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The ants of the Tribe Dacetini in the State of São Paulo, Brazil, with the description of a new species of Strumigenys (Hymenoptera: Formicidae)

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The ants of the Tribe Dacetini in the State of São Paulo, Brazil, with the description of a new species of Strumigenys. (Hymenoptera: Formicidae)

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(With 4 text-figures)

In his study of the biology of the ants of Brazil, principally of the State of São Paulo, H. Luederwaldt (1926) complained because, in spite of serious and prolonged efforts, he had been unable to detect a single species of Dacetini ants either in the State of São Paulo or in the adjoining State of Minas Gerais. This was rather puzzling, inasmuch as more than 40 years before Hetschko had discovered eight different species of the same tribe in the State of Santa Catarina. All of these were new to science and were described by G. Mayr in 1887.

Specialized collecting methods by means of sifting leaf mould, humus and forest floor cover with the aid of the Berlese funnel helped to prove that these ants are not absent from the State, but may be found almost everywhere. Collections of this kind have been made by the author both at Agudos, in the interior of the State, and in the environs of the City of São Paulo. Although these attempts do not represent a methodical search for these insects, they nevertheless have yielded a total of 13 different species, all of them recorded for the first time in the State, and one of them new to science. The description of the latter species is offered below. All specimens mentioned in this paper are in the author's collection, with the exception of a few duplicates deposited in other collections.

Acknowledgments. — The study of Dacetini ants is now greatly favored by the thorough revisionary papers published since 1948 by Dr. W. L. Brown, Jr. Dr. Brown has also been very helpful in checking some of the identifications, including that of the new species. Furthermore, I wish to express my indebtedness to my confrères Father Columbano Gilbert, O. F. M. and Father Olavo Seifert, O. F. M., for helping in the Berlese funnel collections, and to Mr. Karol Lenko, entomological collector, for furnishing interesting material.

1. **Acanthognathus ocellatus** Mayr, 1887

10 workers and 1 immature female from forest floor cover, collected 5 km. SW of Guararema, S. P., December 29, 1957,

W. W. Kempf leg., cat. no. 2102. The species was described upon material from Santa Catarina, captured by Hetschko. I also have a specimen from Nova Teutônia, S. C., taken by Mr. F. Plaumann. Santschi (1922) records the same species from the State of Rio de Janeiro.

2. **Smithistruma conspersa** (Emery, 1905)

4 workers sucked up by means of an aspirator from a small, round orifice in barren and sandy soil (nest?), at Agudos, S. P., January 15, 1956, W. W. Kempf leg., no. 1510. So far, species was known only from the Argentine Republic. Dr. n kindly confirmed the identification of aforesaid specimens.

3. **Neostruma crassicornis** (Mayr, 1887)

Workers and females captured with the aid of a Berlese inel from vegetable debris on forest floor at the following calities: About 30 workers taken 10 km. SW of Agudos, S. P., n the Paulistânia road, March 25, 1955, W. W. Kempf leg., no. 1402; 1 worker collected in the woods of Sítio S. Francisco, Município de Guarulhos, 30 km. E of São Paulo City, January 12, 1957, O. Seifert leg.; 1 female from forest 5 km. SW of Guararema, S. P., December 29, 1957, W. W. Kempf leg., no. 2104.

4. **Strumigenys denticulata** Mayr, 1887

Many workers and several females collected during 1955 at Agudos, S. P., by Father Gilbert and myself. This species is seemingly rather common at that locality, because specimens of it turned up in nearly every berleseate of leaf mould.

5. **Strumigenys eggersi** Emery, 1890

Several workers and a few females were captured from sifted humus at Agudos, S. P., during 1955, C. Gilbert and W. W. Kempf leg. One female collected at Sítio S. Francisco, near Guarulhos, S. P., O. Seifert leg. The identification was checked by Dr. Brown.

6. **Strumigenys subedentata** Mayr, 1887

About 50 workers from vegetable debris around a rotten stump of a tree, at Agudos, S. P., November 10, 1955, W. W. Kempf leg., no. 1458. Dr. Brown confirmed the identification.

7. **Strumigenys elongata** Roger, 1863

Many workers from several berleseates of leaf mould at Agudos, S. P., during 1955, C. Gilbert and W. W. Kempf leg. 1 worker from Sítio S. Francisco, near Guarulhos, S. P., O. Seifert leg.

8. **Strumigenys louisianae** Roger, 1863

Not uncommon at Agudos. Many workers and a few females captured by sifting the floor cover of open forests, at Agudos, S. P., in 1955, C. Gilbert and W. W. Kempf leg. 1 worker from Sítio S. Francisco, near Guarulhos, S. P., O. Seifert leg.

9. **Strumigenys schmalzi** Emery, 1905

This seems to be a rare species. About half a dozen workers collected from the floor cover of a swamp forest at Agudos, S. P., January and November 1955, W. W. Kempf leg., W. L. Brown det.

10. **Strumigenys perparva** Brown i. litt.

Very few workers from sifted leaf mould, at Agudos, S. P., during 1955, C. Gilbert and W. W. Kempf leg. As Dr. Brown tells me, these specimens coincide with a new species which he described upon material from the Island of Trinidad, B. W. I. The paper is already in press, and will appear very soon.

11. **Strumigenys hindenburgi** Forel, 1915

A single worker, already dead, found among dry leaves on the soil in a wooded gully, 10 km. SW of Agudos, S. P., March 25, 1955, W. W. Kempf leg., no. 1403. The species was described upon material from the Argentine. This is the first Brazilian record.

12. **Strumigenys saliens** Mayr, 1887

20 workers found under the bark of a decaying branch fallen to the ground, in a forest near Barueri, S. P., 30 km. W of São Paulo City, May 1, 1958, K. Lenko leg., no. 321. The specimens are deposited in the collection of Dr. C. A. Campos Seabra, with duplicates in my own collection.

13. **Strumigenys sanctipauli,** n. sp.

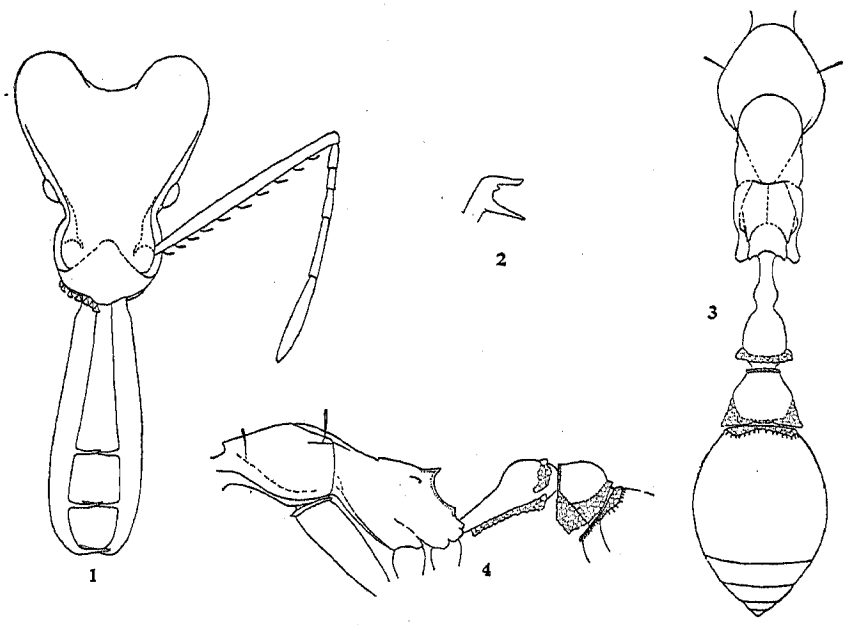
(Figs. 1-4)

Worker (holotype). — Total length 4.4 mm; maximum length of head capsule .98 mm; maximum width of head capsule .75 mm; length of mandibles .96 mm; length of scape .91 mm; length of funiculus .93 mm; maximum diameter of eyes .09 mm; length of thorax 1.03 mm. Cephalic index 76. Mandibular index 98. Color dark ferruginous; mandibles and funiculus more yellowish ferruginous; gaster infuscated, approaching black.

Head (Fig. .1) opaque, elongate cordate, depressed, as in *cordovensis*. Clypeus triangular, flat, its anterior border convex with a still more pronounced and projecting median convexity; its postero-lateral sutures rather distinct. Frontal area not delimited nor visibly impressed. Frontal carinae forming a thin, rounded, projecting lobe which covers completely the antennal insertion, being conspicuously strangulated behind, then diverging, continuing caudad as a scarcely projecting, ill-defined carina, forming the upper margin of the antennal scrobe, fading out completely somewhat in front of the occipital lobes. Preocular lamellae fading out at the level of the anterior orbit of the eyes. Antennal scrobe much shorter than the scape, shallow; its lower border, behind the eyes, not defined. Occipital border deeply excised in the middle between the semicircular occipital lobes, the upper border of the excision submarginate. Integument densely granulate. Upper face of head rather coarsely reticulate-rugose, especially on the occipital lobes. Eyes prominent, about 6-7 facets across the greatest diameter.

Antennae: scape nearly as long as funiculus, straight, with an oblique bend next to its emergence from the socket, slightly tapering towards base and apex, coarsely granulated. Length of funicular segments I: .11 mm, II: .08 mm, III: .10 mm, IV: .23 mm; V: .41 mm.

Mandibles about as long as head, somewhat constricted at the base, basal 3/5 of their length rather straight, then slightly curved inward at their apex, scarcely tilted upward, when seen from the side. Upper and outer face finely and more superficially granulated, except the apical portion between the distal preapical tooth and the apical fork, which is smooth and shiny. Dentition



Strumigenys sanctipauli, n. sp., worker. — Fig. 1. Dorsal view of head. — Fig. 2. Apical fork of mandible. — Fig. 3. Dorsal view of thorax and gaster. — Fig. 4. Thorax and pedicel in profile.

in general as in *cordovensis*. Proximal preapical tooth distinctly shorter than the distal preapical tooth, the distance between these two teeth being greater than the distance between the distal preapical tooth and the apical fork. The latter (Fig. 2) consisting of two subequal long teeth, the lowermost being broader and somewhat shorter. Intercalary tooth rudimentary and very short.

Thorax (Figs. 3-4) opaque, rather coarsely granulated, the reticulate-rugose network less pronounced than on the head. Promesonotum gently convex when seen in profile, much longer than broad when seen from above. Pronotum strongly convex transversely. Promesonotal suture marked by a slightly raised carinule. Mesonotal disc elongate, with partly marginate lateral

borders, tapering off posteriorly nearly to a point. Mesoepinotal suture impressed. Basal face of epinotum with a median longitudinal carinule; lateral borders not distinctly marginate; a rather strong, slightly raised, pointed tooth on each posterior corner, about as long as half the distance between their tips. Declivous face rather steep, angled against the basal face, bordered on each side by a low, cariniform lamella, starting above from the base of each epinotal tooth and ending at the bottom in another much smaller and obtuse tooth. Middle of mesopleura devoid of sculpture, smooth and shiny. Legs granulated.

Petiole (Figs. 3-4) with a long, slender peduncle, suddenly dilated laterally to a spherical swelling, followed by a constriction, in front of the node. Node somewhat longer than broad, strongly convex both longitudinally and transversely. Spongiform appendages in the form of a low, midventral, longitudinal carina, starting somewhat behind the thoracic insertion, and expanded laterally at the posterior end; dorsally on the node, a narrow transverse crest along the posterior border. Body of postpetiole lacking longitudinal costulae on the disc, which is about as long as broad, conspicuously convex both longitudinally and transversely. Spongiform appendages in the form of a very narrow crest on the anterior border and mesially on the posterior border. Postero-lateral and ventral appendages conspicuous, but not as strongly developed as in *cordovensis*. Both segments of the pedicel granulated.

Gaster smooth and shiny. Anterior border of basal tergite with a narrow, transverse, spongiform crest, and numerous extremely short basidorsal costulae. Anterior border of basal sternite with the costumary, yet moderately developed, pad of spongiform hairs.

Ground pilosity of head (including disc of clypeus and lateral borders), dorsum of thorax (very sparse, except around base of epinotal teeth), petiole and postpetiole consisting of rather sparse, reclinate, spatulate hairs. Mandibles, scapes and legs with abundant, reclinate, more elongate, more or less pointed hairs. Besides, there are the following noteworthy features of pilosity: Inner border of mandibles with oblique, projecting, pointed hairs, as in all species of the *mandibularis*-group. Anterior border of clypeus with a row of short, broadly spatulate, projecting hairs, about 7 to each side (On fig. 1, these hairs are shown on only one side!). Anterior border of scape with

10 recurved, elongate, subspatulate hairs, their tips pointing distad. Pronotum with a pair of long, standing, remiform setae on the humeral angles, and another pair on the posterior corners. Disc of postpetiole with longer, pointed, strongly recurved hairs, especially laterally and on the posterior border. Gaster apparently with the same pilosity as in *saliens, i. e.* the basal tergite with widely spaced, minute, pointed, appressed hairs, and a single erect hair antero-laterally close to the spongiform crest. A few longer, recurved hairs on the exposed portion of the remaining tergites. (As regards pilosity, the specimen appears not too well preserved, lacking erect occipital setae and having only traces of the appressed pilosity on the first gastric tergite, the rest probably having been rubbed off.).

Type. — One worker (holotype) collected in the Serra do Mar mountains on the old São Paulo — Santos highway, about 50 km. SE of São Paulo City, W. W. Kempf leg., December 22, 1957 (Coll. Kempf no. 2088). I only discovered the specimen, which had its head severed from the thorax, in the aspirator, among individuals of *Pheidole, Iridomyrmex, Brachymyrmex* and *Solenopsis* spp., picked up from the soil. Probably the specimen had been taken as prey by one of aforesaid ants, which also accounts for its condition.

Discussion. — *Strumigenys sanctipauli,* due to its very elongate mandibles seems to belong to the *cordovensis*-group, which has recently been revised by Dr. Brown (1958). As regards absolute measurements, it comes closest to *dolichognatha,* differing however strikingly in having shorter mandibles (mandibular index!), a longer and straight scape, a shorter funiculus. As far as proportional measurements are concerned, it approaches *rehi* and *sublonga.* But these two species are significantly smaller. The vestigial intercalary tooth of the mandibular fork, the straight, long scape, the short funiculus, the shape of the thorax, especially the epinotal armature, the pilosity and sculpture of the gaster distinguish *sanctipauli* from all other forms of th *cordovensis*-group. In these characters it resembles more the species of the *saliens*-group, forming thus a connecting link between both species complexes. The peculiarly elongated mandibles separate *sanctipauli* from *saliens* and related species.

Resumo

Neste trabalho o autor oferece o primeiro registro de espécies de formigas Dacetini para o Estado de São Paulo. Coletas realizadas em Agudos, interior do Estado, e nos arredores da Capital, levaram ao descobrimento de 13 espécies. Uma destas é nova para a ciência e é descrita sob o nome de *Strumigenys sanctipauli,* n. sp. Faz parte do grupo de *Str. cordovensis* da América Central, das Guianas e da Amazônia, diferindo porém de tôdas as espécies dêsse grupo pelos caracteres do tórax e da pilosidade, em que se aproxima de *Str. saliens.*

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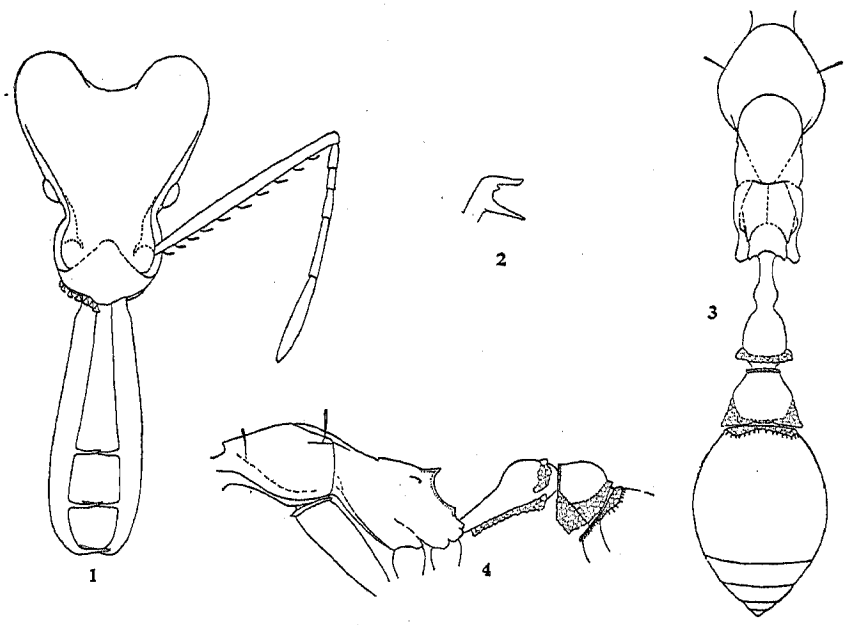

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