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Prof. Dr. K. C. G. *Gilbert*

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**New Ants from Southeastern and Central
Brazil (Hym. Formicidae)**

Walter W. Kempf, O.F.M.

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**New Ants from Southeastern and Central Brazil
(Hymenoptera, Formicidae)**

By Walter W. Kempf, O.F.M.
Convento S. Francisco, São Paulo

(With 9 text-figures)

The present paper contains the description of *Gnamptogenys caelata* n. sp. (Subfamily Ponerinae, Tribe Ectatommini), *Trachymyrmex agudensis* n. sp. and *Trachymyrmex dichrous* n. sp. (Subfamily Myrmicinae, Tribe Attini), the types of which are deposited in my collection (WWK). The help received from the "Conselho Nacional de Pesquisas" of Brazil in the form of a stipend is gratefully acknowledged.

***Gnamptogenys caelata* n. sp.**

(Figs. 1-3)

Worker (holotype). — Total length 2.9 mm; head length 0.61 mm; head width 0.50; maximum diameter of eyes 0.13 mm; thorax length 0.83 mm; petiole length 0.29 mm; petiole width 0.39 mm; tergum I of gaster (postpetiole) length and width 0.56 mm; tergum II of gaster length 0.56 mm. Reddish brown; antennae, legs and apical segments of gaster medium brown. Abundant, yellowish and moderately long standing hairs on body; oblique or appressed hairs on scapes and legs, which also bear copious pubescence.

Mandibles triangular, chewing border finely denticulate; blades laterally coarsely rugose and punctate, mesially along chewing border smooth and shining. Head capsule (Fig. 1) elongate, sides slightly converging cephalad, occipital border vestigially impressed in the middle. Clypeus: anteriorly with a small denticle; traversed by a few longitudinal costae, the mesial one much stronger than the lateral ones. Frontal carinae widely separated from each other, the rounded lateral lobes almost attaining the lateral border, constricted and fading out above eyes. The latter very large, moderately convex, with about 8 facets across the greatest diameter. Dorsum of head coarsely longitudinally costate and sulcate, the costae somewhat vermiculate

in front, straightening out toward the rear where they diverge slightly laterad and curve downward, the medial ones on occiput, the lateral ones on the sides in front of the occipital corner; about 20 costae between frontal carinae at the level of eyes. Sides of head longitudinally costate beneath eyes. Costae on gular face more vermiculate, curving mesad in front where they join up with the costae coming from the opposite side. Antennal scapes nearly attaining the occipital corner, reticulate-rugose. Funicular segments III-VIII greatly transverse, I longer than broad, II, IX and X about as long as broad, XI twice as long as broad.

Thorax as shown in Fig. 2. Dorsum longitudinally costate, about 20 costae above on pronotum which bears in front about 4 slightly vermiculate transverse costae; approximately 14 costae above on basal face of epinotum. No dorsal sutures apparent. Sides of thorax coarsely and horizontally costate, costae quite regular. Epinotal teeth small. Declivous face baso-laterally longitudinally costate, costae curving mesad above and in the middle, fusing with those coming from the opposite side. Fore coxae sharply horizontally costate, middle and hind coxae somewhat reticulate-punctate and superficially to vestigially costate. Hind coxae with a minute but acute basidorsal tooth. Femora and tibiae smooth and shining.

Petiole as shown in Figs. 2 and 3. Node transversely vermiculate-costate in front and on sides, dorsum with transversely arched costae. Posterior face, above gastric insertion, smooth and shining, with a few arching transverse costae. Tergum I and II of gaster regularly and longitudinally costate, sternum I with costae that curve mesad behind, more irregular, interspersed with coarser punctures.

Specimen examined: 1 worker (holotype), collected in April 1965, at Iguacu, Paraná State, southeastern Brazil, by F. Plaumann (WWK n. 4117).

Discussion. — The present species is very close to *striolata* (Borgmeier), exhibiting the following differences: Size significantly smaller; compound eyes much larger; petiole and tergum I of gaster costate and not coarsely punctate; antennal scapes shorter, barely attaining the occipital corner; tergum II of gaster as long as tergum I; subpetiolar process weakly bidentate, excavate between anterior and posterior tooth; sternum II of gaster continuous from side to side, not completely reduced in the middle.

It is interesting to note that *caelata* is somewhat intermediate between *striolata* and the more orthodox species of *Gnamptogenys*.

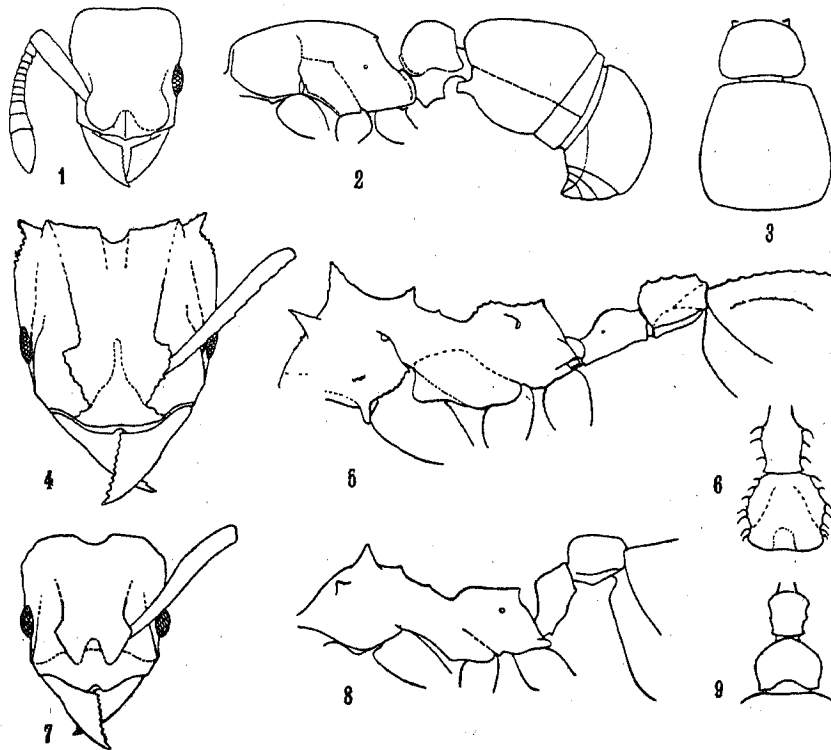


Fig. 1. *Gnampptogenys caelata* n. sp., worker, head in full-face view. — Fig. 2. *Idem*, thorax, petiole and gaster in side view. — Fig. 3. *Idem*, Petiole and tergum I of gaster in dorsal view. — Fig. 4. *Trachymyrmex agudensis* n. sp., worker, head in full-face view. — Fig. 5. *Idem*, thorax and pedicel in side view. — Fig. 6. *Idem*, pedicel in dorsal view. — Fig. 7. *Trachymyrmex dichrous* n. sp., worker, head in full-face view. — Fig. 8. *Idem*, thorax and pedicel in side view. — Fig. 9. *Idem*, pedicel in dorsal view. (Kempf *del.*)

Gnampptogenys striolata (Borgmeier)

Alfaria striolata Borgmeier, 1957, An. Acad. Bras. Ci. 29 (1): 116-7, figs. 27-29 (Worker; Brazil, Santa Catarina: Nova Teutônia).
Gnampptogenys striolata: Brown, 1958, Bull. Mus. Comp. Zool. Harvard 118 (5): 22, 229, 235, 318 (N. comb.).

This interesting species was described upon two specimens from Nova Teutônia. In the meantime I have received the following additional material:

Brazil, Santa Catarina State: Nova Teutônia, VIII-1959, XII-1959, VI-1960, XII-1962, VI-1963, F. Plaumann leg. 5 workers (WWK); Xaxim, XII-1957, F. Plaumann leg. 1 worker (WWK).

Trachymyrmex agudensis n. sp.

(Figs. 4-6)

Worker (holotype). — Total length 6.5 mm; head length 1.52 mm; head width 1.36 mm; scape length 1.28 mm; maximum diameter of eyes 0.25 mm; thorax length 2.03 mm; hind femur length 2.13 mm; petiole length/width 0.48/0.30 mm; postpetiole length/width 0.50/0.50 mm. Color light reddish brown; mandibles, antennae, legs considerably darker; gaster mostly infuscated. Hairs black, often with brownish tips, of variable length, bristly, standing or curved, moderately abundant on body and legs. Conspicuous pubescence only on funiculi, tibiae and tarsi. Integument basically smooth and shining but secondarily covered by a thin and transparent film (of some secretion?) which renders it opaque. Piligerous tubercles mostly absent on body.

Head as shown in Fig. 4. Mandibles smooth and shining apicad and mesad, finely striate basad and laterad; chewing border with approximately 10 teeth, becoming gradually smaller and even obsolete towards base. Clypeus: anterior border deeply notched in the middle; mesial portion oblique, its sides marginate; posterior portion and frontal area somewhat impressed between triangular, laterally irregularly denticulate frontal lobes; frontal area prolonged caudad in the shape of a faint, finger-like, distinctly circumscribed impression. Frontal carinae moderately diverging caudad, their posterior fourth obsolete, not reaching back to the blunt, prominent, denticulate, upper-mesial occipital corner. Preocular carinae split into two branches at level of eyes, the lateral branch fading out at posterior fifth of head, the mesial one slightly behind eyes. Hence the antennal scrobe is not sharply delimited caudad. Eyes flat, kidney-shaped, with nearly 20 facets across greatest diameter. No distinct supra-ocular tumulus, but instead a series of minute teeth. Lateral occipital corner having the form of a somewhat denticulate spine. Inferior occipital corner subangulate in side-view. Inferior border of head immarginate. Occiput deeply notched in the middle. Vertex with a pair of rather vestigial longitudinal carinae. Antennal scape barely reaching tip of occipital spine, its basal fifth smooth, the rest sparsely but coarsely denticulate, its leading edge immarginate. All funicular segments considerably longer than broad.

Thorax as shown in Fig. 5. Pronotum: paired median denticles extremely small, vestigial, separate, lateral spines huge,

sparsely denticulate; antero-inferior corner with a long, finger-like spine; laterotergite with a short denticulate ridge above denticulate inferior border. Anterior mesonotal spines longer and stouter than lateral pronotal ones, denticulate, followed posteriorly by two more pairs, the second pair less than half as long as first, the third in the form of short teeth. Mesoepinotal constriction considerable, lacking a suture. Basal face of epinotum anteriorly with a pair of convex denticulate crests, posteriorly with a short tooth on each corner. Mesopleural lobe broad and apically rounded. Epinotal spiracle protruding. Long, terete femora beset with sparse denticles.

Petiole and postpetiole as shown in Figs. 5 and 6. Both lacking dorsally projecting, piligerous denticles, but having the same sparsely on sides. Dorsum of postpetiole dorsally flattened, postero-mesially shallowly impressed; posterior border scarcely excised. Tergum I of gaster with 4 longitudinal, denticulate, low and rather blunt keels, the lateral ones a bit sharper and better developed than the mesial ones, extending over anterior two thirds of tergum. Piligerous tubercles developed on keels and on posterior third of tergum I. Sternum I with a sharp, low median keel on anterior half.

Female and male unknown.

Specimens examined: 2 workers (holotype and paratype) from Brazil, São Paulo State, Agudos, Fazenda Sto. Antônio, C. Gilbert leg., May 1959 (WWK n. 4429).

The paratype agrees completely with the holotype, even as regards the essential measurements.

Discussion. — This is a rather striking species, characterized principally by the smooth integument; the large, flat, kidney-shaped eyes; the split preocular carinae; the poor development of the median pronotal denticles; the extremely small epinotal teeth; the lack of denticles dorsally on petiole and postpetiole; the shape of the mesopleural lobes; the keeled tergum I of gaster.

In southeastern Brazil, its closest relatives are *urichi* and *oetkeri*, from which *agudensis* differs in smoother integument, triangular rather than subsemicircular frontal lobes, lack of a distinct supraocular tumulus, poorly developed but widely separate midpronotal teeth; shape of mesopleural lobes, poorly developed epinotal spines.

Trachymyrmex dichrous n. sp.

(Figs. 7-9)

Worker (holotype). — Total length 5.0 (4.5-5.1) mm; head length 1.04 (0.99-1.07) mm; head width 0.99 (0.88-1.01) mm; maximum diameter of eyes 0.21 (0.17-0.22) mm; scape length 1.04 (0.93-1.07) mm; thorax length 1.65 (1.51-1.70) mm; petiole length 0.40 (0.35-0.40) mm; petiole width 0.24 mm; postpetiole length 0.38 (0.29-0.38) mm; postpetiole width 0.43 (0.40-0.43) mm; hind femur length 1.65 (1.49-1.70) mm. Head capsule black, rest of body medium brown, scapes and gaster with reddish hues. Long, yellowish brown, silky hairs abundant on head, thorax and pedicel, where they are recurved; same hairs, less recurved and more bristle-like on gaster, strictly oblique on scapes and legs. Dense pubescence of lighter color inclined or appressed on head, pedicel, gaster and appendages, erect or suberect on thorax, but never masking the integument.

Head as shown in Fig. 7. Mandibles smooth and shining except laterally on base where they are finely striate; chewing border with approximately 9 teeth. Head capsule very finely granulate, opaque. Clypeus antero-mesially notched. Frontal lobes triangular, frontal carinae diverging caudad, fading out at posterior third of head. Front and vertex inconspicuously tuberculate, integument rough. Preocular carinae not curving mesad above eyes, but fading out somewhat behind eyes. Posterior half of antennal scrobe indistinct. Supraocular tumulus more or less vestigial; occipital corners likewise not prominent but rounded and edentate. Occiput in full-face view distinctly notched in the middle. No carinae on vertex. Inferior occipital corner indistinctly marginate and rounded. Inferior border of cheeks practically immarginate. Eyes moderately convex, more than 15 facets across greatest diameter. Scapes of antennae as long as head capsule, greatly surpassing occipital corner. All funicular segments decidedly longer than broad.

Thorax as shown in Fig. 8. Integument subopaque but sculpture indistinct. Hairs not arising from prominent tubercles. Pronotum with indistinct humeral angle, antero-inferior corner rounded, lateral teeth low, mesial teeth absent. Mesonotum with rather prominent anterior conical spines, facing obliquely laterad, followed by two pairs of small denticles, the posterior pair almost indistinct. Thorax constricted dorso-laterally at mesoepinotal junction, lacking a suture. Basal face of epinotum narrow,

laterally indistinctly marginate; anteriorly indistinctly, posteriorly distinctly dentate; the latter representing the extremely short and inconspicuous epinotal spines. Epinotal stigma prominent. Femora thin, cylindrical, hind femora about as long as thorax.

Petiole and postpetiole as shown in Figs. 8 and 9. Piligerous tubercles prominent. Petiole pedunculate, node proper twice as broad as peduncle. Postpetiole flattened above, with a deep postero-median excision. Gaster opaque, with minute piligerous tubercles rather evenly distributed. Tergite I antero-laterally vestigially marginate.

Female and male unknown.

Specimens examined: 22 workers, as follows: Brasil, Goiás State, Anápolis, January 7, 1966, W. W. Kempf leg. 16 workers (holotype and paratypes, WWK n. 4230); same locality but different nest, January 4, 1966, W. W. Kempf leg. 4 workers (paratypes, WWK n. 4199); São Paulo State, Agudos, December 13, 1955, W. W. Kempf leg. 1 worker (paratype, WWK n. 1493); Mato Grosso State: Chapada, May 1959, C. Amann leg. 1 worker (WWK, paratype).

Discussion. — Although highly distinctive, *dichrous* belongs to the species-group which is characterized by smooth mandibles, by a more or less defined antennal scrobe, by rather straight preocular carinae that do not curve mesad above eyes, by the lack of a basal lobe on antennae. This group comprises by far the greatest number of species in the genus.

Within this group, *dichrous* may at once be recognized by the ensemble of the following characters: triangular frontal lobes, lack of paired carinae on vertex, lack of an inferior occipital spine or tooth, lack of midpronotal teeth, lack of conspicuous tubercles on thorax, postero-dorsal border of postpetiole deeply excised. In addition, *dichrous* has the antero-inferior angle of pronotum rounded, a character which is only found in *isthmicus* and another still undescribed but otherwise completely different species. *T. isthmicus* differs from *dichrous* in the shape of the frontal lobes, the completely margined antennal scrobe, the presence of midpronotal teeth, the quadricarinate tergum I of the gaster. The same characters, plus the dentate antero-inferior pronotal corner, separate *oetkeri* and *urichi*, the closest sympatric species, from *dichrous*.

The present species, which was found in Anápolis near km 46 of the Goiânia highway, in a scrub-covered xerophilous woodland ("cerrado") by the gravel road leading to Leopoldo Bulhões, at an altitude over 1000 m. The single nest entrance was surrounded by a sizeable crater of loosely heaped up earth crumbs. The lone stray worker from Agudos was taken from the ground in open and rather dry parkland. Hence it is probable that this species is a typical denizen of the vast "campos", that characterize the vegetation of central Brazil.

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