

Miscellaneous Studies on Neotropical Ants. VI.  
(Hymenoptera: Formicidae)

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(With 27 text-figures)

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## Introduction

This paper is one of a series dealing with the New World ant fauna, and destined to gather and record scattered new taxonomic and faunistic information gleaned from routine taxonomic activity. Previous installments have been published in this same journal in preceding years: Stud. Ent., n. I: 1960, 3: 417-466, n. II: 1962, 5: 1-38, n. III: 1964, 7: 145-171, n. IV: 1968, 11: 369-415, n. V: 1969, 12: 273-296.

Aside from giving the description of two new species and proposing five new synonyms, one on the tribal, one on the generic and three on the specific level, I also present important new locality records for species that are poorly known or seldom collected, and the redescription of a few crucial types.

**Acknowledgments.** For sending me type material respectively information concerning the same, I am indebted to Dr. Abraham Willink of the Instituto Miguel Lillo, Tucumán, Argentine (IML), Dr. Claude Besuchet, of the Museum d'Histoire Naturelle de Genève, Switzerland (MHNG), Dr. C. Baroni-Urbani, of the Naturhistorisches Museum, Basel, Switzerland (NHMB). All the remaining material which served for this investigation is deposited in my private collection (WWK), to a great extent a generous gift of several collectors, to be mentioned at the respective places. Thanks are due to the Conselho Nacional de Pesquisa of Brazil, for the fellowship under which a great part of this work was executed, and to the Fundação de Amparo à Pesquisa do Estado de São Paulo, for the donation of modern optic equipment.

**Note on measurements.** The *head length* is the maximum length of the head capsule, as measured between two parallel lines drawn perpendicularly through the anteriormost and posteriormost point of head in full-face view, wherever they are encountered; the *head width* is the maximum width of the head either in front or behind the eyes, unless noted otherwise; the *scape length* is the maximum straight-line length of the segment, excluding the distinctly set-off basal condyle; the *thorax length* is obtained in sideview, by measuring between the anteriormost point of the pronotum («neck» excluded) and the posteriormost inferior «metasternal» angle. The remaining measurements used in this paper are self-explanatory.

## Subfamily Ponerinae

*Ectatomma permagnum* Forel

*Ectatomma strigosa permagna*: Santschi, 1921: 83 (Argentina, Santiago del Estero: Bandara, Barrancas).  
*Ectatomma permagnum*: Brown, 1958: 208-211, 296-297 (Revision, synonymy). Kempf, 1972: 105 (Distribution).

*Ectatomma regis* Kusnezov, 1957a: 12-14 (Worker; Argentina, Salta: El Rey; Tucumán: Valle del Río Sali and Ruta 9, km. 1335). Kempf, 1962b: 3-4 (Discussion). N. o. v. S. y. n.

The fact that *E. permagnum* had already been recorded from the Argentine by Santschi (1921) was overlooked by Kusnezov (1957a) when describing his new species, *E. regis* and giving a key to the Argentine *Ectatomma* species.

The examination of the three type specimens (Salta: Reserva Nacional El Rey, 14-II-1953, N. Kusnezov leg. 1 worker, holotype, IML n. 8716; Tucumán, Valle del Río Sali, 10-I-1948, N. Kusnezov leg. 1 worker, paratype, IML n. 151; Tucumán, Ruta 9, km 1335, N. Kusnezov leg. 1 worker, paratype, IML n. 6185) confirmed my previous suspicion (Kempf, 1962: 3-4) that *regis* (nov. syn.) is indeed a synonym of *permagnum*.

The three Argentine specimens are somewhat peculiar by having the sides of the triangular area formed on the pronotal disc by the anterior and the paired lateral tubercles entirely immarginate, the sculpture within this area more regular. In addition, the entire tergum I and II of gaster are finely striolate (very finely so on tergum II, this striation is somewhat indistinct in the Río Sali specimen). These sculptural details, which usually do not occur in the southeastern and central Brazilian specimens of *permagnum*, yet appear sporadically among the latter. A few specimens from Brazil, Minas Gerais State: Mariana, and Goiás State: Jataí, show the very same features and prove that this character (presence or absence of fine striation on terga I and II of gaster) is not apt for specific distinction. The *regis* types also have a vertical sulcus on the posterior surface of the petiolar node, a character typical for *permagnum*.

Brown, in his key to *Ectatomma* workers (1958: 209), uses the sculpture of the second gastric tergum for separating *opaciventre* and *lugens* (tergum II of gaster reticulate-punctate, not visibly striolate, at least not on disc) from the remaining species (tergum II of gaster in large part distinctly striate or striolate over the center of the disc). Because in many specimens of *permagnum*, seen by myself, this striation is either absent or at best indistinct, and in some specimens of *muticum* the tergum II is entirely smooth and shining on disc, lacking even traces of sculpture, couplet 1 of the aforesaid key may occasionally lead to misidentifications.

The relationship between *permagnum* and the Amazonian *lugens*, a case of either a presumptive synonymy or of a hypothetical geographical cline, remains problematical, even though we now know both species to occur in northern Mato Grosso State, Brazil. In Utiariti, where the environment is still largely of the savanna type, occurs the typical *permagnum*, whereas less than 400 km toward the East, in Vila Vera (on the new Cuiabá-Santarém road), with already Amazonian vegetation, the typical *lugens* has recently been discovered (M. Alvarenga leg.).

The distinctive characters for *lugens* workers, aside from those already mentioned by Brown (1958: 297) consist also in the vestigial to absent sagittal sulcus on posterior face of petiolar node, and the longer antennal scapes which exceed the maximum head width across the included eyes.

### *Dinoponera mutica* Emery

*Dinoponera mutica*: Kempf, 1971: 378-379, fig. 4 (Worker; Brazil, Rondônia, Mato Grosso, Goiás States; Bolivia).

New locality records: BRAZIL, *Mato Grosso State*: Urucum nr. Corumbá, workers (Amer. Mus. Nat. Hist. New York); Barra dos Bugres, VII-1973, B. Dias leg. 1 worker (WWK); *São Paulo State*: Tupã, 4-X-1967, Vassoler leg. 1 worker (WWK).

The finding of this species at Tupã is the first record for São Paulo State and constitutes a remarkable southeastern extension of its known range. The specimens agrees entirely with the typical form, but has the fine striation on the antero-lateral corners of gular face practically effaced.

### *Dinoponera quadriceps* Santschi

*Dinoponera grandis mutica* var. *quadriceps* Santschi, 1921: 84 (worker; Brazil, no locality given).

*Dinoponera quadriceps*: Kempf, 1971: 380-382, figs. 5, 13, 14, 15, 16 (worker, male; Brazil, States of Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, Bahia).

*Dinoponera grandis mutica* var. *opaca* Santschi, 1921: 84 (worker; Brazil, Rio de Janeiro State: Rio de Janeiro). Nov. Syn.

*Dinoponera opaca*: Kempf, 1971: 379-380 (species inquirenda).

The examination of the holotype of *opaca* (nov. syn.) from the Santschi collection (NHMB) kindly sent to me by Dr. Baroni-Urbano, proved that this form, represented by a lone worker, is identical with *quadriformis*, as defined in my recent revision of the genus (Kempf, 1971: 381ss). Santschi had received this specimen from Forel, bearing the following labels: *D. grandis* Guérin, Rio de Janeiro, Goeldi/ v. *mutica* Em. ♂.

The locality of capture of this specimen is puzzling since in the well-collected area of Rio de Janeiro no specimen of *Dinoponera* has turned up so far, and because *quadriceps*, as presently known, seems to be confined to the polygon of drought in northeastern Brazil. There must have occurred a mix-up in the labelling committed either by Goeldi himself or by Forel.

To make sure of Borgmeier's and my own identification of *quadriceps*, I have requested Dr. Baroni-Urbani of the «Naturhistorisches Museum Basel», where the Santschi collection is kept, to check the *quadriceps* type against my 1971 revision and key. In a letter of August 28, 1974 he writes:

«About *Dinoponera quadriceps* Santschi, as far as I can see, Borgmeier's and your interpretation of this taxon are perfectly right. I can correctly identify without difficulties the holotype unique by means of your key, and your description seems to be based on this specimen. Also the distinguishing characters with *mutica* perfectly tally with specimens of the latter. The unique specimen bears two locality labels: «Brasiliën» and «16», probably corresponding to the exact locality in the Reichensperger's note book of which I have no trace here».

It is probable that the *quadriceps* holotype was collected by Luja somewhere in central or northern Minas Gerais State. Inasmuch as the doubt may not be removed, it is better to let the newly selected type-locality by Borgmeier stand.

### **Odontomachus spissus** Kempf

*Odontomachus spissus* Kempf, 1962: 17-18, figs. 5-7 (Worker; Brazil, Mato Grosso: Utiariti, Rio Papagaio).

**F e m a l e** (undescribed): Total length 9.0 mm; mandible length 1.13 mm; head length 2.29 mm; head width 1.78 mm; scape length 1.62 mm; maximum diameter of eyes 0.38 mm; Weber's length of thorax 2.70 mm; pronotum width 1.32 mm; hind femur length 1.89 mm; fore wing length 5.5 mm; hind wing length 3.9 mm; cephalic index 78, mandibular index 41. With the same distinctive characters as the worker, *viz.* the short, stout mandibles; the scape which is shorter than the head width across the eyes and fails to reach the occipital border by more than the length of the first funicular segment when laid back over the head; the low, scalelike petiolar node which is antero-posteriorly compressed, the apex drawn out into a short point but not spinous. In addition, the pronotal disc is finely transversely costulate, the mesonotal scutum, decidedly broader than long (48:36), is shining and almost smooth because the fine longitudinal costulae are best vestigial, and a sagittal costa is lacking. Mesopleura smooth and shining, the tubercle on the upper anterior corner is extremely feeble and immarginate. The basal face of propodeum is shorter than the declivous face, both coarsely transversely costate, and the latter bluntly marginate on sides. Scutellum smooth and shining, the paraptera not broadly joined in the middle. Petiole and gaster smooth and shining. (Description based on two females, from Utiariti and Vila Vera, which had the same measurements).

New locality records: BRAZIL, *Mato Grosso State*: 150 km N of Xavantina, in gallery forest, with *Armitermes* sp. in globular nest on side of tree, December 5, 1967, A. G. A. Mathews leg. 1 ♀ (M# 87, WWK n. 5909); Utiariti, Rio Papagaio, No-

vember 9, 1966, K. Lenko e F. S. Pereira leg. 2 ♀♀ (DZSP n. 4981, WWK); Vila Vera (at the right of the new Cuiabá-Santarém highway: Long. 55° 30' W, Lat. 12° 46' S), October 1973, M. Alvarenga leg. 1 ♀ (WWK n. 10104).

The new localities show that the present form, up to now known only from the type locality, is not a local freak but a good species which occupies a territory measuring at least 1000 km in length.

#### Subfamily Cerapachyinae

### **Cerapachys neotropicum** Weber

*Cerapachys (Cerapachys) neotropicus* Weber, 1939: 93-94, fig. 1 (Worker; Trinidad: Guapo Bay, Gulf of Paria).

New locality record: ECUADOR, *Napo*: Limoncocha (Lat. 00°25' S, 76°36' W), August 13, 1973, Marian Rettenmeyer leg. 1 ♂ (Coll. Rettenmeyer, field n. 67). The specimen agrees well with the description of the type, the only known Neotropical species that possesses 12-segmented antennae.

#### Subfamily Myrmicinae

### **Hylomyrma blandiens** Kempf

*Hylomyrma blandiens* Kempf, 1961: 500-501, fig. 8 (Worker, female; Suriname: Dirkshoop, La Poulle). Kempf, 1973: 231-234, figs. 5, 11 (Worker, female; Suriname: Dirkshoop, La Poulle; Trinidad: Nariva Swamp; Colombia, Amazonas: 7 km W of Leticia; Peru, Loreto: Ramón Castillo).

New locality record: BRAZIL, *Pará State*: Utinga, tract nr. Belém, August 14, 1962, P. F. Darlington leg. 1 ♂ (BF-19; WWK from MCZ). Identical with the typical form from Suriname and Trinidad, but having the posterior face of hind femora rather longitudinally than obliquely or transversely striatocostate. The species is recorded for the first time from Brazil.

### **Hylomyrma longiscapa** Kempf

*Hylomyrma longiscapa* Kempf, 1961: 498-500, fig. 7 (Worker; Suriname: Dirkshoop, Vank). Kempf, 1973: 244-245, 258, fig. 7 (Worker; Suriname: Dirkshoop, Vank).

Professor C. W. Rettenmeyer of the University of Connecticut has sent me specimens which belong to the present species, heretofore known only from the types collected in Dutch Guiana. The new locality record is as follows:

ECUADOR, Napo province: Limoncocha (00°24'S, 76°36' W), 280 m, August 4, 1973, Lois Morales leg. 2 workers (# 237, colony F 563; WWK).

As regards *longiscapa* the key in my recent revision of *Hylomyrma* contains an evident mistake which should be corrected: In couplet 3, first lug (Kempf, 1973: 258), instead of «mesonotum transversely striato-costate» read «mesonotum reticulate-rugose».

### Genus *Allomerus* Mayr

The generic revision of this group of small and preformed plant cavities inhabiting ants of the Amazon basin and the Guianas was recently performed by Ettershank (1966: 111-113, figs. 56-61). The species level taxonomy (cf. Kempf, 1972: 18-19) still follows the old system of recognizing one or two basic species loaded with ill-defined subspecies and varieties (cf. Wheeler, 1942: 198-203) and leaves much to be desired. To judge from the material at hand, the basic division between species with 10 and species with 8 (7-9) antennal segments in the worker caste seems still valid and could be reenforced by additional characters. The number of species in each of these subgroups is open to question.

In the following I give a short note on the first female of the typical *decemarticulatus* and the description of a new, quite aberrant species which yet seems to belong to the present genus.

### *Allomerus decemarticulatus* Mayr

*Allomerus decemarticulatus* Mayr, 1877: 874 (worker; Brazil, Amazon basin). Forel, 1912: 3 (Brazil, Amapá: Olapoque, in cauline swelling of *Hirtella* sp.).

New locality records: BRAZIL, Amazonas State: Rio Naué, S. Vogel leg. 7 workers in *Cleasonia nauensis* Ducke (WWK). Amapá Territory: Serra do Navio, 30 October 1964, S. Vogel leg. 2 workers, 2 females in *Hirtella* sp. (n. 136, WWK), same locality and collector, 31 October 1964, S. Vogel leg. 23 workers in *Hirtella* sp. (n. 158, WWK).

The queen (still undescribed) differs from that of *octoarticulatus* by having 11 antennal segments instead of 10, and the standing hairs are much more abundant on dorsum of thorax, nodes of petiole and postpetiole, and on gaster.

**Allomerus vogeli** sp. n.

(Figs. 1-4)

Worker (holotype). Total length 2.0-2.3 mm; head length 0.51 (0.48-0.52) mm; head width across eyes 0.47 (0.45-0.49) mm; scape length 0.33 (0.31-0.35) mm; maximum diameter of eyes 0.10 (0.09-0.11) mm; Weber's length of thorax 0.56 (0.55-0.60) mm; maximum width of pronotum 0.29 (0.27-0.29) mm; hind femur length 0.41 (0.39-0.41) mm; hind tibia length 0.31 (0.28-0.31) mm; hind tarsomere I length 0.29 (0.25-0.31) mm. Yellowish brown; legs lighter. Smooth and shining, the following parts sculptured: cheeks finely and superficially rugulose; area between cheeks, eyes and frontal carinae reticulate-rugulose, semicircular rugae around antennal fossa usually indistinct; basal face of propodeum, mesopleura, and peduncle and ventral face of petiole reticulate-punctate; sides of propodeum reticulate-rugose; sternum of postpetiole finely and superficially rugulose. Hairs abundant, yellowish brown, of variable length; the long hairs not exceeding the maximum diameter of eyes, sparse, usually erect or oblique, the short hairs interspersed among the longer ones, generally curved, decumbent, but not appressed; antennae and legs with short hairs only; hairs on sides of head decumbent, not appressed; sternum of postpetiole with several projecting setae; fringing hairs shown in part in Figs. 1 and 2.

Head (Fig. 1) scarcely longer than broad, sides moderately convex, occiput straight to slightly impressed in the middle. Mandibles with five teeth on chewing border, the basal tooth subrectangular. Anterior border of clypeus convex, forming a narrow and sharp ledge against which the basal border of mandibles is appressed when closed; median apron shield-like, longitudinally convex, the rounded postero-median lobe extending between antennal sockets and frontal carinae; the lateral border feebly carinate, diverging cephalad and fading out on lateral wings of clypeus without forming a conspicuous ridge in front of antennal socket. Frontal area impressed. Frontal suture absent. Frontal carinae somewhat diverging caudad, fading out before level of posterior orbit of eyes. The latter with about 7-9 facets in a row across the greatest diameter, only gently convex. Antennal scapes moderately curved at base, gradually thickened toward apex, the latter failing to attain the occipital border in full-face view by a distance equalling their maximum thickness, when laid back over the head as much as possible. Funiculus



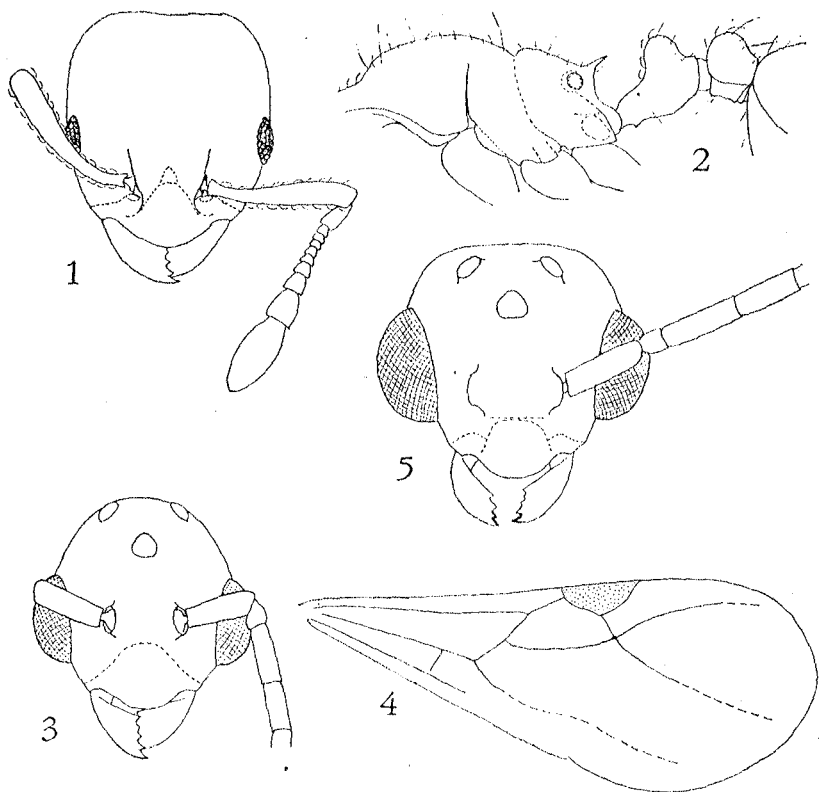
*Allomerus* Mayr

Fig. 1. *A. vogeli* sp. n., worker, head. Fig. 2. *A. vogeli* sp. n., worker, thorax and pedicel. Fig. 3. *A. vogeli* sp. n., male, head. Fig. 4. *A. vogeli* sp. n., male, fore wing. Fig. 5. *A. octoarticulatus* Mayr, male, head. (Kempf det.).

normally with 9 segments, a 10th segment occasionally formed by the splitting of segments 2 or 3; segments II-VI not longer than broad; the three-segmented apical club well differentiated.

Thorax (Fig. 2) dorsally only little convex, the metanotal groove impressed and the metanotal suture distinct. Promesonotum much longer than broad, gently convex in both directions, shoulders not marked, anterior and lateral borders immarginate, promesonotal suture absent. Propodeum with an elongate, laterally immarginate basal face which is not depressed but lies at the same level of promesonotum; posterior corners with a pair of delicate, obliquely raised and somewhat diverging spines; infradental lammellae bordering the sides of declivous face in the form of faint carinules; inferior propodeal plates distinct, rounded.

Propodeal spiracle large, rounded, protruding. Bulla of metasternal gland distinct, somewhat bulging. Apical tarsomere of all legs distinctly elongate and broadened toward apex.

Petiole (Fig. 2) with a short anterior peduncle and a posterior differentiated node which in side-view is subconical with rounded apex; anterior subpetiolar tooth minute yet distinct, followed caudad by a weak sagittal carina. Postpetiole cupuliform, nearly as long as broad, seen from above scarcely broader than node of petiole and posteriorly little constricted in front of gastric insertion. Anterior end of gaster, in dorsal view, continuously rounded, not truncate.

Male (paratypes). Total length 4.0-4.5 mm; head length 0.69-0.71 mm; head width across eyes 0.73 mm; scape length 0.21 mm; maximum diameter of eyes 0.32 mm; Weber's length of thorax 0.92-1.38 mm; maximum width of pronotum 0.73-0.76 mm; fore wing length 3.1-3.4 mm; hind wing length 2.2-2.6 mm; hind femur length 0.76-0.87 mm; hind tibia length 0.54-0.65 mm; hind tarsomere I length 0.65-0.81 mm. Yellowish brown; occipital half of head, scutum and scutellum of mesonotum, and disc of tergum I of gaster darker, medium brown to fuscous brown. Wings infumated with brown, veins medium brown, stigma fuscous brown. Head, thorax, petiole and postpetiole opaque, finely and densely punctulate-rugolose; mandibles superficially and indistinctly rugulose, quite shining; scapes, coxae, femora, tibiae and gaster, aside from fine and dense setigerous punctures smooth and shining. The entire insect clothed with dense, oblique to decumbent short hairs; sparse erect or suberect to curved longer hairs on vertex of head (ocellar area), on mesonotum (scutum and scutellum) and on basal face of propodeum, and on nodes of petiole and postpetiole and on gaster; ventral face of petiole and postpetiole with several long, projecting hairs.

Head (Fig. 3) about as long as broad across eyes. Mandibles normally developed, chewing borders opposable when mandibles are closed, dentition as in worker, i. e. with 5 teeth. Clypeus shield-like, the convexity of disc rather moderate, lacking posteriorly a deep transverse furrow. Frontal carinae absent. Eyes situated somewhat in front of middle of head length. Posterior ocelli placed on top of vertex, only gently protruding. Antennae 13-segmented, the scape short, yet longer than funicular segments I-XI, only the apical segment slightly longer basal

segment (I) very short, little longer than broad, segments II-XI more than twice as long as broad, subequal in length and width. Pronotum short and vertical in middle, shoulders rounded. Mesonotal scutum without Mayrian furrows (notaulices) but with distinct parapsidal sutures. Scutellum not projecting over metanotum, the latter visible from above. Basal face of propodeum longer than declivous face, the posterior corners of the former unarmed, narrowly rounded. Fore wing (Fig. 4) with the venation typical for the genus (cf. Ettershank, 1966: 112, figs. 59-61), the radial cell elongate and open at apex (*Rs* not attaining the anterior wing margin), *M* diverging from *Rs* + *M* at its junction with *1r*, discoidal cell absent (*m-cu* missing), *cu-a* meets *A* approximately at a right angle; and *A* is continued past this point. Hind wing with 7-8 humuli. Hind tarsomere I always longer than hind tibia. The mid and hind tibiae bear apically a single, bristle-like spur. Petiole without a differentiated node, gradually thickened caudad, slightly less than twice as long as broad (5: 3). Postpetiole about as long as broad, scarcely broader than petiole, the posterior surface somewhat constricted, yet broadly attached to the gaster.

**Types.** A long series of 42 workers (holotype and paratypes and 3 males (one lacking the head; paratypes), n. 363, taken by Dr. Stefan Vogel of the University of Mainz, Germany, on December 26, 1964 at Mercês, Rio Negro, Amazonas State, BRAZIL, in *Myrmidone macrosperma* Martius (Melostomataceae, R. Vogel det.), all in my collection (WWK), paratypes to be distributed in other collections.

**Discussion.** The worker, at a first glance, shows the facies of small *Pheidole* worker of the *Decapheidole*-group, but the mandibles have only five teeth on chewing border, the thoracic dorsum lacks the vaulted promesonotum, the 10-segmented antennae have the apical club less distinctly differentiated, the funicular segments are somewhat constricted at base, the postpetiole shows ventrally a few projecting hairs, and the poison-sting is well-developed.

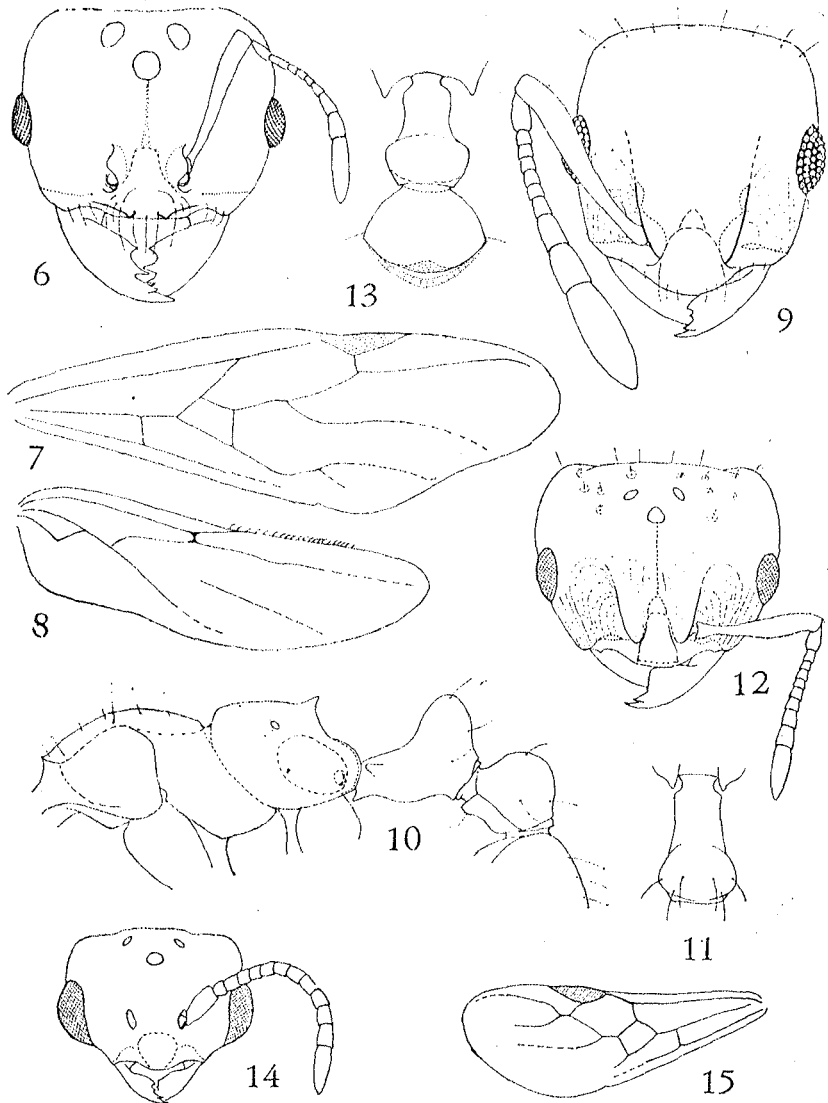
Although it differs from the hitherto known *Allomerus* workers in the armed propodeum, the scarcely vaulted and raised promesonotum and the elevated propodeum, the basal face of which is not depressed, the less distinctly moniliform funicular segments, and the larger propodeal spiracle, it seems to belong to the genus on account of mandibular shape and dentition, general head shape, shape of pedicelar segments and of gaster. The wing venation of the male, which is definitely of the *Allomerus* type confirms the placement of the present species in genus *Allomerus*, although it differs from the known males in smaller size, longer head (compare Figs. 3 and 5, the latter of *A. octoarticulatus*), less bulging clypeal disc.

**Carebarella alvarengai** sp. n.

(Figs. 6-8)

Female (holotype). Total length 13.5 mm; head length 1.69 mm; head width 2.20 mm (cephalic index 130); distance between frontal carinae 0.67 mm; maximum diameter of eyes 0.41 mm; scape length 1.13 mm; Weber's length of thorax 4.00 mm; hind femur length 1.84 mm; fore wing length 14.9 mm; hind wing length 10.8 mm; petiole width 1.13 mm; postpetiole width 1.28 mm. Yellowish brown with reddish hues, the latter more pronounced on mandibles, thorax and legs; wings strongly infuscated nearly black. Integument smooth and shining, highly polished; only the frontal carinae and a short part of the frons just behind them faintly longitudinally striolate, the striated areas broadly interrupted in the middle on frons. Hairs abundant, erect, suberect or curved, of variable length and gauge; clypeal setae shown in Fig. 6; among the medium-sized hairs are longer, flexuous ones, sparsely set on scapes, frons, occiput, scutellum, including paraptera, basal face of propodeum, extensor face of tibiae, dorsum of petiole and postpetiole, and on sides of gaster; ground pilosity of scapes and legs oblique, very dense on tarsomeres.

Head as shown in Fig. 6. Mandibles with four teeth, the subbasal tooth stronger than the basal and subapical tooth. Labrum cleft, bilobed, the distal border of each lobe strongly rounded. Palpal formula 3: 2, the labial palpi geniculate. Median apron of clypeus elevated, transversely strongly convex, anteriorly sharply truncate, the truncate anterior face perpendicular to the posterior dorsal face; the latter laterally without carinae, but bearing in front a pair of short, acute teeth; the lateral base of each tooth is continued toward the sides as a sharp carina, but not towards the middle where the truncate face grades into the dorsal face by an abrupt curvature. Lateral portion of clypeus, next to the base of the elevated median portion, has the smooth, shiny area of transparent cuticle, within which an ovoid cavity may be seen (cf. Ettershank, 1966: 108). Frontal carinae very short, strongly convex. Frontal area narrow, prolonged caudad as a deep sagittal sulcus attaining the anterior ocellus. Antennal scape gradually broadened toward apex which is twice as broad as base, the latter somewhat depressed. Funiculus basically 10-segmented, although the left funiculus has only 9 segments, the second being completely fused with the



Figs. 6-8: *Carebarella alvarengai* sp. n., female. Fig. 6. Head in full-face view. Fig. 7. Fore wing. Fig. 8. Hind wing. — Figs. 9-15: *Ochetomyrmex subpolltus* (Wheeler). Fig. 9. Worker, head, syntype. Fig. 10. Worker, thorax, syntype. Fig. 11. Petiole from above, worker, syntype. Fig. 12. Head, female. Fig. 13. Petiole and postpetiole from above, female. Fig. 14. Head, male. Fig. 15. Fore wing, male. (Kempf del.) (Figures not drawn to the same scale).

third, so that the apparent second segment is as long as the first; the right funiculus has the second segment distinctly separated from the third, although a beginning of fusion is

already apparent; funicular apex with a distinct three-segmented club.

The massive thorax totally devoid of angular projections. Pronotum perpendicular on dorsum, visible from above as a narrow strip, not covered by the mesonotal scutum. The latter with the parapsidal sutures scarcely distinct and Mayrian furrows (notaules) completely absent. Scutellum strongly vaulted in both directions, posteriorly not extending over the dorsally exposed metanotum. Propodeum completely unarmed, the posterior corner of basal face rounded, but bearing a short, vestigial longitudinal carinula. Wings as shown in Figs. 7 and 8; hind wing with 21 hamuli; the venation reflecting the typical pattern of the genus.

Petiole and postpetiole of the general shape of the other species in the genus. Petiole with a short anterior peduncle, followed by a broad, rounded, solid node, the dorsal face of which is about twice as broad as long; subpetiolar process or tooth absent. Postpetiole broader than long, longitudinally gently, transversely strongly convex; the sides, when seen from above, are conspicuously convex giving the impression of a constriction at the gastric insertion, although the postpetiole is broadly attached to the gaster; anterior subpostpetiolar process well developed in the form of a thin, strongly compressed, sagittal plate or keel. Anterior end of gaster without the excavate and laterally sharply marginate articular surface for the reception of the petiole.

Type. BRAZIL, *Mato Grosso State*: Vila Vera (Long. 55°30' W, Lat. 12°46' S), October 1973, M. Alvarenga leg. 1 ♀ (holotype; WWK n. 10135).

Discussion. Although somewhat aberrant, due to the 11-segmented antennae (or if 10-segmented, the second funicular segment as long as the first and nearly twice as long as the third), the lack of the lateral carinae on the median apron of clypeus, the entirely smooth integument of body and appendages, the lack of an excavate and laterally sharply marginate acetabulum on anterior end of gaster for the reception of the postpetiole, and the rounded distal border of labral lobes, *C. alvarengai* still belongs to *Carebarella* on account of the anteriorly truncate median apron of clypeus, the palpal formula 3: 2, the base of mandibles where the canthellus meets the basal margin of the blade and the trulleum is closed (cf. Ettershank, 1966: 114), and above all, the typical wing venation. As regards the dental formula, I believe that Ettershank's diagnosis should be corrected as follows: 1-3 instead of 1-4; the typical condition in all specimens (*bicolor* and *condei*) is of four teeth, any additional tooth arises from the splitting of either the basal or subbasal tooth, easily discernible in each case.

Aside from the characters already mentioned that separate *alvarengai* both from *bicolor* and *condei*, the species hitherto known in the genus, there are others that complete the distinction from each of the latter, as follows:

From *bicolor* females the *alvarengai* queen is distinct by the uniform yellowish brown body color; the entirely smooth integument; the bidentate median apron of clypeus; the mesonotum not concealing the pronotum in dorsal view; the funicular segments 2-6 being at least slightly longer than broad.

The additional differences from *condei* consist in the heavily infuscated and nearly brack wings; the much larger size; the lack of sculpture on head, propodeum, petiole and postpetiole, the closed discoidal cell (cross-vein *m-cu* present) on fore wing.

Note. In genus *Carebarella*, we know the worker caste only for *bicolor*. In this species, we have records of workers from northern Argentina to Costa Rica, whereas of sexual forms the records are restricted to the Argentine, southern and eastern Brazil. It is possible, that the workers from Suriname and Costa Rica associated with *bicolor* (Kempf, 1969: 281-282) rather belong to *alvarengai* than to the former, although I did not detect any noticeable difference between these and the southern specimens.

I take great pleasure in naming this species for my good friend and eximious collector, Cel. Moacir Alvarenga, whose recent expedition to northwestern Mato Grosso State and Rondonia Territory in Brazil resulted in the discovery of several outstanding myrmecological rarities, as partly reflected in these pages.

### Genus *Ochetomyrmex* Mayr

*Ochetomyrmex* Mayr, 1877: 871-872 (Type: *O. semipolitus* Mayr, 1877, worker; monobasic). Emery, 1922: 293 (generic classification). Wheeler, 1922: 664 (key). *Brownidris* Kusnezov, 1957b: 275-276, fig. 4, nn. 1-13 (Type: *B. argentinus* Kusnezov, 1957, female, male *nec* worker; monobasic). Kusnezov, 1962: 155-159 (discussion). Ettershank, 1966: 109-110, fig. 55 (generic revision). N o v. S y n.

The sexual forms, indispensable for generic allocation, of *Ochetomyrmex* were heretofore unknown. The team of C. W. Rettenmeyer, working at Limoncocha, Napo Province, Ecuador, on an army ant project, managed to discover at least two nest series (F-278, July 15, 1972, Ruth Chadab coll., field n. 99, and F-595, August 9, 1973, Marian E. Rettenmeyer coll., field n. 62) that consist of *Ochetomyrmex subpolitus* workers associated with females and males from the same nest. The sexual forms, surprisingly, proved indistinguishable from the respective sexes of *Brownidris*.

Kusnezov founded *Brownidris* on a series of nine stray workers and a non-associated alate female of the A. Ogloblin collection (I have seen the respective specimens in the Miguel Lillo collection: each specimen bears a different accession number), taken at Loreto, Misiones Territory in the Argentine, supposed to be the same individuals (workers only) seen and mentioned by Santschi (1936, Rev. de Ent. 6: 408) under the

name of *Tranopelta amblyops* Emery. Santschi's specimens, however, had the accession number 2003, whereas the specimens seen by Kusnezov bear the numbers 7091 to 7095. The male sex was described upon a lone specimen from Trancas, Tucumán Province.

Ettershank (1966: 109-110), while working on a generic review of all *Solenopsis*-related genera of the world, recognized the generic distinctness of the *Brownidris* females and males, but was unable to detect a single character that would distinguish the workers from those of *Tranopelta*.

Upon the evidence resulting from the discovery by the Rettenmeyer team in Ecuador, one cannot help but concluding that, in the first place, the workers diagnosed by Kusnezov as belonging to *Brownidris* really pertain to *Tranopelta*, the association between them and the sole alate queen of *B. argentinus* being merely fortuitous, and, secondly, the female and the male (from Tucumán) belong to *Ochetomyrmex*, *Brownidris* (nov. syn.) being its junior synonym. Inasmuch as Kusnezov did not select a holotype, I designate as such the female of the aforesaid series in order to avoid confusion and securely establish the synonymy.

The *Ochetomyrmex* female differs from the known females of *Tranopelta* in the following features: smaller size, total length not surpassing 8 mm; mandibles practically smooth and shining, the chewing border with only the apical and subapical tooth well-developed and pointed, the basal teeth (2?) vestigial to inconspicuous; median apron of clypeus anteriorly subtruncate, with a denticle on each corner between the truncate and the dorsal face (a character not mentioned by Kusnezov and Ettershank, perhaps missing in the specimens seen by them); frontal carinae better developed, lamellate, longer and more converging caudad; ocelli small, the distance between the posterior pair nearly equal to twice the diameter of one ocellus; petiole distinctly longer than broad, anteriorly strongly pedunculate; propodeal spines developed, propodeum excavate between spines; antennae and legs practically lacking oblique or standing hairs; eyes subglabrous, the few hairs present are minute and very sparse; gaster with sparse standing hairs, the appressed pubescence minute and extremely sparse and inconspicuous; fore wing with a well-developed pterostigma, a closed discoidal cell (cross-vein *m-cu* present); radial cell open, elongate, the free abscissa of *Rs* apparently forked apically, the posterior arm of the fork interpreted by Ettershank as an unidentified floating cross-vein that curves apical on the posterior side of *Rs* (Fig. 15).

The male of *Ochetomyrmex* may be distinguished from *Tranopelta* males by the same peculiar venational characters found in the fore wing of the female, and in addition by the convex anterior border of clypeus; the broader, subtriangular



mandibles which bear four distinct teeth on chewing border; the transversely strongly convex anterior apron of clypeus. Like *Tranopelta*, the *Ochetomyrmex* male lacks Mayrian furrows on the mesonotal scutum, unless they are represented by the antero-median longitudinal and more or less faint suture, present in both *Ochetomyrmex* and *Tranopelta*, and possibly resulting from a fusion of the anterior arms of the notaulices, spreading in a Y-shaped fashion in their orthodox configuration.

Since Emery (1913: 38) gathered *Ochetomyrmex* and *Wasmannia* in the same tribe, Ochetomyrmicini, placed on the borderline between «lower» and «higher» Myrmicinae, the close affinity between both groups was not only taken for granted but also led to the generic misplacement of *O. subpolitus*, originally described as a *Wasmannia* (Wheeler, 1916: 8-9, cf. Kempf, 1961: 511). Some specialist (in litt.) voiced even the suspicion that both groups might indeed be congeneric. The following cursory comparison between representatives of all castes of both *Wasmannia* and *Ochetomyrmex* is meant to show that at least for the time being enough characters are at hand for establishing a clear-cut separation:

#### *Ochetomyrmex*

Worker: *semipolitus*, *subpolitus*.  
Mandibles with only 4 teeth, basal border convex.  
Eyes situated slightly behind middle of head length, distance between mandibular insertion and anterior orbit greater than diameter of eye.  
Clypeus: median apron longitudinally gently convex, lacking an anterior, flat, horizontal ledge; postero-lateral border not raised as a sharp carina in front of the antennal socket.  
Promesonotum without coarse rugae.  
Metanotal groove deeply impressed.  
Propodeal spiracle situated in front of base of propodeal spine.  
Bulla of metasternal gland large, bulging, prominent.  
Female: *bolivianus*, *subpilosus*, *argentinus*.  
Antennal scrobe absent.  
Clypeus as in worker.  
Antennal scapes failing to reach occiput.

#### *Wasmannia*

Worker: all species.  
Mandibles with 5 teeth, basal border slightly concave.  
Eyes situated somewhat in front of head length, distance between mandibular insertion and anterior orbit less than diameter of eye.  
Clypeus: median apron strongly longitudinally convex, with an anterior, flat, horizontal ledge; postero-lateral border raised as a carina in front of the antennal socket.  
Promesonotum with coarse rugae.  
Metanotal groove and suture absent.  
Propodeal spiracle situated perpendicularly beneath the base of propodeal spine.  
Bulla of metasternal gland small, not unusually prominent.  
Female: *europunctata*, *rochai* and spp.  
Antennal scrobe present.  
Clypeus as in worker.  
Antennal scapes practically reaching occiput.

*Ochetomyrmex* ♀ cont'd

Propodeal spiracle as in worker.  
Fore wing with a large, closed discoidal cell (*m-cu* present); apical abscissa of *Rs* with a floating cross-vein turned apicad.  
Hind tarsomere I shorter than respective tibia.

Male: *argentinus*, *subpilosus* and sp.

Mesonotum without Mayrian furrows (notaulices).

Venation of fore wing as in female.

*Wasmannia* ♀ cont'd

Propodeal spiracle as in worker.  
Fore wing without a closed discoidal cell (*m-cu* absent); apical abscissa of *Rs* without a floating cross-vein.  
Hind tarsomere I as long as, or longer than respective tibia.

Male: *auropunctata*, *rochai* and spp.

Mesonotum with Mayrian furrows (notaulices).

Venation of fore wing as in female.

**Tribal allocation.** Emery (1913: 18) created the tribe Ochetomyrmicini for *Ochetomyrmex* and *Wasmannia*. Brown (1953: 2-3) correctly transferred to the same group the genus *Blepharidatta* which, in spite of its striking features shows evident affinities with *Wasmannia*. Emery's tribal diagnosis (1922: 292-293) for the worker caste is at best precarious and for the sexual forms applicable only to *Wasmannia*, because females and males of *Ochetomyrmex* (and of *Blepharidatta*) were still unknown. Now, with the females and males of *Ochetomyrmex* being recognized in the already described genus *Brownidris* which, in turn, was placed in the Solenopsidine complex by both Kusnezov (1957) and Ettershank (1966), the affinity between *Ochetomyrmex* and *Wasmannia*, has become extremely doubtful. I suggest, at least as a provisional solution, the transfer of *Ochetomyrmex* to the Solenopsidine tribal complex, in the sense of Ettershank. Thus the tribal name of Ochetomyrmicini (n. v. syn.) becomes meaningless, and the genera *Wasmannia* and *Blepharidatta* are without a tribal name. I refrain from coining a new name for these two groups, because it seems that the whole classification, generic and tribal, of the lower Myrmicinae needs urgent overhauling.

## Component species

1. *argentinus* (Kusnezov), 1957: 276, ♀♂ *nec* ♀ (Argentina: Misiones, Tucumán), new combination.
2. *bolivianus* (Kusnezov), 1962: 155, ♀ (Bolivia: Santa Cruz), new combination.
3. *mayri* Forel, 1908: 360, ♀ (Brazil: São Paulo State).

4. *semipolitus* Mayr, 1887: 872, ♂ (Brazil: Amazônia).
5. *subpolitus* (Weeler), 1916: 8, ♀ (Guiana).

There are still too few specimens available for a full-fledged species level revision of *Ochetomyrmex*, but already enough for venturing a few guesses. So it is quite possible that *mayri* is merely a synonym of *semipolitus* and that *argentinus* represents the sexual forms of the same. *O. bolivianus*, cursorily examined during a short visit to the IML at Tucumán, although slightly different, might still coincide with the female of *subpolitus*, described further below. If this guess should prove true, then the presently recognized five species will be reduced to only two.

In the following I present a riagnosis of all castes of *subpolitus*, the only species which is reasonably well known both from a taxonomic and distributional viewpoint.

### *Ochetomyrmex subpolitus* (Wheeler)

(Figs. 9-15)

*Wasmannia subpolita* Wheeler, 1916: 8-9 (worker; Guiana: Tukelt; Kaiteur; Kauwa Creek, Roraima). Kempf, 1959: 215 (Brazil, Amapá: Serra do Navio).

*Ochetomyrmex subpolitus*: Kempf, 1961: 511 (Suriname: Maripahevel).

**Worker.** Total length 2.4-2.9 mm; head length 0.56-0.65 mm; head width across the eyes 0.53-0.64 mm; scape length 0.44-0.51 mm; thorax length 0.63-0.80 mm; hind femur length 0.49-0.60 mm; hind tibia length 0.44-0.51 mm; hind tarsomere I length 0.38-0.47 mm. Honey yellow throughout, mandibular teeth brown; eyes black. Mandibles, clypeus, frons, vertex, occiput, gular surface, antennae, legs, dorsum of petiolar and postpetiolar nodes, the entire gaster smooth and highly shining; cheeks, sides of head and pronotum superficially reticulate-rugulose, rather shining, antennal sockets surrounded by fine and spaced semi-circular costulae, and a few indistinct costulae projecting obliquely from frontal carinae toward eyes and from lateral clypeal wings toward inner border of eyes; remainder of thorax opaque, reticulate-punctate; peduncle and venter of petiole and venter of postpetiole reticulate-punctate, subopaque. Erect hairs yellowish white, stiff, not longer than maximum diameter of eyes, distributed according to a certain pattern: frons and vertex with four longitudinal rows of setae; occiput with one transverse row of 6-8 hairs; pronotum with two transverse rows, the first with 4, the second with 2-4 setae; mesonotum with 2 pairs, basal face of propodeum with a single pair, petiolar and postpetiolar nodes

each with three pairs, one dorsal, one posterior and one lateral pair of setae; more abundant and less regularly distributed on gastric terga. Remaining pilosity short, oblique to subdecumbent on mandibles, antennae, sides of head, legs and gastric sterna; a few fine, erect hairs projecting from the anterior ventral prominence of postpetiole (see Fig. 10).

Head as shown in Fig. 9, about as broad as long, with convex sides and feebly convex to straight and mesially vestigially impressed occipital border in full-face view. Mandibles with the basal (internal) border convex, the chewing border bearing four teeth, of which the second from base is smallest, the apical tooth about twice as long as the preapical tooth. Median apron of clypeus strongly convex in longitudinal direction, its anterior border gently convex, lacking a prominent and depressed ledge; posterior border of lateral wings of clypeus not raised in a carina-like fashion in front of the antennal socket. Frontal area impressed. Frontal carinae somewhat diverging caudad, terminating in front of level of middle of eyes, but continued farther backward by faint rugulae which however do not reach beyond the level of posterior orbit or eyes. Antennal scrobe at best indistinct. Eyes situated slightly behind middle of head length, the distance between the mandibular insertion and the anterior orbit exceeding the maximum diameter of eyes, across which one counts approximately 10 facets in a row. Antennal scape practically attaining the occipital corner when laid back over the head as much as possible and seen in full-face view. Funicular segment I much longer than broad, segments II-VII at least as long as broad, apical segments VIII-X, the antennal club, much longer than the remainder of the funiculus.

Thorax and pedicel shown in Fig. 10. Promesonotum, as seen in dorsal view, much longer than broad. Dorsum of pronotum with a feebly arched, carinate anterior border and marginate sides. Promesonotal suture obsolete. Mesonotum laterally immarginate, convex when seen in side view and curving down to the deeply impressed metanotal groove from which the propodeum arises rather abruptly, the elongate and flat basal face of the latter bearing posteriorly a pair of minute, pointed teeth. Infradental lamellae, bordering the declivous face, vestigial; inferior propodeal plates prominent and rounded. Propodeal spiracle situated much in front of base of propodeal teeth; bulla of metasternal gland large and bulging. Petiole shown in Figs. 10 and 11; note the relatively long anterior peduncle which in

dorsal view is as long as broad, and the small but prominent subpetiolar tooth. Postpetiole nearly as long as broad, broadest behind middle when seen in dorsal view. Anterior border of gaster, lateral of postpetiolar insertion, subtruncate.

**F e m a l e** (undescribed). Total length 7.6-7.8 mm; head length 1.27-1.35 mm; head width across eyes 1.54-1.62 mm; scape length 0.81 mm; maximum diameter of eyes 0.38-0.39 mm; Weber's length of thorax 2.16-2.29 mm; maximum width of pronotum 1.27-1.35 mm; hind femur length 1.24-1.27 mm; hind tibia length 1.02-1.11 mm; hind tarsomere I length 0.97-1.02 mm; petiole length 0.62-0.68 mm; petiole width 0.52-0.57 mm; postpetiole length 0.52-0.57 mm; postpetiole width 0.73-0.78 mm. Part of the characteres were already given above in the generic diagnosis. This sex is very close to, and perhaps identical with, «*Brownidris*» *bolivianus* (Kusnezov, 1962: 155-157, figs. 1b, 2b). According to the description of the latter, the present queens are definitely more extensively sculptured and opaque; especially the gaster, although somewhat shining, is superficially yet distinctly reticulate-punctate. In addition, in both queens the median apron of clypeus is anteriorly subtruncate and subvertical, the long dorsal portion flat, laterally submarginate; in one specimen the anterior short truncate face is separated from the long posterior and dorsal face by a distinct transverse margination, whereas in the second specimen the transverse margination is incomplete in the middle, but laterally marked by pointed denticles. Furthermore, there are on the vertex large but very shallow foveolate from each one of which arises a short, stiff, blunt-tipped hair. These features were not mentioned in Kusnezov's original description of *bolivianus*, nor by Ettershank who had seen the Kusnezov types. Both females are dealate. Head and pedicel shown in Figs. 12 and 13.

**M a l e** (undescribed). Total length 5.9 mm; head length 0.93 mm; head width 1.25 mm; scape length 0.28 mm; maximum diameter of eyes 0.48 mm; Weber's length of thorax 1.87 mm; petiole length 0.60 mm; petiole width 0.47 mm; postpetiole length 0.40 mm; postpetiole width 0.71 mm; fore wing length 4.0 mm; hind wing length 3.1 mm. Brown; scutum, scutellum and gaster strongly infuscated, head almost black; mandibles, anterior border of clypeus, scapes, legs, posterior border of gastric segments light yellowish brown. Mostly opaque, body sharply and densely punctured: head, thorax and petiole also

finely reticulate-rugose; appendages densely punctulate, subopaque. Short, bristly, erect hairs on vertex (ocellar area) and on mesothoracic scutum and scutellum. Dense, fine, decumbent to appressed pubescence on body and appendages.

Mandibles as in worker, chewing border with four teeth. Palpi (examined in situ) 3: 2. Head (Fig. 14) nearly transversely rectangular, the rather narrowly rounded occipital corners bulging. Median apron of clypeus convex in both directions. Frontal carinae absent. Eyes huge, their maximum diameter about half as long as head length. Ocelli relatively small. Antennal scape about as long as the first three funicular segments combined; funicular segments I-VI scarcely longer than broad; total number of funicular segments 12. Mesothoracic scutum without Mayrian furrows (notaulices), its anterior half with a distinct sagittal suture; parapsidal sutures distinct. Propodeum with the basal face much shorter than the declivous face, the latter inferiorly carinate on both sides, and with widely spaced, transversely curved rugae on disc. Petiole subclavate, but stout and short, with an ill-differentiated node. Postpetiole trapezoidal, broader than long, broadly attached to the gaster. Genitalia not dissected but observed in situ: apex of parameres (outer claspers) broadly rounded, volsellae with a well-formed digitus and cuspis. Fore wing as shown in Fig. 15, with a large, closed discoidal cell (*m-cu* present); apical abscissa of *Rs* with a «floating cross-vein» (Ettershank, 1966: 110) turned apical. Hind wing with 9 hamuli.

**Distribution.** The species is now known to occur in the Guianas, the Amazon basin in Brazil, and in eastern Ecuador.

**Specimens examined:** 52 workers, 2 females, and 1 male, as follows: GUIANA: Kauwa Creek, Roraima, august 18, 1911, H. E. Crampton leg. 6 workers (syntypes, WWK received from MCZ). SURINAME: Maripaheuvél, september 1959, J. van der Drift leg. 1 worker (WWK). BRAZIL, *Amapá Territory*: Serra do Navio, september 26, 1957, K. Lenko leg. 1 worker (WWK); *Mato Grosso State*: Xingu, november 1961, M. Alvarenga & W. Bokermann legg. 10 workers (WWK, more specimens in MZUSP), Utiariti, Rio Papagaio, august 1961, K. Lenko leg. 2 workers (WWK, more specimens in MZUSP, n. 1690); *Rondônia Territory*: Vilhena, november 1973, M. Alvarenga leg. 18 workers (WWK n. 10244). ECUADOR, *Napo*: Limoncocha, between june 24, 1972 and august 13, 1973, Ruth Chadab, P. L. Kazan, Lois Morales, G. W. & Marian E.

Rettenmeyer legg. 7 different collections of which 14 workers, 2 females and 1 male were examined (WWK, from coll. Rettenmeyer; the series F-278, n. 99, taken by Ruth Chadab consisted of two workers and a dealate queen, the series F-595, n. 62, collected by Marian Rettenmeyer, consisted of two workers, one female and one male; more specimens in the Rettenmeyer collection).

**Discussion.** Inasmuch as the «type-series» of *subpolitus* consists of three different nest series taken at three different localities in Guiana, and I have seen specimens only from the locality mentioned in the third place in the original description, I refrain from establishing a holotype at the present time, leaving this for a future revision.

In the worker caste the present species is quite distinct from all other presently known forms in the ensuing ensemble of characters: median apron of clypeus with anterior border much less convex and protruding, longitudinally strongly and continuously convex, highly shining and lacking longitudinal costae and rugae; promesonotum elongate, much longer than broad when seen from above; pronotum with the sculpture much more superficial, quite shining; hind femur conspicuously longer than antennal scape; petiole with a much longer anterior peduncle which, when seen from above, is at least as long as broad.

The differences which apparently separate the queen of *subpolitus* from that of *bolivianus* have already been given above in the description. The male differs from that of *argentinus*, the only other male known in the genus, by the broader and shorter head with the occipital lobes bulging and more narrowly rounded.

### **Leptothorax (Nesomyrmex) anduzei** Weber

*Leptothorax (Goniotrorax) anduzei* Weber, 1943: 72-74 (Worker; Venezuela, Carabobo: San Esteban).  
*Leptothorax (Nesomyrmex) anduzei*: Kempf, 1959: 398-400, figs. 5, 12, 24 (Worker; Venezuela, Carabobo: San Esteban; Colombia s. loc.). Kempf, 1972: 133 (Brazil: Mato Grosso State; Guianas).

Although the occurrence of the extremely rare *anduzei* in Mato Grosso, Brazil, and in the Guianas has already been registered in my catalog of the Neotropical ants (Kempf, 1972, l. c.), I believe it is desirable to explicit a little more this information, inasmuch as the material at hand contains the still undiagnosed queen and gives a few hints as regards the variation and the biology of the species.

**F e m a l e** (undescribed). Dealate. Total length 6.3 mm; head length 1.38 mm; head width 1.19 mm; scape length 1.19 mm; Weber's length of thorax 2.01 mm; hind femur length 1.54 mm. Resembling the worker, with the same long antennal scape (surpassing the occiput when laid back over the head), the long propodeal spines and the sculptured and opaque legs and tergum

I of gaster as diagnostic characters. In addition the pronotum has dentate shoulders, and is dorsally and laterally coarsely reticulate-rugose. Mesonotal scutum with 10 very coarse, somewhat vermiculate, longitudinal rugae, 5 on scutellum, 7 on basal face of propodeum which bears posteriorly exceptionally long spines, which are horizontal, scarcely diverging caudad, with the tip not upturned, as long as the basal face of propodeum. Petiole, postpetiole and gaster as in worker.

**Material examined.** SURINAME: Paramaribo, September 11, 1958, P. H. v. Doesburg leg. 5 workers, 1 female, from nest under the bark of *Erythrina glauca* (MZUSP, WWK); BRAZIL, *Mato Grosso State*: 150 km N of Xavantina, December 14, 1967, A. G. A. Mathews leg. 1 worker, from an arboreal nest of *Microtermes* sp. in transitional forest (WWK n. 5921).

**Discussion.** These new specimens do not conform themselves entirely to the type of the species, but are true replicas of the uniformly colored Colombian variant which I also described in my 1959 revision of the genus. The workers, besides lacking the contrasting coloration of the head and gaster, have vermiculate rugae on sides of thorax, have the apex of the propodeal spines not slightly upturned, possess longitudinal rugae on dorsum of petiole, and lack explicit transverse rugae on posterior part of dorsum of postpetiole. Still, they possess the key characters for *anduzei* pointed out on my previous study of the group (Kempf, 1959: 394). Whether this morph represents another still unrecognized species, or only a variant of *anduzei*, or just a transitional form that eventually will force us to synonymize *anduzei* under *pulcher*, is a problem that may not be solved at the present state of our knowledge of these ants.

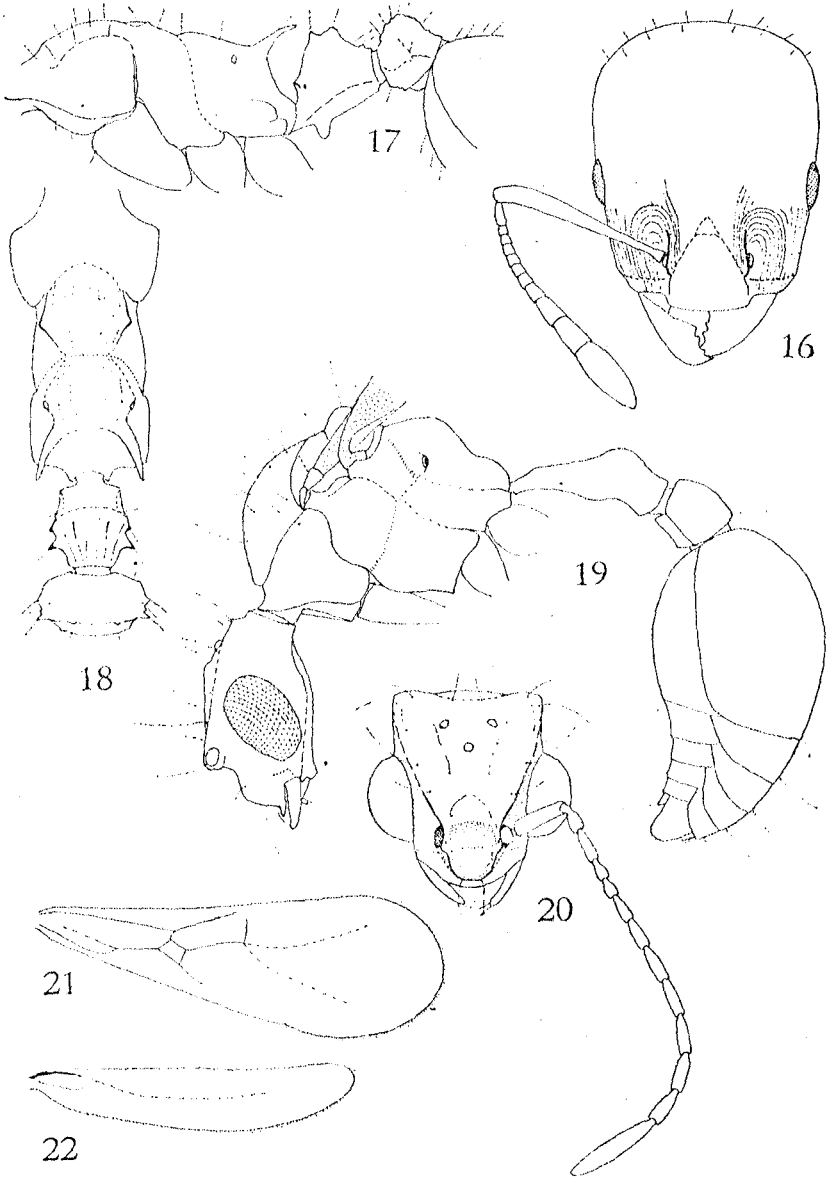
### ***Leptothorax (Nesomyrmex) tonsuratus* Kempf**

(Figs. 16-18)

*Leptothorax (Nesomyrmex) tonsuratus* Kempf, 1959: 412-413, figs. 18, 19, 21 (Female; Mexico, Puebla: Huachiningo; Brazil, Rio de Janeiro: Porto das Caixas).

**Worker** (undescribed). Total length 3.4 mm; head length 0.96 mm; head width 0.79 mm; scape length 0.60 mm; maximum diameter of eyes 0.19 mm; Weber's length of thorax 0.87 mm; pronotum width 0.48 mm; hind femur length 0.67 mm; cephalic index 82. Black; antennae and legs fuscous brown; mandibles brown. Integument smooth and shining with the following exceptions: mandibles vestigially striolate on sides and on apex yet quite shining; antero-lateral part of head dorsum finely costulate which are longitudinal on cheeks in front of eyes, semicircular around antennal socket, with a narrow stripe of





Figs. 16-18: *Leptothorax (Nesomyrmex) tonsuratus* Kempf, worker. Fig. 16. Head in full-face view. Fig. 17. Thorax and pedicel in side-view. Fig. 18. Thorax and pedicel in dorsal view. — Figs. 19-22. *Blepharidatta* sp., male. Fig. 19. Body in profile. Fig. 20. Head in full-face view. Fig. 21. Fore wing. Fig. 22. Hind wing. (Kempf del.).

costulae just inside of frontal carinae (the general arrangement of this sculpture is shown in Fig. 16); mesonotum with

longitudinal and widely spaced costulae which are interrupted on the central portion of disc (cf. Fig. 18); basal face of epinotum likewise longitudinally costulate with the intervals superficially and indistinctly punctulate; mesopleura sharply reticulate-punctate to reticulate-rugulose; sides of metanotum and propodeum (the posterior part of lateral face of thorax) horizontally striato-costate with indistinct interstitial microsculpture; dorsum and posterior surface of petiolar node with a few widely spaced but weak longitudinal costulae and the intervals indistinctly punctulate. Head capsule above and beneath, antennae and legs with small to minute appressed pubescence. Short, stiff, whitish hairs in clypeus, anterior corner of frontal carinae, occiput, dorsum of thorax, dorsum and sides of petiole and postpetiole, and all over the gaster; they are shortest on occiput and tergum I of gaster.

Head (Fig. 16) elongate, longer than thorax, with the sides somewhat converging in front; occiput gently rounded throughout. Median apron of clypeus projecting in front, the anterior border slightly convex, the lateral corners obtuse. Frontal carinae short, subparallel. Frontal area vestigial. Eyes rather flattened, with over 100 ommatidia, situated somewhat in front of middle of head length. Antennal scapes, when laid back over the head as much as possible, failing to reach the occipital border by a distance which is subequal to the length of the first funicular segment. Funicular segments II-VII scarcely broader than long or even slightly longer than broad; antennal club formed by segments IX-XI, the last (XI) being slightly longer than IX and X combined.

Thorax as shown in Figs. 17 and 18. Pronotum with marked but not dentate nor tuberculate shoulders. Mesonotum with a subacute tooth on each side. Metanotal suture distinct and slightly impressed. Basal face of propodeum without a prominent lobe at each side, leaving the propodeal spiracles visible from above. Propodeal spines nearly as long as the distance between the inner borders of their bases. Inferior propodeal plates rounded.

Petiole and postpetiole as shown in Figs. 17 and 18; quite different from those of queen (cf. Kempf, 1959, figs. 18 and 21), lacking the strong and recurved lateral spines, which are substituted by much smaller teeth. Subpetiolar process as strong as in queen. Gaster anteriorly subtruncate.

Specimen seen: BRAZIL, *Mato Grosso State*: Vila Vera (Long. 55°30' W, Lat. 12°46' S), October 1973, M. Alvarenga leg. 1 ♂ (WWK n. 10164).

**Discussion.** The predominantly smooth integument and the characteristic shape of the head speak in favor of associating the present worker with *tonsuratus*, described solely on stray queens from Mexico and Rio de Janeiro State in Brazil. Even the much less aberrant petiole and postpetiole of the worker remind to some extent the condition obtained in the female. The only divergent features between worker and queen are precisely the shape of the pedicelar segments and the presence (worker) or absence (female) of standing hairs on disc of tergum I of gaster, attributable perhaps to mere caste differences.

Among the workers with 12 antennal segments, the present specimen stands out alone by the predominant smoothness of the integument and the extremely long head, the head length surpassing the thorax length. In the most recent key to the Neotropical *Leptothorax* species (Kempf, 1959: 394-396), it runs to couplet 9 which is herewith modified as follows:

9. Dorsum of head and postpetiolar node smooth and shining; head length surpassing thorax length ..... 10. *tonsuratus* Kempf  
 — Dorsum of head and postpetiolar node sculptured and opaque; thorax length surpassing head length ..... 9a  
 9a. Dorsum of head with numerous shallow foveolae; epinotal spines as long as the distance between their apices ..... 8. *pittieri* Forel  
 — Dorsum of head without distinct foveolae; propodeal spines short and subconical, much shorter than the distance between their apices ..... 9. *brasiliensis* Kempf

### ***Rogeria subarmata* (Kempf)**

*Irogera subarmata* Kempf, 1962a: 438-440, figs. 1-4 (Worker; Brazil, Guanabara State: Deodoro; in stomach of *Tamandua tetradactyla*).  
*Rogeria subarmata*: Kempf, 1965: 185 (n. comb.).

This distinctive species was known heretofore solely from the type series originating from the stomach contents of a small ant-eater killed in the suburb Deodoro of Rio de Janeiro. New records based on specimens collected in their natural habitat conspicuously extend the range of the species, as follows:

BRAZIL, *Espirito Santo State*: Pedro Canário nr. Conceição da Barra, October 1972, M. Alvarenga leg. 1 ♂ (WWK n. 9219); *Bahia State*: km 26 of Ilhéus-Itabuna highway, CEPEC-CEPLAC, on flower of an old cocoa-tree, June 28, 1971, J. A. Winder leg. 2 ♂ ♂ ≠ 120 (WWK n. 9334).

**Tetramorium guineense** (Fabricius)

*Tetramorium guineense*: Luederwaldt, 1926: 400 (Brazil, São Paulo: Ilha dos Alcatrazes). Brown, 1964: 14 (Brazil, Amazonas: Manaus).

Larger than the following *T. simillimum*, the present ant is also of Old World origin, but widely dispersed over the globe by commerce. Inasmuch as there are only few published data concerning the distribution of the species in Brazil, I offer the following new locality records:

BRAZIL, *Santa Catarina State*: Gaspar, 1928, M. S. Fontes leg. 3 ♂♂ (TB n. 4043, 4416, 4439); *São Paulo State*: São Paulo, Butantan, November 1964, July 1969, L. Travassos Fo. leg. 4 ♂♂ (WWK n. 5748); Praia Grande, May 1972, J. Borrellas leg. 1 ♂ (WWK n. 7643); *Rio de Janeiro State*: Cabo Frio, January 1955, C. Gilbert leg. 2 ♂♂ (WWK); *Espirito Santo State*: Córrego Itá, January 1960, W. Grossmann leg. 2 ♂♂ (WWK); *Pará State*: Ilha Furtado, Mun. de Cameté, November 1953, C. R. Gonçalves leg. 1 ♂ (CT); *Amazonas State*: Benjamim Constant, September 1962, K. Lenko leg. 20 ♂♂ (MZUSP n. 2725, WWK); *Ilha Fernando de Noronha*: August 1973, O. Roppa leg. 6 ♂♂ (WWK n. 10564).

**Tetramorium simillimum** (Fr. Smith)

*Tetramorium simillimum*: Forel, 1908a: 65 (Brazil, Ceará State). Mann, 1916: 448 (Brazil, Amazonas: Manaus). Borgmeyer, 1937: 240-241 (Brazil, Guanabara: Cascadura, Guaratiba; Rio de Janeiro: Cabo Frio; Minas Gerais: Araçuaí, Teófilo Otoni; Paraíba: Bananeiras; syn.).  
*Wasmannia auropunctata brevispinosa* Borgmeyer, 1928: 36-37, figs. 4, 5 (Worker; Brazil, Rio de Janeiro: Cabo Frio).

This cosmopolitan tourist ant, originally discovered in European green-houses, is now firmly established and widely distributed in the warmer parts of the Neotropical region. In the following I give new and interesting Brazilian and Bolivian locality records for the species:

BRASIL, *São Paulo State*: Amparo, February 28, 1969, W. W. Kempf leg. 1 ♂ (WWK n. 5673); Guaratinguetá, November 15, 1958, W. W. Kempf leg. 7 ♂♂, 1 ♀ (WWK n. 2810); São Sebastião, Bairro de São Francisco, January 30, 1955, February 6, 1958, March 7, 1972, B. Fleddermann, W. W. Kempf leg. 16 ♂♂ (WWK n. 2535, 7640); *Guanabara State*: Rio de Janeiro, center of the city, January 28, 1952, May 28, 1955, W. W. Kempf leg. 3 ♂♂ (WWK); Manguinhos, 1952,

R. Barth leg. 3 ♂♂ (TB); Jacarepaguá, March 20, 1954, T. Borgmeier leg. 2 ♂♂ (TB); Grajaú, April 1961, H. S. Lopes leg. 3 ♂♂ (WWK n. 3386); *Minas Gerais State*: Pedra Azul, November 1972, C. A. C. Seabra & Moacir Alvarenga legg. 1 ♂ (WWK n. 8835); *Goiás State*: Anápolis, December 26, 1953, March 25, 1956, W. W. Kempf leg. 4 ♂♂ (WWK n. 1038, 1057); *Federal District*: Brasília, January 7, 1973, W. W. Kempf leg. 1 ♂ (WWK n. 8509); *Bahia State*: Encruzilhada, 980 m, November 1973, C. A. C. Seabra & M. Alvarenga legg. 1 ♂ (WWK n. 10433); *Maranhão State*: Bacabal, November 2, 1968, W. W. Kempf leg. 9 ♂♂ (WWK n. 5379, 5391, 5405, 5420); *Ilha Fernando de Noronha* (an oceanic island): August 1973, O. Roppa leg. 8 ♂♂ (WWK n. 10563). *BOLIVIA*: Las Palmas, December 19, 1939, W. Wittmer leg. 12 ♂♂ (TB).

### Genus *Blepharidatta* Wheeler

Males from northeastern Minas Gerais State, Brazil, although not accompanied by workers or females, most certainly represent this hitherto unknown sex for the genus, and help in expanding the generic diagnosis:

Male. Not significantly larger than the respective worker. Head (Fig. 20) elongate, subtrapezoidal, resembling that of worker. Mandibles feeble, sublinear, apically pointed but edentate, not meeting in front of clypeus when closed. Palpi 3, 2, the labial palpi geniculate. Median apron of clypeus, except the narrow anterior flat margin, bulging, convex in both directions, laterally submarginate. Frontal carinae more or less distinctly prolonged caudad to meet the occipital corner. Eyes huge, bulging. Ocelli relatively small, not protruding. Antennal scape as long as funicular segments I and II combined; funicular segments I, III and IV shorter than the remaining ones, segment XII (apical) longer than X and XI combined. Thorax (Fig. 19) short, compact; mesonotal scutum with distinct Mayrian furrows (notaulices) which converge caudad but do not meet, continuing parallel to each other and attain separately the posterior border of scutum; parapsidal sutures vestigial; propodeum unarmed, the basal face much shorter than the immarginate declivous face in side-view; inferior propodeal plates little protruding, entirely rounded. Wings (Figs. 21, 22): venation largely desclerotized, stigma of fore wing scarcely apparent; radial cell open (distal end of *Rs* not attaining the anterior margin of wing); discoidal

cell very small, usually closed (*m-cu* present); hind wing with only 2-3 hamuli. Tarsomere I of hind legs longer than the respective tibia. Petiole elongate, pedunculate, clavate; postpetiole parallel-sided in dorsal view, lacking anterior and posterior subpostpetiolar processes. Genitalia (not dissected): apices of protruding parameres broadly rounded, spoon-shaped.

**Discussion.** The accepted relationship (Brown, 1953: 2-3) of *Blepharidatta* with *Wasmannia* is not contested by the male sex of the former, although it is quite distinct from the male of the latter (comparison made with males of *auropunctata* and unidentified males of other species) in the following characters: 1. The relatively small size, not divergent from that of the worker; 2. The feebly developed, short, linear mandibles that do not meet when closed; 3. The elongate head which in general shape resembles that of the worker; 4. The antennae with funicular segment II distinctly shorter than scape, III and IV shortest of all, apical (XII) longer than X and XI combined; 5. The not unusually enlarged propodeal spiracle; 6. The presence of a closed discoidal cell in fore wing (cross-vein *m-cu* present); 7. The apically broadly rounded, spoon-shaped parameres of copulatory organ.

### **Blepharidatta** sp.

(Figs. 19-22)

**Male.** Total length 3.2 mm; head length 0.64-0.67 mm; head width behind eyes 0.47-0.49 mm; scape length 0.17-0.19 mm; maximum diameter of eyes 0.31-0.32 mm; Weber's length of thorax 0.85-0.87 mm; hind femur length 0.79-0.81 mm; hind tibia length 0.47-0.49 mm; fore wing length 2.8-2.9 mm; hind wing length 2.2-2.3 mm. Ferruginous; mandibles, clypeus, antennae, legs, and often disc of tergum I of gaster lighter, yellowish brown. Integument densely reticulate-punctate, dull; this sculpture becomes superficial to vestigial on antennal funiculi, legs and dorsal disc of postpetiole which are rather shining; gaster entirely smooth, highly polished and shining. Standing hairs longer than scape, scattered on mandibles, head, sides of pronotum, mesonotal scutum and scutellum and apical half of gaster (Figs. 19 and 20); fine appressed pubescence on antennae and legs. Apex of fore wing and posterior border of hind wing with long, dense fringing hairs (Figs. 21 and 22).

**Specimens examined:** BRAZIL, *Minas Gerais State:* Pedra Azul, 800 m, January 1971, F. M. Oliveira leg. 1 male (WWK n. 7301); same locality, November 1972, C. A. C. Seabra & M. Alvarenga legg. 3 males (WWK n. 8828).

Note: This is probably the male of *brasiliensis*, already known in the worker caste from Pará and Amazonas State in Brazil and from Córdoba in the Argentine.

### **Blepharidatta conops** Kempf

*Blepharidatta conops* Kempf, 1967: 355-358, figs. 4, 5 (Worker; Brazil, Mato Grosso: Três Lagoas, Fazenda Retiro de Telhas).

New locality record: BRAZIL, *Mato Grosso State*: Fátima nr. Rondonópolis, March 8, 1971, W. W. Kempf leg. 1 worker (WWK n. 6755). The collection was made 750 km NNW of the locality where the species was originally discovered.

### **Eurhopalothrix alopeciosa** Brown & Kempf

*Eurhopalothrix alopeciosa* Brown & Kempf, 1960: 206-207 (Worker; Trinidad).

New locality record: ECUADOR, *Napo province*: Limonocha (00°24' S, 76°36' W), 280 mm, July 20, 1973, C. W. Rettenmeyer leg. 1 worker and 1 female (Coll. Retenmeyer, n. 5300).

This record proves that *alopeciosa* is a widespread Hylaeon species in spite of the poor collecting record.

### **Eurhopalothrix lenkoi** Kempf

*Eurhopalothrix lenkoi* Kempf, 1967d: 358-360, figs. 6, 7 (Worker, female; Brazil, São Paulo: Caraguatutaba, Ilhote das Cabras).

New locality record: BRAZIL, *Bahia State*: Itabuna (CEPEC-CEPLAC), April 27, 1971, J. A. Winder leg. 1 dealate ♀ (WWK n. 9453). As the São Paulo State specimens, this queen was found in an epiphytic Bromeliad, growing on a cocoa tree.

## Subfamily Dorylinae

### **Cheliomyrmex andicolus** Emery

(Fig. 23)

*Cheliomyrmex nortoni andicola* Emery, 1894: 185, pl. 2, fig. 11 (Soldier; Peru: Panamarca).  
*Cheliomyrmex andicola*: Forel, 1914: 19 (Soldier; Colombia, Antioquia: Cafetal Camella nr. Angelópolis; Tolima; Aguacatal; Cundinamarca: Facacativa; alt. 1515-2588 m). Borgmeier, 1936: 65-67, figs. 1-2 (Soldier; Colombia).  
*Cheliomyrmex andicolus*: Borgmeier, 1955: 71-73, pl. 1, fig. 2; pl. 43, figs. 21, 22 (Soldier; Colombia, Antioquia: Rio Negro).

*Eciton morosum ursinum* Emery, 1901: 52-53 (Male; Brazil, s. loc.). Nov. syn.  
with doubt.

*Cheliomyrmex ursinus*: Wheeler, 1921: 324-325. Borgmeier, 1955: 76.

During the General Chapter of the Order of Friars Minor at Medellín, Colombia, in August and September 1971, I had the opportunity of seeing and collecting several colonies of a fairly abundant army ant which later proved identical with *Ch. andicolus* (at least in the sense of Forel, 1914, and Borgmeier, 1955; the question of the identity with the lone type of *andicolus* from Peru still remains open). At night, several males were coming to the electric light. Two specimens captured turned out to coincide with *ursinus*, the worker of which is unknown. There is a great probability that these males belong to the common, perhaps only species, of the region, so that the synonymy between *andicolus* (now also known from western Brazil) is strongly suggested.

The males from Medellín, possess all the differential characters, pointed out for *ursinus* by Emery (1901: 52), namely: the smaller eyes, more separated from the ocelli by a distance which almost equals the diameter of the latter (Fig. 23); the anteriorly more vaulted thorax nearly covering the head when the insect is seen strictly from above; the longer pilosity, especially on scutum of mesothorax, where the hairs are as long as the greatest width of the fore femora. In addition, the mandibles are very distinctive by having the basal inner swelling arising from the ventral border, and being separated from the dorsal border by a well marked furrow; the color is dark brown and the hind tibiae are a little more curved than in *megalonyx*, though less than in *audax*.

Material examined: COLOMBIA, *Antioquia*: Medellín, Seminario Conciliar, 1800 m, August 28, September 1 and 11, 1971, 5 colonies, W. W. Kempf leg. many ♂♂ and ♀♀ (WWK nn. 6504, 6432, 6446, 6454, 6455); same locality, September 9, 1971, at light, W. W. Kempf leg. 2 ♂♂ (WWK n. 6402). BRAZIL, *Acre Territory*: Cruzeiro do Sul, July 1959, Fr. L. Herbst, C.Sp.S. leg. many ♂♂ and ♀♀ (WWK nn. 3112, 3113), Porto Valter, October 1961, Fr. L. Herbst, C.Sp.S. leg. many ♂♂ and ♀♀ (WWK n. 3442; MZUSP). PERU, *Cusco*: Torontoy Cañon, base of Machu Picchu, 2000 m, July 3, 1964, B. Malkin leg. 4 ♀♀ (MZUSP, WWK).

Note. The occurrence of *andicolus* at the low altitudes of Acre Territory in Brazil, which belongs to the Amazonian Hyleia, shows that



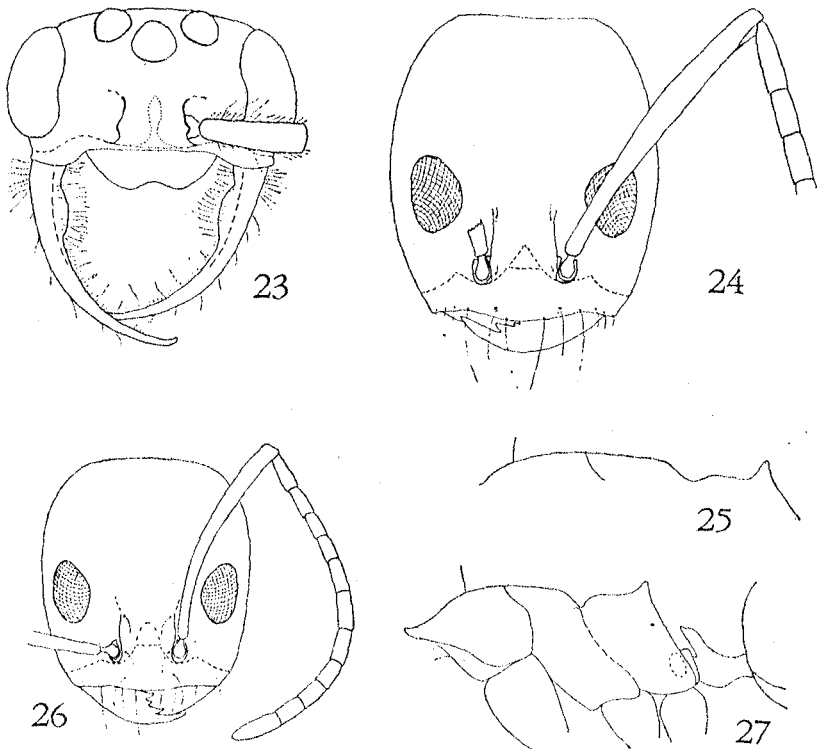


Fig. 23. *Chellomyrmex andicolus* Emery, male, head. — Figs. 24-25: *Conomyrma brunnea* (Forel), dectotype worker. Fig. 24. Head in full-face view. Fig. 25. Dorsal outline of thorax. — Figs. 26-27: *Conomyrma spuria* (Forel), lectotype worker. Fig. 26. Head in full-face view. Fig. 27. Thorax and petiole in profile. (Kempf del.).

the species is not restricted to the Andean altiplanos, as has been surmised previously. On the other hand, the most likely identity between *andicolus* (worker) and *ursinus* (male) weakens, if not destroys, the hypothesis of Borgmeier (1955: 72), who ventured the suggestion of *audax* being the male of *andicolus*.

### ***Eciton burchelli cupiens* Santschi**

*Eciton burchelli cupiens* Santschi, 1923: 249 (Male; French Guiana: Roches de Kourou; St. Jean du Maroni). Borgmeier, 1955: 178, 186, 190-192 (Worker, female, male; characters and distribution).

This is a rather distinctive morph, principally in the male sex, presently considered a geographical race of *burchelli* occurring in cisandean Colombia, Venezuela, Guianas, eastern Peru, northern Brazil south to Pernambuco in the East and central

Mato Grosso in the West. The following new locality records, based on males, belong to this «race»:

SURINAME: Marowijne distr., Rio Lawa, November 1963, B. Malkin leg. 1 ♂; idem, Langaman Kondre, August 1965, B. Malkin leg. 1 ♂; FRENCH GUIANA: Ancienne route de Saut Sabbat, December 2, 1969, Balaghowsky-Bruner Guiana Mission leg. 1 ♂; idem, Saut, October 30, 1969, 1 ♂, en piège lumineux; BRAZIL, *Pará State*: Oriximiná, March-April 1967, P. Eleres leg. 1 ♂; idem, Cachimbo, October 29, 1959, M. Alvarenga leg. 2 ♂♂; idem, Jacareacanga, October 1959, M. Alvarenga leg. 1 ♂; *Amazonas State*: Benjamim Constant, October 18-28, 1962, K. Lenko leg. 1 ♂; *Mato Grosso State*: Utiariti, Rio Papagaio, November 3, 1966, K. Lenko & F. S. Pereira leg. 3 ♂♂; *Paraná State*: Cataratas do Iguaçu, Garganta do Diabo, December 1957, M. A. Vulcano Andretta leg. 1 ♂ (all specimens in DZSP and/or WWK).

Note. The last record, from Iguaçu Falls, southwestern Paraná State, Brazil, is by far the most interesting and also puzzling, because this northern form is found at the extreme southern limit of the species and practically within the territory of the southern form, the typical *burghelli*. The latter is so far known only from the eastern part of São Paulo and Santa Catarina States. Defenders of the racial status of *cupiens* will argue that this amazonian form managed to migrate southward along the rather warmer Paraná river valley.

#### Subfamily Dolichoderinae

#### Genus *Conomyrma* Forel

First proposed as a subgenus in the genus *Dorymyrmex* Mayr by Forel (1913), *Conomyrma* was raised to a full-fledged genus by Kusnezov (1952) for all the species lacking a well developed psammophore on the gular surface of head in the worker and female castes. Thus *Conomyrma* stands for a very homogeneous group of rather common ants, which are widely distributed in South, Central, and North America, and have a pronounced preference for dryer and open habitats.

Taxonomically, the group is still far from satisfactory. The presently accepted generic limits are possibly too restrictive and need a thorough revision. The species level taxonomy is in a nearly hopeless muddle, especially in the case of the more common forms, on account of both the conspicuous lack of easy,

tangible separatory characters, and the precipitous and slovenly work of the taxonomists themselves.

The present note only contains the fixation of the identity of two common forms, based in types which had been requested for the purpose of a faunistic study of the São Paulo state ants.

### **Conomyrma brunnea (Forel)**

(Figs. 24, 25)

*Dorymyrmex pyramicus* var. *brunnea* Forel, 1908b: 385 (Worker; Argentina, s. loc.; Brazil: São Paulo).

The Forel collection (MHNG) contains the following types:

a) 1 worker — Typus — Argentina (Lagier) — *D. pyramicus* Rog. v. *brunneus* For. ♂ type — Coll. A. Forel.

b) 2 workers — Typus — *D. pyramicus* Rog. v. *brunneus* For. S. Paulo, Brésil, (Jhering) ♂ — Coll. A. Forel.

c) 2 workers — Cotypus — *D. pyramicus* Rog. r. *brunneus* Forel ♂ type, São Paulo, Brésil (v. Jhering) — 5379 (accession number of the old Museu Paulista collection) — Coll. A. Forel.

At a closer examination, it was found that a), b) and c) represent three different morphs, and that at least a) and b) are specifically different, a) representing what later was described by Santschi (1912) as *thoracica*. In order to fix the identity of the species, I select the form registered under b) as the lectotype, which apparently matches Kusnezov's idea about *brunnea* and represents a very common, nearly ubiquitous form in southern Brazil, and also in the Argentine. Specimens mentioned under a) and c) are herewith eliminated from the type series of *brunnea*.

Worker (lectotype). Total length 3.4 mm; head length 0.95 (0.99) mm; head width 0.84 (0.88) mm; interocular width (distance between inner borders of eyes) 0.43 mm; distance between frontal carinae 0.21 (0.23) mm; scape length 0.95 (0.99) mm; maximum diameter of eyes 0.23 (0.25) mm; Weber's length of thorax (not very reliable because there is no good limit between the thorax proper and the protended «neck», covered by the occiput in dry specimens when the head is extended forward instead of downward) 1.20 (1.26) mm; hind femur length 1.20 mm; cephalic index 89; index of cephalic

depression (head depth over head length) 63. More or less fuscous brown, characterized by the humpbacked mesonotum showing a distinct, though short obliquely declivous face in profile (Fig. 25), and the scape (Fig. 24), the length of which equals the head length. Very close to the following *spuria* from which it differs significantly in larger size (cf. absolute measurements), more convex sides of head, and the blunter lateral margins of the petiolar scale.

**Types.** Two workers (lectotype and paratype) from the Forel collection (MHNG), so labelled, from São Paulo, Brazil, H. von Jhering leg. A small series of workers, taken by myself on April 7, 1958, at Interlagos, São Paulo City, agrees perfectly with the aforementioned types, one specimen even matches exactly the measurements of the lectotype, and has been correspondingly labelled for future reference (WWK n. 2592).

**Discussion.** The fixation of the lectotype and the identity of *brunnea* does not settle implicitly the question of the species limit. Preliminarily, it may be said that this is the most common form of *Conomyrma* in São Paulo State, which lives side by side with the somewhat rarer and distinctly smaller *spuria*. The types and the topotypes occupy the lower part of the size range of the species. The territory of *brunnea*, according to material at hand, seems to extend at least from southern Mexico (Vera Cruz) to northern Argentina (Misiones).

### ***Conomyrma spuria* (Forel) nov. stat.**

(Figs. 26, 27)

*Dorymyrmex pyramicus brunneus* var. *spuria* Forel, 1911: 285 (Worker; Paraguay: San Bernardino).

**Worker** (holotype). Total length 2.8 mm; head length 0.73 mm; head width 0.65 mm (cephalic index 89); head depth 0.47 mm (index of cephalic depression 64); interocular width 0.37 mm; interfrontal width 0.17 mm; maximum diameter of eyes 0.20 mm; scape length 0.68 mm; Weber's length of thorax (neck excluded) 0.88 mm; petiole width 0.16 mm; hind femur length 0.87 mm; hind tibia length 0.75 mm. Color fuscous brown (a bit faded); mandibles lighter but teeth apically almost black; articulations of legs lighter.

**Pilosity:** Four long projecting hairs on anterior clypeal border, (Fig. 26) with a shorter hair between the outer pairs; a pair anteriorly on median apron of clypeus one in front of each antennal socket; two erect hairs on each frontal carina, one in

front and one behind; a pair of erect hairs on disc of pronotal dorsum; hairs on gular face and anterior face of fore coxae apparently lost (from other specimens we infer that the gular hairs are very few and rather short, and there being about two to three obliquely projecting hairs on fore coxae); slightly shorter, curved and decumbent hairs on mandibles; small, sparse decumbent hairs laterally on clypeus and on cheeks; the entire insect covered with dense, minute, appressed pubescence, lacking completely on mandibles, and absent to sparsely present on the following scarcely sculptured to highly polished areas: median apron of clypeus, cheeks, gular face of head; posterolateral corner of pronotum; discally on declivous face of propodeum.

Mandibles densely and rather coarsely striate. Clypeus and vestigially delimited frontal area, cheeks, postero-lateral portions of pronotum smooth and shining. Rest of integument more or less sharply punctulate or more predominantly reticulate, sub-opaque; the sculptured integument is shiniest on vertex and occiput, dullest on posterior half of sides of thorax.

Outline of head and thorax and petiole are shown in Figs. 26, 27. Note that the lateral borders of the strongly compressed petiolar scale are subacute.

Type. 1 ♂ (holotype), from Forel collection with the following data: TYPUS / 118b / K. Fiebrig, S. Bernardino, Paraguay / v. *spuria* For. / *D. pyramicus* Rog. st. *brunneus* For. v. *spuria* For. (MHNG).

Discussion. The present type coincides with the not uncommon smaller, dark species, with hump-backed mesonotum, which I have from various localities in the States of Goiás, Mato Grosso, Minas Gerais and São Paulo States. This form, by its smaller size, less convex sides of head, which is also less constricted in front, the subacute lateral border of petiolar scale, the humpbacked mesonotum and the dark color seems to constitute a discrete species, living side by side with the larger *brunnea*, already diagnosed above.

#### Subfamily Formicinae

### **Camponotus (Myrmodirhachis) heathi** Mann

*Camponotus (Myrmeurynota) heathi* Mann, 1916: 481-484, pl. 5, figs. 40, 41 (Major and minor worker; Brazil, Rondônia: Porto Velho, Abunã, MM. RR. camp 39, km 284).

*Camponotus (Myrmodirhachis) heathi*: Emery, 1925: 168.

*Camponotus heathi*, discovered by Mann at several localities in the Rondonia territory of Brazil, and rediscovered by A.

Roman near Manaus (Wheeler, 1923: 5, var. *gilvigaster*), Amazonas State, Brazil, is not only extremely rare but also one of the most bizarre ants of the Hylaea. It is easily recognized by the unusual dorsal appendages of the mesonotum and propodeum, one on each, bifurcated at apex on the latter, and by the trispinous petiole. Inasmuch as all hitherto collected specimens are in American and Swedish museums, I was surprised when the insect survey conducted in October 1973 by M. Alvarenga at Vila Vera (Long. 55°30' W, Lat. 12°46' S), in northern Mato Grosso State, Brazil, produced a lone minor worker (WWK n. 10188) referable to the present species.

This specimen has all the striking features of *heathi* but does not match the original description in a few details that raise the question whether in subgenus *Myrmodirhachis* we have only one somewhat variable species or several different species. The discrepant features are the following: Occipital corners of head black, without the ferruginous blotches of the type, which extend forward beneath the eyes; both first and second tergum of gaster predominantly ferruginous; mandibles with 6 instead of 5 teeth; eyes situated behind the middle of sides of head; antennal scapes without a conspicuous thickening at apex; mesonotal and propodeal dorsal appendages without an anterior tubercle at the middle of their length. Some of these differences might be attributable to the inexactness of the original description, others to intraspecific variation.

The original *heathi* specimens were all strays collected when running about on leaves; Wheeler's var. *gilvigaster* was detected by A. Roman in a termite nest.

#### Literature cited

- Borgmeier, T., 1928. Einige neue Ameisen aus Brasilien. Zool. Anz. 75 (1-2): 32-39, 7 figs.
- 1936. Sobre algumas formigas dos gêneros *Eciton* e *Cheliomyrmex*. Arch. Inst. Biol. Veget. Rio de Janeiro, 3 (1): 51-68, 2 figs.
- 1937. Formigas novas ou pouco conhecidas da América do Sul e Central, principalmente do Brasil. Arch. Inst. Biol. Vegetal, Rio de Janeiro, 3 (2): 217-255, 36 figs., 6 pls.
- 1955. Die Wanderameisen der neotropischen Region. Studia Ent., Petrópolis, n. 3, p. 1-720, 87 pls.
- Brown, Jr., W. L., 1953. Characters and synonymies among the genera of ants. Part II. Breviora Mus. Comp. Zool. Harvard, n. 18, p. 1-8.
- 1958. Contribution toward a reclassification of the Formicidae. II. Tribe Ectatommini. Bull. Mus. Comp. Zool. Harvard, 118 (5): 175-362, 48 figs.

- 1964. Some tramp ants of Old World origin collected in tropical Brazil. Ent. News, Philadelphia, 75 (1): 14-15.
- Brown, Jr., W. L. & W. W. Kempf, 1960. A World revision of the ant tribe Basicerotini. Studia Ent. (n.s.) 3 (1-4): 161-250, 63 figs.
- Emery, C., 1894. Studi sulle formiche della fauna Neotropica. VI-XVI. Bull. Soc. Ent. Ital. 26: 137-242, 4 pls.
- 1901. Note sulle Doriline. Bull. Soc. Ent. Ital. 33: 43-56, 7 figs.
- 1913. Intorno alla classificazione dei «Myrmicinae». Rendic. Sess. R. Accad. Scien. Ist. Bologna, 1913-1914, p. 29-42.
- 1921-1922. Subfam. Myrmicinae. Gen. Insect. fasc. 174 a-c, p. 1-397, 7 pls.
- 1925. Subfam. Formicinae. Gen. Insect. fasc. 183, p. 1-302, 4 pls.
- Ettershank, G., 1966. A generic revision of the World Myrmicinae related to *Solenopsis* and *Pheidologeton*. Aust. J. Zool. 14: 73-171, 141 figs.
- Forel, A., 1908a. Catalogo systematico da colleção de formigas do Ceará. Bol. Mus. Rocha, Fortaleza, 1: 61-69.
- 1908b. Ameisen aus São Paulo (Brasilien), Paraguay etc., gesammelt von Prof. Herm. v. Jhering, Dr. Lutz, Dr. Fiebrig etc. Verh. Zool.-bot. Ges. Wien, 58: 340-418, 2 figs.
- 1911. Die Ameisen des K. Zoologischen Museums in Muenchen. Sitzb. Bayer. Akad. Wiss. p. 249-303.
- 1912. Formicides néotropiques. Part IV. 3<sup>me</sup> sous-famille. Myrmicinae (suite). Mém. Soc. Ent. Belg. 20: 1-32.
- 1913. Formicides du Congo Belge, récoltés par MM. Bequaert, Luja, etc. Rev. Zool. Afric. 2: 306-351.
- 1914. Quelques fourmis de Colombie. Mém. Soc. Sci. Nat. Neuchatel 5 (2): 9-14.
- Kempf, W. W., 1959. Insecta Amapaensia. Hymenoptera: Formicidae. Studia Ent. (n.s.), 2 (1-4): 209-218.
- 1959. A synopsis of the New World species belonging to the *Nesomyrmex*-group of the ant genus *Leptothorax* Mayr. Studia Ent. (n.s.), 2 (1-4): 391-432, 31 figs.
- 1961. A survey of the ants of the soil fauna in Surinam. Studia Ent. 4 (1-4): 481-524, 15 figs.
- 1962a. Remarks on the ant genus *Irogera* Emery, with the description of a new species. Rev. Brasil. Biol., 21 (4): 435-441, 4 figs.
- 1962b. Miscellaneous studies on Neotropical ants. II. Studia Ent. 5 (1-4): 1-38, 40 figs.
- 1965. Nota preliminar sobre algumas formigas neotrópicas, descritas por Frederick Smith. Rev. Brasil. Biol., 25 (2): 181-186.
- 1967. Three new South American ants. Studia Ent. 10: 353-360, 7 figs.
- 1969. Miscellaneous studies on Neotropical ants. V. Studia Ent. 12 (1-4): 273-296, 11 figs.
- 1971. A preliminary review of the Ponerine ant genus *Dinoponera* Roger. Studia Ent. 14 (1-4): 369-394, 18 figs., 1 map.
- 1972. Catálogo abreviado das formigas da região Neotropical. Studia Ent. 15 (1-4): 3-344.
- 1973. A revision of the Neotropical Myrmicine ant genus *Hylomyrma* Forel. Studia Ent. 16 (1-4): 225-260, 20 figs.
- Kusnezov, N., 1952. El estado real del grupo *Dorymyrmex* Mayr. Acta Zool. Lilloana, 10: 427-448, 21 figs.
- 1957a. Nuevas especies de hormigas. Rev. Soc. Uruguay Ent. 2 (1): 7-18.
- 1957b. Die Solenopsidinen-Gattungen von Suedamerika. Zool. Anz. 158 (11-12): 266-280, 7 figs.

- 1962. Una nueva especie del género *Brownidris* Kusnezov. Acta Zool. Lilloana 18: 155-161, 2 figs.
- Luederwaldt, H., 1926. Observações biológicas sobre formigas brasileiras, especialmente do Estado de São Paulo. Rev. Mus. Paulista, 14: 185-304, 4 pls.
- Mann, W. M., 1916. The Stanford expedition to Brazil, 1911, John C. Branner, Director. The ants of Brazil. Bull. Mus. Comp. Zool. Harvard, 60 (11): 399-490, 7 pls.
- Mayr, G., 1877. Formiciden, gesammelt in Brasilien von Professor Trail. Verh. Zool.-bot. Ges. Wien, 27: 867-878.
- Santschi, F., 1921. Ponerinae, Dorylinae et quelques autres formicides néotropiques. Bull. Soc. Vaud. Sci. Nat. Lausanne, 54 (200): 81-103.
- 1923. *Solenopsis* et autres fourmis néotropiques. Rev. Suisse Zool. 30: 245-273, 3 figs.
- 1936. Fourmis nouvelles ou intéressantes de la République Argentine. Rev. Ent. 6 (3-4): 402-421, 28 figs.
- Weber, N. A., 1939. New ants of rare genera and a new genus of Ponerine ants. Ann. Ent. Soc. Amer. 32 (1): 91-104, 7 figs.
- 1943. New ants from Venezuela and neighboring countries. Bol. Ent. Venezol. 2 (2): 67-78, 3 figs.
- Wheeler, W. M., 1916. Ants collected in British Guiana by the expedition of the American Museum of Natural History during 1911. Bull. Amer. Mus. Nat. Hist. 35: 1-14.
- 1921. Observations on army ants in British Guiana. Proc. Amer. Acad. Arts Sci. 56 (8): 291-325, 10 figs.
- 1922. VII. Keys to the genera and subgenera of ants. Bull. Amer. Mus. Nat. Hist. 45: 631-710.
- 1923. Wissenschaftliche Ergebnisse der schwedischen entomologischen Reise des Herrn Dr. A. Roman in Amazonas 1914-1915. 7. Formicidae. Ark. f. Zool. Bd. '15, n. 7, p. 1-6.
- 1942. Studies of Neotropical ant-plants and their ants. Bull. Mus. Comp. Zool. Harvard 90 (1): 1-262, 57 pls.