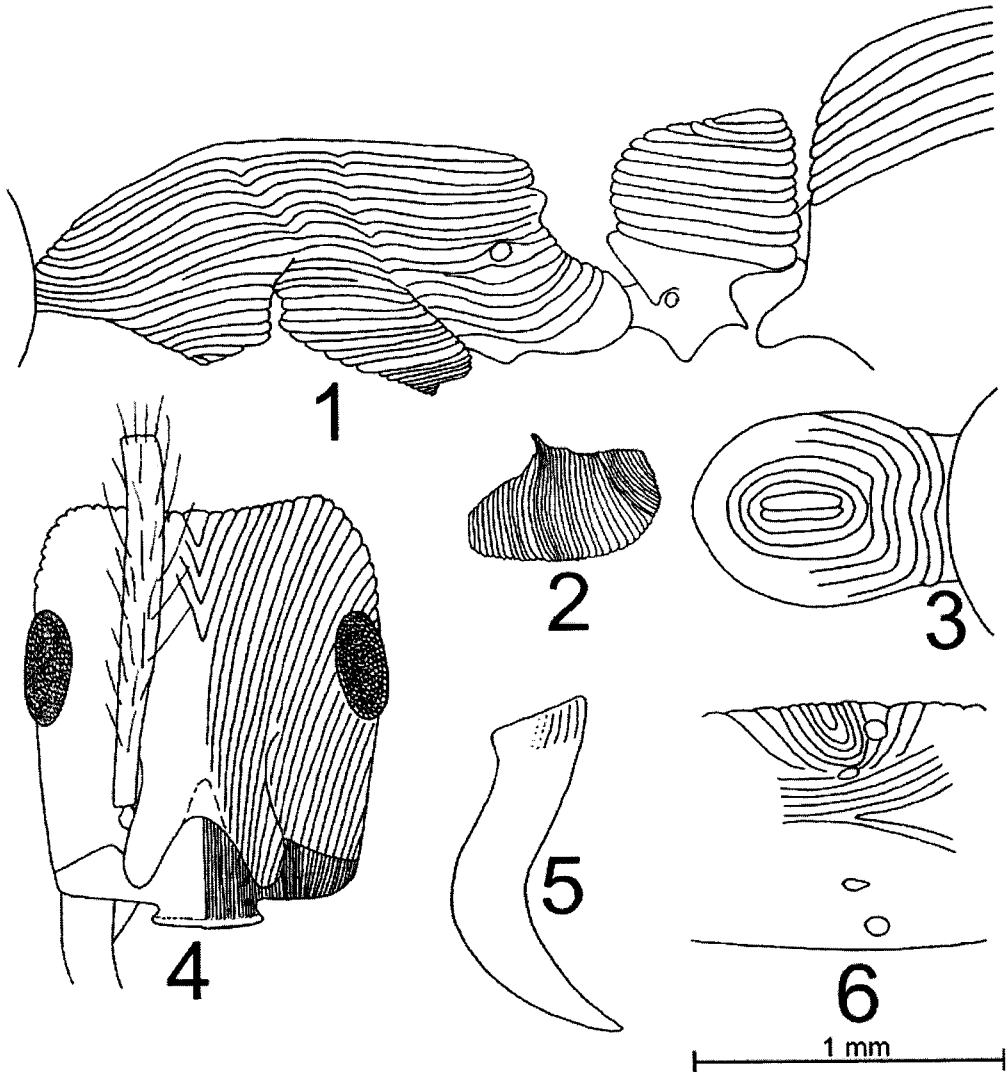
Etymology.—Latin from *flavus* meaning yellow, referring to body color.

Distribution.—Known only from the type locality in Bolivia.

Discussion.—The single, concolorous yellow specimen was discovered in montane evergreen forest from litter extractions in Cochabamba, Bolivia. It is a member of the *sulcata* group, the *sulcata* subgroup, and the *sulcata* species complex (= *tornata* complex in Lattke 1995: 145) all as defined by Lattke (1995).

Lattke's key to the New World species (1995) can be modified as follows to accommodate this new species:

- 50(49). Petiolar node with posterior pointed projection; posterior propodeal face with longitudinal costulae; body color uniformly brown; tropical South America
 *acuminata* (Emery)
 - Node sometimes with slight posterior projection, but never pointed; posterior propodeal face with transverse costulae,



Figs. 1-6. *Gnampptogenys flava*, holotype worker. 1, Mesosoma, petiole and postpetiole. 2, Metacoxa with metacoxal tooth. 3, Petiole as seen from above. 4, Frontal view of head. 5, Frontal view of mandible. 6, Propodeum as seen from above.

- rarely longitudinal; color variable, usually with brown and ferruginous areas, rarely totally brown or yellow; México to tropical South America 50a
- 50a(50). Metacoxal tooth vestigial or absent; propodeum without any evidence of spines or angles; usually a darker brown; México to tropical South America *sulcata* (Smith)
- Metacoxal tooth present; propodeum with small, epaulet angles; yellow; Bolivia *flava*, n. sp.

Gnampptogenys flava can be separated from *G. fernandezi* Lattke (*fernandezi* complex of the *sulcata* subgroup), by the nearly straight anterior border of the clypeus, which is convex and somewhat pointed in *G. fernandezi*. The mandibles of *G. flava* are subtriangular and do not meet along the masticatory border; they are triangular and meet along the entire masticatory border in *G. fernandezi*.

It can be separated from members of the *sulcata* species complex by the presence of a well-developed metacoxal tooth, as well as angles on the propodeum (both lacking in *G. sulcata*) and yellow color (dark brown in *G. sulcata*). The distributions of the two species overlap. It differs from the Colombian species *G. curvoclypeata* Lattke by the nearly straight anterior border of the clypeus, which is medially convex and laterally concave in *G. curvoclypeata*. It can be separated from the northern South American *G. acuminata* Emery by the petiolar node which is acutely pointed at its apex in *G. acuminata*, and by the metacoxal spine, which is lacking in *G. acuminata*. Also, *G. flava* can be separated from the northern South American *G. tortuolosa* Smith by the longitudinal costulate on the posterior face of the propodeum (transverse in *G. tortuolosa*), the presence of angles on the propodeum (absent in *G. tortuolosa*), and the posterior angle of the apex of the petiole not overhanging the vertical posterior faces (strongly overhanging the vertical, posterior face in *G. tortuolosa*).

ACKNOWLEDGMENTS

We thank Robert Anderson for the gift of the specimen, as well as for hundreds of other specimens of *Gnamptogenys*. Gary Alpert and Stefan Cover assisted in our visit to the Museum of Comparative Zoology, Harvard University, to compare this specimen with specimens of other species of *Gnamptogenys*. The research was supported by the Ernst Mayr Fund of the Museum of Comparative Zoology, and publication of the paper was funded by The National Institutes of Health, Grant # 5 G12RR08124.

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