

THE NEOTROPICAL SPECIES OF THE ANT
GENUS STRUMIGENYS FR. SMITH:
GROUP OF CULTRIGER MAYR
AND S. TOCOCAE WHEELER

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The present paper is a continuation of my series on the New World fauna of the dacetine ant genus *Strumigenys* Fr. Smith. Earlier parts, containing keys to the abbreviations for measurements and proportions, may be found in Jour. New York Ent. Soc. 61: 53-59, 101-110 (1953). Other parts are in press.

Discussed here are *S. cultriger* Mayr, *S. deltisquama* new species, and *S. tococae* Wheeler, considered as members of the *mandibularis* series. *S. cultriger* and *S. deltisquama* seem to be related, and these two may be considered as members of group *cultriger*. They are characterized by having basic *mandibularis*-series mandibular dentition, with the addition, on the inner or masticatory borders of each of the shafts, of a straightedged, translucent lamella which ends in a right angle just short of the proximal preapical tooth. *S. cultriger* shows obvious close relationships to the *smithii* group of the *mandibularis* series; *S. deltisquama* is somewhat more aberrant.

S. tococae has *mandibularis*-series dentition, except that the apical fork has two, instead of only one, intercalary teeth. A rudimentary lamella is also present on the inner mandibular border, but this does not imply a close relationship to the *cultriger* group; in fact, the relationships of *tococae* are obscure, and its assignment to the *mandibularis* series is tentative.

Each of these three species remains known from a single collection at the present time, so little can be said concerning their probable distribution. *S. tococae* is known to inhabit plant cavities above the ground, and its very large eyes appear to represent an adaptation to arboreal foraging habits.

Strumigenys cultriger Mayr

Strumigenys cultriger Mayr, 1887, Verh. zool-bot. Ges. Wien, 37: 571, worker. Type loc.: Santa Caterina, Brazil. Lectotype (so labelled) in Naturh. Mus. Wien., by present selection.

Worker (notes based on lectotype, loaned through the courtesy of Dr. M. Beier): TL 3.7, HL 0.85, ML 0.51, WL 0.90 mm.; CI 77, MI 60. Antennal scape L 0.63 mm.; antennal funiculus segments, I 0.14, II 0.07, III 0.10, IV 0.23, V 0.37 = total funiculus L 0.91 mm.

In general habitus and proportions very similar to *S. prospiciens* Emery, but slightly larger overall, and with a narrow but distinct translucent margin or lamella extending along the inner mandibular border to very slightly beyond the midlength of the exposed length of the mandible, where it ends abruptly in a rectangular corner a trifle proximad of the proximal preapical tooth. Dentition as in other *mandibularis*-series species; preapical teeth spiniform, widely spaced, the distal shorter than the dorsal apical tooth, but nearly twice as long as the proximal preapical tooth.

Propodeum with dorsal surface a bit shorter and more convex than in *prospiciens*, and the lamellae much different, vestigial, represented only by a minute subrectangular dorsal tooth trailing a fine bordering carina on each side of the declivity.

Petiole and postpetiole opaque, as in *prospiciens*, but with more strongly convex dorsonodal surfaces and less well developed spongiform appendages. Gaster smooth and shining, the basal costulae obsolete. Mesokatepisternum smooth and shining; body otherwise opaque.

Reclinate, linear-spatulate hairs of ground pilosity more numerous and conspicuous than in *prospiciens* or *smithii* Forel, found on cephalic dorsum, clypeus, scapes, legs, promesonotum, posterior propodeum, and both nodes. Gaster with no conspicuous erect hairs except a few very fine curved ones along anterodorsal margin and on venter; very fine, dilute, but fairly long reclinate pubescence-like pilosity over dorsal and posterior ventral surfaces. Specialized erect hairs limited to two linear-spatulate pairs, one on humeri and one straddling mesonotum. Mandibular and trigger-hairs much as in *prospiciens*, *smithii* and relatives. Color medium ferruginous; appendages, anterior and posterior extremities of gaster a trifle lighter and more yellowish.

This ant can be distinguished readily from other *mandibularis*-series species by means of its mandibular lamellae, ending

near midlength of the shafts, and by the peculiar reduction of propodeal lamellae and gastric pilosity. See also under *S. deltisquama* below.

***Strumigenys deltisquama* new species**

(Fig. 1, a, b.)

Holotype worker: TL 2.6, HL 0.63, ML 0.34, WL 0.60 mm.; CI 97, MI 54. Scape, exposed L 0.28 mm.; funiculus L 0.48 mm.; apical segment L 0.23 mm.

Form of head, mandibles and a scape shown in fig. 1, b, with pilosity omitted from all parts except anterior clypeal and scape borders. With all the pilosity in place, the head appears relatively shorter and broader and the mandibles shorter, a common type of illusion in heavily pilose dacetine ants. Each inner mandibular margin bears a straight border of translucent lamella extending to the apical quarter of the exposed length, where it ends abruptly and subrectangularly just basad of the proximal preapical tooth (see fig. 1, a). Apical fork with a single intercalary tooth. Dorsal surface of head gently and evenly convex. Compound eye circular, moderate in size, slightly prosopient and usually just barely visible in direct dorsal view of head, with about fifteen facets, four in greatest diameter (equal to 0.04–0.05 mm.). Lateral surfaces of head just in front of eyes broadly and rather deeply concave, the concavity not interrupting the preocular lamina, which arches above it to reach the eye behind; the concavities are not extended mesad ventrally to form any "postoral grooves."

Promesonotum broad, subcircular in dorsal view, without humeral angles, depressed, surface gently convex, feebly impressed at site of obsolete promesonotal suture. Posterior mesonotum much narrowed, metanotal groove feeble, scarcely interrupting uniconvex alitruncal profile. Propodeum short, narrow, with a pair of sturdy acute teeth slightly shorter than the distance between the centers of their bases and subtended by narrow, concave, cariniform infradental lamellae. Petiolar peduncle slender, arched, naked beneath, subequal in length to the node; node distinct, just about as long as it is broad behind; from side view with differentiated subequal anterior and dorsal profiles; spongiform appendages confined to a thick rim around posterior margin of node. Postpetiole transverse-oval, small, but wider than petiolar node, maximum width about 0.17 mm., convex, with narrow spongiform margins and moderate lobes beneath; sides partly naked.

Mandibular apices and under-surfaces, apical gastric segments and median posterior gastric venter more or less smooth, shining; body otherwise completely and densely punctulate and opaque. Base of gaster with feeble superimposed costulation extending about half the length of the first segment. Head, with clypeus and scapes, and promesonotum densely covered with thick, orbicular, opaque, yellowish, squamose or stud-like hairs, pseudo-appressed, uniform in size, but those on the promesonotum slightly larger. A few other thick squamose hairs also along the sides of the propodeal dorsum, and one applied to the dorsal surface of each propodeal tooth, a

few each on the petiolar node and around lateral and posterior borders of postpetiolar node. The squamose hairs of the anterior scape borders have their blades curved ventrad at the apices, and thus appear deltoid to dorsal view; the specific name is in reference to this. Legs with reclinate spoon-shaped hairs; nodes with a few posteriorly-curved, suberect, narrowly spatulate hairs. Gastric dorsum with about six transverse rows of six posteriorly inclined, erect, flattened-clavate hairs, all conspicuous. Inconspicuous fine pilosity on ventral surfaces of head and gaster. Each mandible with three or four dorsal rows of slender, oblique pointed hairs. No trace of specialized erect hairs on head or alitrunk. Feebly concave sides of alitrunk largely naked; only three or four squamose hairs along ventrolateral prothoracic margin on each side. Color uniform light ferruginous.

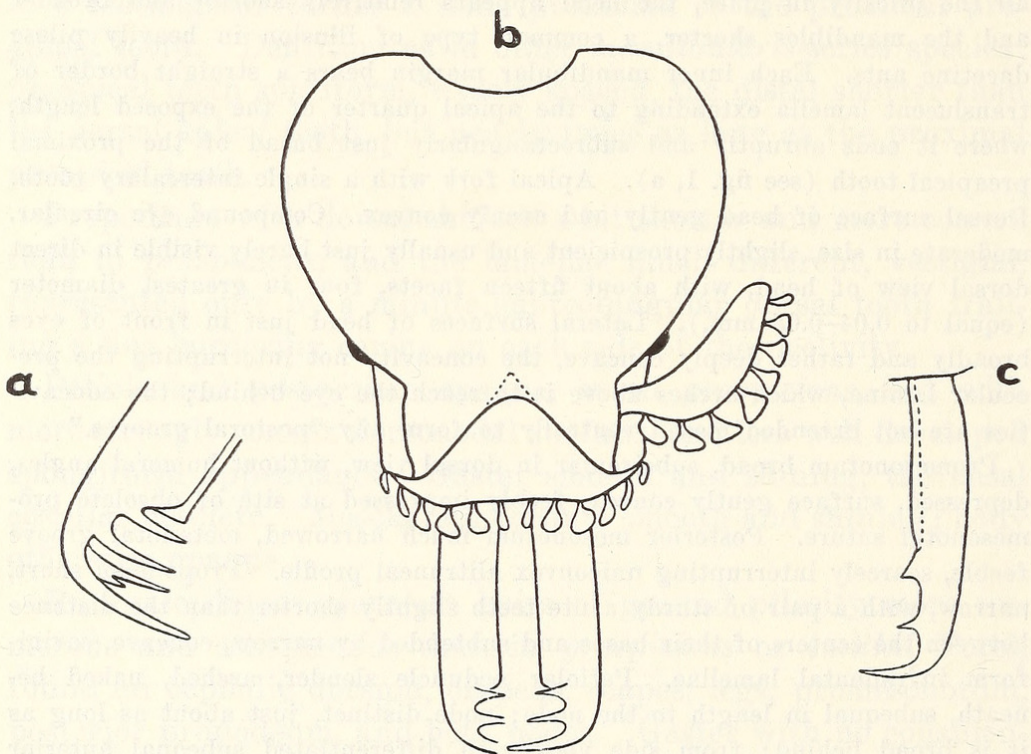


FIG. 1, a and b, *Strumigenys deltisquama* new species; a, apex of right mandible in detail, oblique dorsal view; b, head and mandibles, dorsal view, pilosity largely omitted (paratype worker); c, *Strumigenys tococae* Wheeler, left mandible, dorsal view (syntype worker).

Holotype selected from a series of workers taken by K. W. Cooper during January, 1941, on Barro Colorado Island, Panama Canal Zone. Holotype and paratypes in Museum of Comparative Zoology, Harvard University; paratypes in U.S. National Museum, Coll. K. W. Cooper, and elsewhere. Paratypes, all from type nest series, showed only very slight variation: TL 2.5–2.7, HL 0.62–0.67, ML 0.34, WL 0.60–0.63 mm.; CI 95–97, MI

51-55. Nothing is recorded concerning the biology of this ant, but the type locality is covered with rainforest.

S. deltisquama differs strongly from *S. cultriger* in the form of the head, which in the latter is similar to *S. prospiciens*. The mandibular teeth of *deltisquama* are also much closer to the apex of the mandible and to each other, and the lamella extends much farther along the shaft. There are also wide differences in size, sculpture and pilosity, as well as in the form of the propodeal lamellae or teeth.

Strumigenys tococae Wheeler

(Fig. 1, c.)

Strumigenys tococae Wheeler, in Wheeler and Bequaert, 1929, Zool. Anz., 82: 31, worker. Bequaert, *op. cit.*, p. 23, biology. Type loc.: Pará [Belém], Brazil. Syntypes in Mus. Comp. Zool., Harvard Univ., and elsewhere.

Worker (measurements from largest and smallest specimens of 8 in available syntype series): TL 3.3-3.6, HL 0.80-0.85, ML 0.44-0.47, WL 0.80-0.87 mm.; CI 75, MI 55. Max. diameter of compound eye 0.14-0.15 mm. This species is easily recognized by means of its very large, laterospicent eyes and by its distinctive mandibles.

In figure 1c, a mandible is shown in dorsal view, so as to display the preapical dentition and the narrowly lamellate internal margins. The apex of the mandible as seen end-on has two widely diverging teeth forming the apical fork, approximately equal in length, and between these, two shorter but acute intercalary teeth. The shafts lie close together and parallel at full closure. The head shape in general is that of many species of the *mandibularis* series and of the *emeryi-hindenburgi* groups. A very fine lamella or carina borders each antennal scrobe dorsally to mark the dorsolateral cephalic margin on each side.

Antennal scape slender; funiculus also slender, its second and third segments both longer than broad, the third much longer than the second. Promesonotum strongly convex, with well developed humeral angles, median longitudinal carinula and low, flange-like borders dorsolaterally. Impression in region of extreme posterior mesonotum and metanotum broad and deep; propodeal dorsum weakly convex, sloping ventrad posteriorly.

Propodeal teeth prominent, slender and acute, elevated, the upper tooth longest; upper and lower teeth on each side connected by a low, deeply concave lamella.

Petiole with a distinct, slender peduncle subequal in length to the node; node semiglobosely rounded, bicarinulate, its free portion seen from above nearly or quite as long as broad. Postpetiole broader than long and broader than the petiolar node, its free disc strongly convex, longitudinally costulate, opaque. Both nodes with voluminous lateral, posterolateral and ventral spongiiform appendages. Gaster strongly longitudinally costulate at base for about $\frac{1}{3}$ length of basal segment. Anteroventral spongiiform pad of gaster prominent. Gaster otherwise smooth and shining, with scattered punctures.

Mandibles rather smooth, weakly shining; body and most of appendages otherwise finely punctate-reticulate, opaque. Head, with clypeus, promesonotum, posterolateral borders of propodeum, appendages, both nodes and gastric dorsum with abundant, rather evenly distributed, inverted lineocochlear ground pilosity, most hairs arched-reclinate, moderate-sized and fairly conspicuous. Vertex with a pair of erect remiform hairs; long flagellate hairs paired on humeri, others distributed sparsely over nodes and both surfaces of gaster. Mandibles with slender appressed hairs; inner margins each with about 9 slender, tapered, oblique sensory hairs; trigger hairs of labrum long, fine, curved. Color even light ferruginous yellow.

Dr. J. C. Bequaert took this species in some numbers in the peculiar foliac sacs of a species of the myrmecophyte *Tococa formicaria* Mart. group at Belém, in which circumstances he found it the commonest ant species. Several species of ants yet remain to be described in the arboreal *Strumigenys* fauna of South America, and one or more of these may prove to be closely related to *S. tococae*.



Brown, William L. 1955. "The Neotropical Species of the Ant Genus *Strumigenys* Fr. Smith: Group of *Cultriger* Mayr and *S. Tococae* Wheeler." *Journal of the New York Entomological Society* 63, 97–102.

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