

A new Species of *Strumigenys* from the lower Amazon, Brazil
(Hym., Formicidae)

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RECORDED
IN ANTENAS

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(With 3 text-figures)

In 1962, by publishing a synopsis of, and a key to, the species, W. L. Brown, Jr. brought to conclusion his painstaking revisionary studies of the Neotropical species of the Dacetine ant genus *Strumigenys*. He recognized 51 valid species and 30 new synonyms for the fauna of the Region. Since then, four more new species were added in the genus, and a fifth is presented in this paper, which is dedicated to the memory of the late Father Thomas Borgmeier, the pioneer of Brazilian ant taxonomy.

In the ensuing description, the measurements are presented after the standard defined in Brown's work (cf. Brown, 1962, 254). At the end, an addition to Brown's key (1962) is appended in order to accommodate the five new species described for the Neotropical Region after 1962.

***Strumigenys thomae* sp. n.**

(Figs. 1-3)

Worker (holotype). Total length 3.7 (-3.8) mm; head length 0.91 (-0.96) mm; head width 0.67 (-0.69) mm; scape length 0.59 (-0.63) mm; Weber's length of thorax 0.87 (0.95) mm; mandibular index 54 (51-54); cephalic index 74 (72-74).

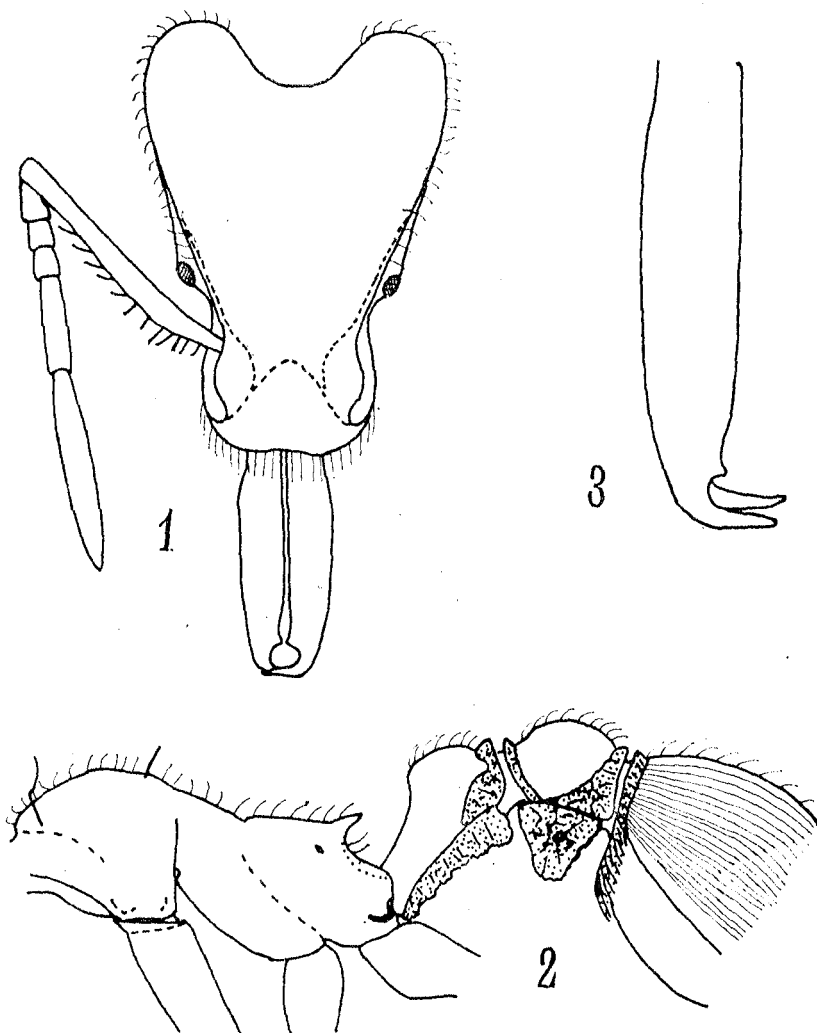
Ferruginous; tergum I of gaster largely infuscated. Integument finely reticulate-punctate, subopaque, with superimposed coarser reticulate rugae on dorsum of head, pronotum, remainder of thoracic dorsum and on dorsum of petiolar and postpetiolar nodes. Mandibles shining with dense, fine, piligerous punctures. Disc of mesopleura and sides of propodeum with the microsculpture fading and somewhat shining. Tergum I of gaster densely, finely, longitudinally striato-costulate in nearly its entire length, fading at posterior fifth. Sternum I of gaster smooth and shining.

Pilosity rather uniform (fringing hairs shown in Figs. 1 and 2), dorsum of head including clypeus, dorsum of thorax

and sides of pronotum, dorsum of petiolar and postpetiolar node, and tergum I of gaster densely covered with short and simple hairs, often slightly curved, inclined cephalad on clypeus and vertex of head, mesad on both sides of tergum I of gaster. Similar hairs, but straight and oblique, on antennal scapes and on legs; a row of about 9 perpendicular, stiffer and vestigially remiform hairs projecting from the leading edge of the latter. Fringing hairs on clypeus likewise simple and short. Hairs on mandibles, gular face of head, antennal funiculi, sternum I of gaster subappressed. Inner border of mandibles with short, oblique, projecting hairs. Trigger hairs long, attaining apical third of closed mandibles. Promesonotum with two pairs of specialized hairs, i. e. stiffer and longer than the remaining ones; each of the anterior pair, arising from the scapular corner, subflagellate.

Head as shown in Fig. 1; large, cordate, elongate, somewhat depressed, with prominent occipital lobes and correspondingly very deep occipital excision. Clypeus triangular, flat, posterior angle well-defined; anterior border gently convex, mesially impressed, laterally broadly curved backwards to meet the preocular laminae which fade out on sides of head at the bottom of the deep preocular constriction. Behind this constriction, the cheeks become prominent, exposing in dorsal view the compound eyes. The latter have less than 20 pigmented facets and not more than 5 facets in a row across the greatest diameter; the central axis of vision of the eye is directed obliquely forward and laterad (prospicient eyes). Frontal carinae narrowly lamellate, posteriorly divergent, fading out somewhat behind the level of eyes. Antennal scrobe shallowly excavate, inferiorly immarginate, reaching backwards a little beyond the frontal carinae. Dorsum of head between frontal carinae gently convex in both directions.

Mandibles (Fig. 3) stout, little longer than one half of head length, inserted very close together, their shafts nearly straight, slightly drawn in at base, with most of their inner borders opposed directly at full closure, each with ventral and dorsal margins; preapical tooth very short, pointed in holotype, obsolescent in some of the paratypes. Apical fork consisting of two strong spiniform teeth, not longer than maximum width of mandibular shaft, slightly diverging, the lower tooth a bit longer than the upper; the single intercalary tooth represented by a minute spur projecting from the dorsal face of the ventral tooth.



Strumigenys thomae sp. n., worker, holotype. Fig. 1. Head in full-face view. — Fig. 2. Thorax, waist and gaster in profile. — Fig. 3. Mandible drawn to a larger scale (Kempf del.).

Antennal scapes virtually straight, slender, with a slight subbasal incrassation at about the basal fifth of the length, the apical four fifth scarcely tapering apicad. Funiculus with the apical segment (V) about as long as I-IV combined; IV about as long as I-III; I about as long as II-III, the latter two segments scarcely longer than broad.

Thorax as shown in Fig. 2. Promesonotum gently convex in profile. Anterior border of pronotum narrowly lamellate, obliquely converging anteriorly, meeting at the middle by a broadly rounded

curvature. Humeri vestigially marked, with a small piligerous tubercle. Pronotal dorsum immarginate laterally, a low but faint sagittal carinule usually distinct. Promesonotal limit marked by a vestigial to almost obsolete carinule. Mesonotum laterally immarginate. Metanotal suture indistinct. Propodeal teeth small but acute, scarcely elevated, strongly diverging laterad, longer than the half the distance between their bases. Infradental lamellae low but conspicuous, margining the sides of the declivous face. Metapleural bulla fairly conspicuous, with a large posterior opening continued forward as a ventro-lateral slit.

Petiole (Fig. 2) with a slender peduncle which is slightly longer than bare part of node; the latter, as seen in lateral view, forming a right angle between anterior and dorsal faces, about as long as broad in dorsal view, laterally immarginate, posteriorly with a narrow, lamellate and foliaceous flange which becomes broader on sides but does not conspicuously just out laterad; ventral foliaceous strip broad, narrowing towards front. Postpetiolar disc trapezoidal, little broader than long, conspicuously convex in both directions; dorsal spongiform borders and appendages rather modest, the parts bordering the sides of the postpetiolar disc not projecting nor visible in dorsal view; inferior appendages better developed, as shown in Fig. 2. Gaster with antero-dorsal narrow spongiform margin and a well-developed antero-ventral pad of spongiform hairs.

Specimens examined: 16 workers (holotype and paratypes), partly damaged and fragmentary, found already dead in the refuse material dropped from an arboreal nest of *Acromyrmex hystrix* (Latreille), at Belém, Pará State, Brazil, on November 7, 1974, by D. Dias (WWK nº 13445). I wish to thank my colleague, Prof. D. Dias, for bringing these specimens to my attention and depositing them in my collection.

Discussion. This interesting new species is a close relative of *S. princeps* Kempf & Brown (1969), likewise from the Amazon, with which it agrees in the relatively short and stout mandibles bearing a single, minute intercalary denticle on apical fork and a single preapical denticle; in the lack of reclinate and elaborate ground pilosity having instead simple, short, bristly, erect to oblique hairs on body and appendages; in the deep constriction in front of the protruding eyes which point obliquely forward.

The differences from *princeps* are as follows: 1. Size much smaller, total length 3.7-3.8 mm (as compared with total length of *princeps*: 4.5-5.1 mm); head somewhat narrower, cephalic index 72-74 (*princeps*: 76-80) and mandibles comparatively longer, mandibular index 51-54 (*princeps*: 41-45). 2. Dorsum of head, thorax, petiolar and postpetiolar

node coarsely reticulate-rugulose; the promesonotum usually shows a vestigial sagittal carinule. 3. Propodeum with distinct though low infradental lamellae. 4. Tergum I of gaster densely and finely striato-costulate on basal 4/5, sericeous-opaque; pad of spongiform hairs on sternum I of gaster much better developed. 5. Hairs in general more numerous, especially on petiolar and postpetiolar nodes and on tergum I of gaster, on the latter they are inclined mesad on both sides; no long hair projecting from sides of occipital lobes; promesonotum with a stiff, longer hair on each corner, the anterior pair, arising from the scapular tubercle, subflagellate.

With the present species, *S. thomae* (named after Father Thomas Borgmeier), the still incompletely known *Strumigenys* fauna of the Brazilian Hyleia attains the number of 20 species, the largest number for any territorial fauna of *Strumigenys* in the Neotropical Region. Thus the hyleian fauna even surpasses the much better investigated Central-American fauna which numbers 18 species.

Appendix

After the publication of Brown's synopsis (1962), the following Neotropical species have been described in genus *Strumigenys*: *trudifere* and *princeps* Kempf & Brown (1969), *cosmostela* and *gemella* Kempf (1974), and *thomae*, the presently diagnosed new species. In order to update Brown's very useful key (1962: 257-264) to the Neotropical species of *Strumigenys*, I present the ensuing additions respectively modifications to be incorporated in this key:

- a) In couplet 5, lug 1, second line, delete: (Panama)
 *longispinosa* Brown, and add: 5a
- 5a. Mandibles longer than head length ($MI > 100$); hairs on leading edge of antennal scape few in number, only 4 or 5, fine, as long as first funicular segment, hairs 2 and 3 inclined basad, the remaining apicad (Brazil: Amazon valley)
 *trudifera* Kempf & Brown
- Mandibles shorter than head length ($MI < 100$); hairs on leading edge of antennal scapes more numerous, 8-10, short, spatulate, all inclined apicad (Panama and n. Colombia) *longispinosa* Brown
- b) Couplet 12 should be changed and added to as follows:
12. Large hairs of gastric dorsum uniformly short and simple, either erect or inclined mesad on both sides; hairs on leading edge of antennal scapes erect, not incrassated apically 12a
- Large hairs of gastric dorsum either remiform or fine, long and flagellate; hairs on leading edge of antennal scape strongly curved apicad and usually with incrassated tip 12b
- 12a. Tergum I of gaster densely longitudinally striato-costulate in nearly its entire length, sericeous-opaque; upper surface of head and thorax reticulate-rugose (Brazil: Pará) *thomae* Kempf

- Tergum I of gaster entirely smooth and shining except for the short basidorsal costulae; upper surface of head and thorax reticulate-punctate only (Brazil: Amazonas *princeps* Kempf & Brown
- 12b. (As couplet 12 in the original key).

c) Couplet 42 is to be modified as follows:

42. Erect hairs of gaster stiff, slightly clavate or remiform; spongiform appendages little developed on petiole and postpetiole, the former lacking a ventral sagittal spongiform strip (known from female only; possibly an inquiline in nest of *S. leavipleura*; Colombia) *xenognatha* Kempf
- Erect hairs of gaster flexuous, long, flagelliform, few in number; spongiform appendages well-developed on petiole and postpetiole, the former with a ventral sagittal spongiform strip 42a
- 42a. Smaller species, with shorter (HL < 0.75 mm) and broader (CI > 80) head; eyes very small with fewer than 20 facets; lower propodeal teeth not developed (Brazil: Pará) *cosmostela* Kempf
- Larger species with longer (HL > 0.75 mm) and narrower (CI < 80) head; eyes larger with more than 20 facets; lower propodeal teeth well developed 43

d) Couplet 44 is to be changed as follows:

44. Postpetiolar node smooth and shining above when clean; mandible with 3 preapical teeth or denticles 44a
- Postpetiolar node densely reticulate-punctate above, opaque; preapical dentition of mandibles variable 45
- 44a. Proximal preapical tooth of mandibles by far the longest, followed distad by two minute denticles; tergum I of gaster with an anterior foliaceous border; sternum I of gaster with a conspicuous anterior pad of spongiform hairs (Colombia) *gemella* Kempf
- Proximal preapical tooth of mandibles shorter than the two distal ones, the first of the latter being longest; tergum I of gaster without an anterior spongiform border; sternum I without a distinct pad of spongiform hairs (Colombia) *laevipleura* Kempf

References

- Brown, Jr., W. L., 1962. The Neotropical species of the ant genus *Strumigenys* Fr. Smith: Synopsis and keys to the species. Psyche, Cambridge, 69 (4): 238-267, 30 figs.
- Kempf, W. W. & W. L. Brown, Jr., 1969. Two new *Strumigenys* ants from the Amazon valley in Brasil. Rev. Brasil. Biol., 29 (1): 17-24, 5 figs.
- Kempf, W. W., 1974. Report on Neotropical Dacetine ant studies. Rev. Brasil. Biol., 34 (3): 411-424, 12 figs.