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**Three new South American ants
(Hym. Formicidae)**

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Three New South American Ants (Hymenoptera: Formicidae)

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(With 7 text-figures)

Three striking new species of ants, one Ponerine, two Myrmicines, have just come to my attention. Inasmuch as they belong to groups which either have recently been revised (*Gnamptogenys* and *Eurhopalothrix*) or do not need revision (*Blepharidatta*), I decided to propose them at once in the present paper. I beg to thank my colleagues Mr. Karol Lenko and Dr. William L. Brown, Jr. for the permission to describe the new species. This study was performed with the help of a fellowship granted by the «Conselho Nacional de Pesquisas» of Brazil.

Subfamily Ponerinae: Tribe Ectatommini***Gnamptogenys falcifera* n. sp.**

(Figs. 1-3)

Female (holotype). — Total length 5.8 mm; maximum length of head capsule 1.14 mm; maximum width of head 1.22 mm; scape length 0.83 mm; maximum diameter of eyes 0.21 mm; maximum width between frontal carinae 0.69 mm; Weber's length of thorax 1.84 mm; maximum width of thorax 1.01 mm; petiole length 0.56 mm; petiole width 0.53 mm; postpetiole (= tergum I of gaster) length and width 0.80 : 0.91 mm. Black; mandibles, frontal carinae, clypeus, antennae and legs ferruginous. Integument of body subopaque, very finely and densely longitudinally striolate; basal face of epinotum, disc of petiolar and postpetiolar dorsum and the entire tergum II of gaster shining and smooth. Head capsule, thorax (except for the transversely striolate declivous face of epinotum), tergum of petiole, somites I and II of gaster densely covered with large and shallow foveolae. Mandibles, scapes, femora, tibiae, tarsi finely and densely longitudinally striate; funicular segments of antennae finely reticulate-punctate. From the bottom of each foveola arises a short, slightly curved, pale yellowish hair. Hairs

on scapes oblique, subappressed on legs and mandibles; on the latter also longer erect hairs projecting mesad from the internal border and the underside.

Head as shown in Fig. 1; broader than long, broader in front than behind, occipital border gently impressed. Median clypeal apron vertical, not prominent, its antero-lateral angles obtuse. Frontal carinae widely separated, prominent, covering completely the antennal socket from above. Frontal area and frontal sulcus obsolete. Eyes flat, with many facets, about 15 across the greatest diameter. Mandibles (Fig. 2) falcate, with a short basal and a much longer and completely edentate apical border, separated from each other by an obtuse angle or tooth; apex of mandibles obliquely truncate (not seen in Fig. 1 on account of position which renders the apex narrower and more pointed). Scapes greatly curved at base, gradually thickened towards apex; when reflexed obliquely backward over the head, their apex does not quite attain the occipital corner; funicular segments: I longer than broad, II at least as long as broad, III-VIII rather transverse, IX and X as long as broad, XI about twice as long as broad. Thorax, pedicel and gaster as shown in Fig. 3. Declivous face of epinotum impressed, laterally and dorsally sharply marginate. Hind coxae lacking a basidorsal tooth. Tarsal claws simple, only the claws of forelegs have an additional small subbasal tooth. Subpetiolar lobe rectangular with anterior and posterior angles rounded. Gaster of the «Alfaria» type, i. e. the second segment is strongly vaulted downwards and the tip of the gaster points obliquely forward. Basal lobe of sternum I entire, not excised nor cleft in the middle. Wings were lost.

Type. — A lone, dealate female (holotype) collected by W. L. Brown, Jr. in the vicinity of Tingo Maria, Rio Huallaga Valley, Peru, between March 9-12, 1967; to be deposited in the collection of the Museum of Comparative Zoology (MCZ) at Harvard University.

Discussion. — This is a very puzzling form. Whereas the thorax, pedicel, gaster and appendages are practically indistinguishable from the Central American *G. simulans* (Emery), the falcate and edentate mandibles and to a lesser degree the truncate and scarcely prominent clypeus are completely different. It is true that Emery (1896: 41-43) also described the female of *simulans* which proved quite similar to the worker. But his specimens were pseudogynes or ergatogynes at best, since they had only one ocellus and an incompletely developed ptero-

thorax. Hence the possibility of the present form being the fully developed female of *simulans* may not be definitely excluded. Yet it seems quite improbable, since no such caste differences are known in tribe Ectatommini. On the other hand, falcate or subfalcate mandibles are known in another species group of *Gnamptogenys*, both in the worker and female caste, viz. in the forms formerly belonging to the «Emeryella» complex (cf. Brown, 1958: 215, 222, 231, 317). But in the «Alfaria» complex, to which this present species undoubtedly belongs, such a condition is new and unique inasmuch as all other known forms have normal triangular mandibles both in the worker and the females.

Subfamily Myrmicinae: Tribe Ochetomyrmicini

***Blepharidatta conops* n. sp.**

(Figs. 4, 5)

Worker (holotype). — Total length 4.4 mm; maximum length of head capsule 1.12 mm; maximum width of head (eyes excluded) 0.93 mm; scape length 0.77 mm; maximum diameter of eyes 0.13 mm; Weber's length of thorax 1.23 mm; hind femur length 1.07 mm; petiole length 0.72 mm; petiole width 0.24 mm. Dark reddish brown; legs and gaster chestnut brown. Integument opaque, finely and densely reticulate-punctate throughout, with a silky sheen. Microsculpture of gaster rather superficial, therefore somewhat shining.

Head as shown in Fig. 4. Mandibles finely striate; chewing border with 5 teeth, apical and subapical teeth (often worn off) stronger than basal ones, prominent, pointed. Anterior border of clypeus convex; central portion perpendicular, shallowly concave, basal half laterally marginate, the margination ending above in a prominent tubercle or blunt tooth; posterior portion grading into the dorsal face of head with convex and distinct posterior border. Frontal area distinct and impressed. Frontal carinae greatly expanded laterad, covering the sides of head in dorsal view, their lateral border coarsely crenate; just inside the border runs a longitudinal ridge. Dorsum of head with a sagittal impression, broadening caudad and flanked by a pair of diverging, blunt and low ridges, each one sending out laterad two or three very faint transverse ridges. Occiput separated from vertex by an oblique irregular ridge or carina which becomes obsolete in the middle. Occipital corners obliquely truncate, prominent, bearing laterad a blunt excised lobe, mesad a small tooth. Occipital border deeply excised, with a prominent convex lobe in the middle. Antennal scrobe covered by the frontal carinae, deep, attaining the occipital corner, margined below by a carinule running from

the occipital corner to above the eye, with another carinule branching off somewhat behind the eye and terminating below it. Cheeks sparsely, coarsely and irregularly rugose, lower border sharply marginate. Gular face and antennal scrobe without macrosculpture, nearly smooth. Eyes conical, unusually prominent, their depth subequal to their width at base. Scape slender, apically gently incrassate, reaching the apex of the scrobe when lodged in it. Funicular segments: I twice as long as broad, II-VII scarcely longer than broad, VIII slightly, IX conspicuously, X strikingly elongate.

Thorax as shown in Fig. 5. Pronotum with a prominent scapular and posterior tubercle on each side; a similar tubercle, yet fainter, projecting laterad from mesonotum. Dorsal sutures on thorax absent. Antero-inferior angle of pronotum bidentate. Mesopleura with a prominent, triangular, foliaceous lobe anteriorly, projecting forward, laterad of anterior coxae. Epinotum laterally sharply marginate on base, with very long, thin, acute, scarcely raised and little diverging spines, with a prominent infraspinal lamella marginating the declivous face; this infraspinal lamella bears dorsally another small spine, below it a rounded lobe and at the bottom a rectangular tooth. Dorsum and sides of thorax with heavy, irregular ridges and rugae, lacking on epinotum. Basal and declivous face of epinotum separated from each other by a transverse carinule which is narrowly interrupted in the middle. Legs rather long, sharply and finely punctate; femora only gently incrassate; hind tibiae scarcely longer than tarsite I of the same leg.

Pedicel as shown in Fig. 5. Petiole elongate, subcylindrical, anteriorly slightly attenuate both in dorsal and side view. Antero-ventrally with a small denticle (not seen in Fig. 5!). Postpetiole in dorsal view subquadrate, scarcely broader than long, its sides straight and subparallel. Both segments irregularly rugose, but less coarsely so than on thorax. Gaster elliptical, narrowly truncated in front.

Pilosity: numerous long, bristly, standing hairs on dorsum of head, thorax, pedicel and gaster; similar hairs, but conspicuously shorter and scarcer on ventral face of petiole, postpetiole and gaster. Fore coxae with a few long standing hairs projecting from the anterior face. Antennae and legs with shorter, rather dense and oblique hairs. Fringing hairs of frontal carinae shown in Fig. 4.

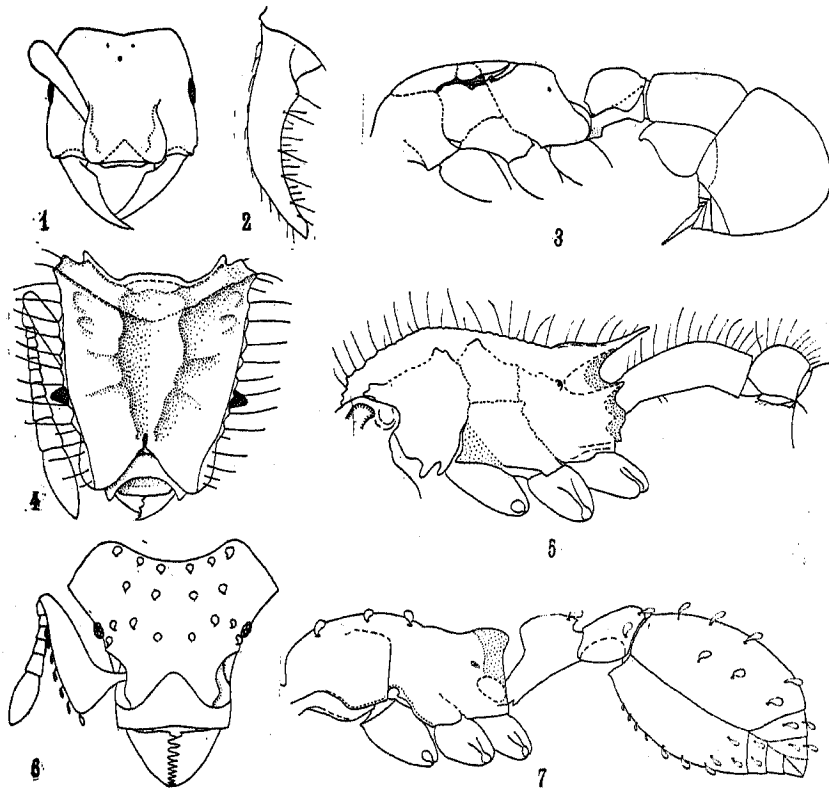


Fig. 1. *Gnamptogenys falcifera* n. sp., female, head. — Fig. 2. *Idem*, mandible. — Fig. 3. *Idem*, thorax, pedicel and gaster. — Fig. 4. *Blepharidatta conops* n. sp., worker, head. — Fig. 5. *Idem*, thorax and pedicel. — Fig. 6. *Eurhopalothrix lenkoi* n. sp., worker, head. — Fig. 7. *Idem*, thorax, pedicel and gaster. (Kempf del.).

Types. — 6 workers (holotype and paratypes) from Fazenda Retiro de Telhas, Três Lagoas, Mato Grosso State, Brazil, taken on May 28, 1964 by Karol Lenko, who discovered them at day time walking on the ground in a xerophilous forest of the savanna type called locally «cerradão». Holotype and 2 paratypes deposited in the collection of the Departamento de Zoologia, São Paulo (DZSP), the remaining paratypes in my private collection (WWK).

Variation. — All six specimens are practically alike. The size variation is very little. The holotype is the smallest of the series. The largest specimens measures as follows: Total length 4.6 mm; head length 1.17 mm; head width (without eyes) 0.96 mm; Weber's length of thorax 1.30 mm; petiole length 0.75 mm; petiole width 0.27 mm.

Discussion. — Heretofore, the genus *Blepharidatta* Wheeler (1915) was monotypical, its sole species being *brasiliensis*, now known from several localities along the Amazon river (Brazil, Pará: Belém, Utinga; Amazonas: Manaus, Igapó Marianil, Itacoatiara) and, strangely enough, recorded also from the Córdoba Province in the Argentine by Gallardo (1916: 319). The true systematic position of the genus, after an eventful odyssey, was finally discovered by Brown (1953: 4) who correctly placed it in the tribe Ochetomyrmicini. Whereas in *brasiliensis* its many striking peculiarities do not mask the basic relationship with *Wasmannia*, in *conops* these differences are carried to a further extreme.

Following are the characters that distinguish *conops* from *brasiliensis*: larger size; darker color; pilosity more abundant with hairs present also on ventral surface of petiole and postpetiole; clypeus with a pair of prominent tubercle; vertex with a broad sagittal furrow flanked by a pair of low and diverging ridges; occiput separated from vertex by a carina; dorsum of head lacking longitudinal rugae; occipital corners broadly and obliquely truncate and bidentate; eyes strikingly conical; antero-inferior corner of pronotum bidentate; epinotal spines relatively shorter, less approximated at base and less diverging at apex; infraspinal lamella with an upper spine and a median lobe; petiole rather cylindrical than clavate without a differentiated node; gaster entirely covered with microsculpture, never partly smooth and shining. According to Wheeler (1915: 485) *brasiliensis* has only 4 teeth on chewing border of mandibles. But according to my observation, both *brasiliensis* and *conops* have 5 mandibular teeth.

Subfamily Myrmicinae: Tribe Basicerotini

***Eurhopalothrix lenkoi* n. sp.**

(Figs. 6, 7)

Worker (holotype). — Total length 4.1 (3.7-4.2) mm; head length 0.93 (0.86-0.93) mm; head width 0.96 (0.91-0.99) mm; thorax length 1.07 (1.02-1.17) mm. Cephalic index 100-106. Reddish brown; middle of cephalic dorsum, underside of head, disc of pronotum, metapleura and epinotum, petiolar and postpetiolar node, gaster more or less strongly infuscated; antennal scrobe, laterotergite of pronotum, mesonotum and mesopleura and legs contrasting by their light, yellowish brown color. Body very finely granulose or shagreened, and in part densely punctulate, opaque. Gaster densely punctulate but shining. Dorsum of head with fine, irregular, more or less longitudinal rugae; disc of pronotum with similar rugae which are more irregular and somewhat reticulate.

Head and body shape, and arrangement of the large specialized hairs as shown in Figs. 6-7. Note the projecting and angulate occipital lobes. Mandibles finely and densely punctate, shining, with the external border practically straight; inner border with 9-11 teeth; basal tooth offset and small. Thoracic dorsum

divided into a large, rounded promesonotum and a much smaller and narrower epinotum, separated from each other by a shallow metanotal groove. Epinotal armature consisting of a pair of broad, subdiaphanous, thin plates containing the obtusely dentate epinotal spine and the not receding infradental lamella. Peticolar node cuboidal, as long as broad, anteriorly rounded, posteriorly sharply marginate and weakly bidentate, excised beneath the dentition; subpetiolar tooth distinct. Postpetiole reniform, transverse, twice as broad as petiolar node, with a postero-median and postero-lateral impressions. Tergum and sternum I of gaster anteriorly marginate and carinulate; sternum I without a sagittal keel.

Large specialized hairs present in full complement, 18 (3 rows: 8-4-6) on head, 3 pairs on thorax, 1 pair on petiole, 2 pairs on postpetiole, 4 irregular longitudinal rows of 4 hairs each (lateral row often with only 3 hairs) on tergum I of gaster. These hairs have a thick, somewhat flattened and spoon-shaped head and are strongly bent at apex (subappressed) except on gaster where they are suberect. Leading edge of scapes fringed with spatulate hairs which are strongly curved basad; dorsal scape surface with similar subappressed spatulate ground hairs. Ground pilosity well-formed and conspicuous on head, pronotum, mesonotum, both nodes and legs, consisting of relatively large, abundant, subappressed scalelike hairs, which are almost half as long as the specialized hairs. Widely scattered and inconspicuous appressed smaller hairs on gaster.

Female (paratype). — Total length 5.6 mm; head length 1.12 mm; head width 1.17 mm; thorax length 1.55 mm. Cephalic index 105. Essentially the same as worker, but of darker color throughout, with large eyes (maximum diameter 0.21 mm), small ocelli, well-developed pterothorax. Pronotum with a pair of specialized hairs on each side; scutum with a median sagittal hairsless groove, flanked on each side by a series of narrowly spatulate, suberect hairs; a specialized hair on each of the paraptera; scutellum with a pair of specialized hairs, posteriorly prominent, feebly bilobed, overhanging the epinotum which practically lacks a basal face. Petiolar node with the same posteriorly carinate border which is excavate beneath. Specialized hairs on tergum I of gaster thinner, erect, more numerous, arranged in 4 irregular longitudinal rows. Wings unknown.

Types. — Brazil, São Paulo State: Caraguatatuba, State Forest Reserve, 40 m altitude, 7-14-VII-1962, K. Lenko leg. n. 2183, 7 workers (holotype DZSP) and 1 female (paratypes:

DZSP and WWK); Ilha das Cabras, near Ilha da Vitória, 25 km off the shore of Ubatuba, 26-III-1964, K. Lenko leg. 4031, 44 workers (paratypes: DZSP, WWK). The Caraguatatuba specimens were found nesting in a bromeliaceous plant growing on a fallen tree trunk in the woods; the specimens from the Ilha das Cabras were nesting in a bromeliaceous plant growing on the soil.

Discussion. — *E. lenkoi*, named after its collector, is one of the more typical members of the *bolau*-group on account of the full complement of specialized hairs. It resembles rather closely *gravis* and *bolau*, but differs by larger size, bigger and more conspicuous ground hairs, the broad epinotal lamellae which do not recede beneath the upper dentate corner, and the sharply marginate postero-dorsal border of petiolar node, which is excised beneath the border and appears in lateral view as a tooth.

In our key (Brown & Kempf, 1960: 245-246) it runs to couplet 4, disagreeing with either lug: with *pitulifera* in having a much broader head with angulate occipital lobes; with all the following species in the broad propodeal lamellae which do not recede beneath the epinotal spine. The posteriorly carinate petiolar node is a unique feature which, among Neotropical species, occurs only in the otherwise completely different *spectabilis* (cf. Kempf, 1962: 27, fig. 25).

References

- Brown, Jr., W. L., 1953. Caracteres and synonymies among the genera of ants. Part II. — *Breviora* (Mus. Comp. Zool.), n. 18, pp. 1-8.
— 1958. Contributions toward a reclassification of the Formicidae. II. Tribe Ectatommini. — *Bull. Mus. Comp. Zool. Harvard*, 118: 175-362, 48 figs.
Brown, Jr., W. L. & W. W. Kempf, 1960. A world revision of the ant tribe Basicerotini. — *Stud. Ent., N. S.*, 3: 161-250, 63 figs.
Emery, C., 1896. Studi sulle formiche della fauna neotropica. XVIII-XXV. — *Bull. Soc. Ent. Ital.*, 28: 33-107, 1 pl.
Gallardo, A., 1916. Notes systématiques et étiologiques sur les fourmis Attines de la République Argentine. — *An. Mus. Nac. Hist. Nat. B. Aires*, 28: 317-344, 3 figs.
Kemp f, W. W., 1962. Miscellaneous studies on Neotropical ants. II. — *Stud. Ent.*, 5: 1-38, 40 figs.
Wheeler, W. M., 1915. Two new genera of Myrmicine ants from Brazil. — *Bull. Mus. Comp. Zool. Harvard*, 59: 483-491, 2 figs.