The Neotropical Species of the Ant Genus Strumigenys Fr. Smith: Group of silvestrii Emery

By William L. Brown, Jr.

Museum of Comparative Zoology, Harvard University

(With 1 text-figure)

This 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. vol. 61: pp. 53-59, 101-110 (1953). In addition to these, other parts have been published or are being prepared. It is planned to end the series with an illustrated key to all the New World species of the genus.

The group of *S. silvestrii* Emery includes three species of minute size and sharing a basic plan of mandibular dentition. The mandibles each have, in addition to the apical fork, one acute preapical tooth plus an additional, exceedingly minute denticle that is situated more or less near the midlength of the inner border of the shaft. This denticle evidently corresponds to the more proximal of the two preapical teeth in the *mandibularis* series, and to the denticle, present but so difficult to see, in species such as *S. emeryi* Mann and *S. hindenburgi* Forel. Often, such denticles rise from the dorsal face, rather than the masticatory face proper, so that they can be seen clearly only in oblique view, and then the mandible often needs to be darkened in silhouette against a brightly lighted background.

The affinities of the *silvestrii* group species may be closest with the *louisianae* group, through species like *S. mixta* Brown, though similarities are also noted with the *mandibularis* series and with *S. perparva* Brown.

Strumigenys silvestrii Emery

(Fig. 1)

Strumigenys silvestrii Emery 1905, Bull. Soc. Ent. Ital. 37 : 168, fig. 27, worker. Type loc.: Santa Catalina, Buenos Aires, Argentina. Syntypes in Mus. Civ. Stor. Nat. Genoa, and Mus. Comp. Zool., Harvard Univ.

Strumigenys gundlachi, Creighton, 1930, Jour. N. Y. Ent. Soc., 38 : 179, fig. 1 A, worker, *nec* Roger.

Strumigenys (*s. str.*) *caribbea* Weber, 1934, Rev. Ent., Rio de Janeiro, 4 : 43, fig. 12, female, worker. Type loc.: Soledad, Cienfuegos, Cuba. Syntypes: Mus. Comp. Zool., Harvard Univ. NEW SYNONYMY.

...(see below): TL 1.7-2.1, HL 0.42-0.47, HW 0.34-0.37 (CI 77-81), ML 0.24-0.26 (MI 55-60), WL 0.41-0.50 mm.

A rather ordinary-looking *Strumigenys* of very small size, with reduced compound eyes (apparently with only 2-5 pigmented facets). The outline of head and mandibles of an average specimen is shown in Figure 1. Note the nearly straight mandibles, the short distal preapical tooth, slender and half or less as long as the teeth of the apical fork, and situated close to the fork. The fork itself is composed of two equal teeth; an intercalary denticle may be present, obsolescent, or lacking, according to colony, individual, or even on opposite mandibles of the same individual. The antennae are slender; scapes slightly incrassate and bent in the basal quarter; funiculus slender, with apical segment 0.25-0.27 mm. long.

Alitrunk gently convex in lateral-view profile, with a slight interruption at the shallow, narrow metanotal groove. Pronotum as seen from above rather broad, tapering to steriad, with a distinct, rounded margin in front and feebly indicated, obtuse humeri, each of which bears an indistinct tubercle carrying a specialized humeral hair. Promesonotal suture incomplete. Propodeal teeth short but acute and elevated, each continuous with a narrow, concave infradental lamella ending ventrally in a variable angle or lobe.

Petiole with a small, rounded node, a little broader than long and not quite twice as wide as the widest part of its anterior peduncle; anterior nodal slope rounded and gentle, bicarinate where it joins the peduncle; petiolar spongiform appendages much reduced, consisting only of a narrow postero-dorsal collar that is expanded on each side into a small postero-lateral lobe. Postpetiole reniform, its disc convex, smooth and shining, sometimes with marginal areas of indistinct roughening; spongiform appendages fairly well developed as ventral and posterolateral lobes. Gaster smooth and shining, with 8-12 coarse, spaced costulae extending caudad ¼ or more the length of the basal segment from its base.

Head, alitrunk and petiole reticulate-punctate, opaque; posterior sides of alitrunk smooth and shining over lower 2/3 or more.

Ground pilosity consisting of small, curved, linearspatulate, subreclinate hairs, abundant on the head, where they are mostly directed anteromesad, and sparse on the alitrunk, where most

are directed mesad. Marginal clypeal and anterior scape hairs as shown in Figure 1. Specialized erect hairs stiff, with narrowly spatulate to clavate apices: one pair spaced on the occiput, one

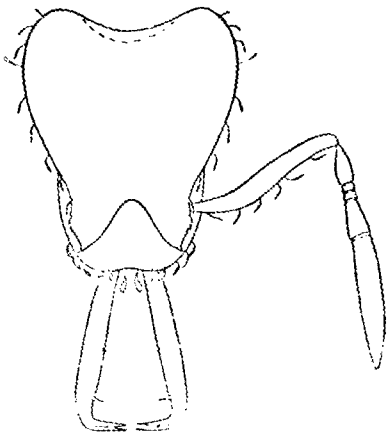

Figure 1. *Strumigenys silvestrii* Emery, worker, dorsal view outline of head. Only fringing pilosity is shown, mandibular hairs omitted (Drawing by Nancy Buffler).

hair on each lateral occipital border (Fig. 1), one on each humerus, one on each side of the mesonotum, two pairs on petiolar node, four pairs on postpetiole, and 16-20 hairs, arranged roughly in rows of 4, on the basigastric tergum. There are finer hairs on the gastric apical segments and beneath the gaster, on the sides of the two nodes, under the head, on the tarsi, posterior borders of scapes, lateral surfaces and tips of mandibles, etc. The oblique pointed hairs on the inner mandibular borders are present (4-5 on each border) but inconspicuous.

Color light yellow (syntypes of *silvestrii*) to medium ferruginous (most other specimens).

Female, mainly from a dealate specimen of the type nest series of *silvestrii*: TL 2.3, HL 0.48, HW 0.39 (CI 81), ML 0.25 (MI 51), WL 0.56 mm. With the usual female characters. Mesonotum finely longitudinally rugulose in addition to finer ground sculpture. Petiolar node much compressed from front to rear, its summit transverse, the anterior corners rectangular, or even tuberculate. Surface of basigastric tergite, in addition to basal costulae, with loose, indefinite longitudinal sulcation or striation running its full length, so that the surface is less strongly shining than in the worker. Extra pairs of

specialized erect (spatulate) hairs: one pair on vertex, 3-4 pairs on mesonotum. Color as in worker of same series.

Material examined, in addition to types of *silvestrii* and *caribbea*: Parque Avellanida, Tucumán, Argentina (P. Wygodzinsky). Nova Teutonia, S. Catarina, Brazil (F. Plaumann). Paradis, Louisiana, U.S.A. (R. S. Howard).

A small lot from Tucumán, Argentina (N. Kusnezov, N° 9189) includes a *silvestrii* female and some larger dacetine males (TL 3.1 mm.) that may not belong together. These males have characters that would not be expected in this group, so I shall not describe them here.

The Louisiana record is the first for this species from North America. Like the Cuban record, it probably represents an introduced population. Howard took the single worker from a basal rot hole in a live oak tree.

Strumigenys schmalzi Emery

Strumigenys schmalzi Emery, 1905, Bull. Soc. Ent. Ital., 37: 169 nota, fig. 28 worker. Type loc.: Joinville, Santa Catarina, Brazil. Type in Mus. Civ. Stor. Nat., Genoa.

Worker, from a specimen collected at Agudos, São Paulo State, Brazil, by W. W. Kempf (N° 1321): TL 1.75, HL 0.42, HW 0.33 (CI 79), ML 0.27 (MI 64), WL 0.44, scape L 0.29, apical funicular segment L 0.27 mm.

Similar to *S. silvestrii* in size and general habitus, but with relatively longer mandibles and the following other differences:

1. Distal preapical tooth of mandible long, as long as the teeth of the apical fork, and situated more than its own length distant from the apical fork. No intercalary denticle in apical fork. Proximal preapical denticle slightly basad of mid-ML. The mandibular shafts are very slightly more bowed than in *silvestrii*.

2. Propodeal teeth somewhat shorter than is usual in *silvestrii*, though this is doubtless a variable character. Petiolar node wider, more than twice as wide as its anterior peduncle, rectangular as seen from above, and with straight anterior border; anterior face sloping steeply. Spongiform appendages of both petiole and postpetiole more voluminous than in *silvestrii*, but the petiolar appendages still modest in size, with only the lateral lobes of the posterodorsal collar developed.

3. The hairs of the ground pilosity are shorter and more broadly spoon-shaped, and they hug the surface of head and alitrunk more closely. The clypeal hairs and those fringing the anterior scape borders are correspondingly shorter and wider.

On the other hand, the specialized erect hairs are fine and flagelliform, though occupying positions similar to the stiff spatulate hairs of *silvestrii* on the lateral occipital margins, humeri, nodes and gastric dorsum. Some of these fine hairs, especially on the gaster, are looped back on themselves, and may therefore falsely appear to be spatulate.

The Agudos specimen described above fits Emery's description and figure so well that I have no doubts about the correctness of the identification, even though I have seen no types. As measured from Emery's drawing of the worker head, CI is about 77 and MI about 65. In Emery's figure, the basal portion of the inner mandibular border has an angular thickening that I take to be an exaggeration or error made in drawing.

Although to date this minute species has been found only in Santa Catarina and São Paulo states, its size and probable crytobiotic habits have allowed it to escape detection, and it is likely that it is actually more widespread in southeastern Brazil and perhaps even in Argentina. The original collection was made "with *Solenopsis geminata*", undoubtedly really one of the color forms of *S. saevissima*.

Strumigenys carinithorax Borgmeier

Strumigenys (*s. str.*) *carinithorax* Borgmeier, 1934. Arq. Inst. Biol. Veg., Rio de Janeiro, 1 : 103, fig. 4 (wrongly labeled as fig. 6), pl. 1, fig. 3, worker, dealate female, male. Type loc.: Paramaribo, Dutch Guiana. Types in Coll. Borgmeier and M. C. Z.

Worker, from 3 syntypes: TL 1.6, HL 0.36, HW 0.29-0.30 (CI 81-83), ML 0.21-0.22 (MI 54-61), WL 0.41, scape L. 0.23 mm.

Resembles closely *S. schmalzi* except in proportions, especially its shorter (and slightly more bowed) mandibles and funiculi (apical funicular segment L. 0.22 vs. 0.27 for *schmalzi* (worker). Also the following differences:

1. Apical and distal preapical teeth shorter, and the preapical tooth closer to the apical, being separated from the apical fork by only about its own length. Proximal preapical denticle situated slightly basad of mid-ML. Apical fork without intercalary denticle.

2. A strong median carina runs from the anterior pronotal margin to the metanotal groove; best seen in oblique dorsal view in good light.

3. The spatulate hairs of the ground pilosity are shorter and finer, especially on the alitrunk.

4. In the syntypes available, the postpetiole appears partly sculptured and subopaque, but since there is at least some glue over the surface, I cannot be sure that the sculpture is real.

Dealate female, from a syntype: TL 1.8, HL 0.38, HW 0.32 (CI 85), ML 0.22 (MI 57).

Male, from a syntype: TL 1.7, HL 0.37, WL 0.52, Forewing L 1.5.

Borgmeier gives a description and a figure of the wing in the original reference. The mandibles are reduced to very short, rounded flaps, surpassed in length by the under-mouthparts. Spongiform appendages of both nodes developed almost as well as in the worker. Color brown, the lower alitrunk, mouthparts and other appendages lighter, more yellowish.

Known only from the type collection, presumably made in or near a coffee plantation. The relationship with *S. schmalzi* is very close, but the species appears to be distinct enough.