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*Additions to the Ant Fauna of the West Indies  
and Central America*

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**Article VIII.**—ADDITIONS TO THE ANT FAUNA OF THE WEST  
INDIES AND CENTRAL AMERICA

BY WILLIAM M. MANN

During the winter of 1917-18 the writer spent several months in Cuba and one in the Bahamas, engaged in field work for the U. S. Bureau of Entomology. In the present paper are listed most of the ants collected during this time and, in addition, several from other localities, some of which were given to me by Prof. W. M. Wheeler and some received by the U. S. National Museum from other sources.<sup>1</sup>

A number of the Cuban forms are those described by Roger in 1863 and not since seen by myrmecologists. Among these are the very interesting *Prenolepis gibberosa*, belonging to *Prenolepis sensu stricto*, *Camponotus sphaericus*, and *C. sphaeralis*, known hitherto only from the workers, which prove to be remarkable forms belonging to the subgenus *Colobopsis*. Twenty-two forms are listed as new to Cuba, which brings the number known from the island to ninety-nine. As Wheeler has noted (1913, Bull. Mus. Comp. Zool., Camb., LIV), the ant fauna is poor. The endemic species are mostly inhabitants of the forests and have disappeared in those districts that have been cleared. But even in the magnificent woods in the mountains of Oriente, Santa Clara, and Pinar del Rio, one does not find many species, though the majority of them belong to the older fauna. The desert region on the southeast coast, which has never been searched by myrmecologists, would certainly be productive of new forms, probably species related to those found in similar localities on Hayti.

The writer wishes to acknowledge with thanks his obligations to Mr. E. C. Holden of the Mina Carlota and to the officials of the Spanish American Iron Company at Felton, for facilities in travel and residence; and, in the Bahamas, to his Excellency, the Governor, Sir. Wm. Allardyce and to Mr. W. F. Doty, the U. S. Consul, for their kind interest and help.

Prof. W. M. Wheeler kindly gave the freedom of his collection to compare specimens and also aided me in certain identifications. The accompanying drawings were made by Miss Mary Carmody.

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<sup>1</sup>Cotypes of the new species are in the U. S. National Museum and The American Museum of Natural History.

## PONERINÆ

**Platythyrea punctata** (F. Smith)

SMITH, 1858, Cat. Hymen. Brit. Mus., part 6, Formicidæ, p. 108, ♀, ♂.

Bahamas:—Andros (Fresh Creek); Eleuthera.

Cuba:—Baracoa.

The specimens from Baracoa were found nesting in a hollow twig.

This species is nocturnal and, in the Bahamas at Fresh Creek on Andros Island, I saw workers foraging at night and taking small insects that had been attracted by the light I was using.

**Euponera (Trachymesopus) stigma** (Fabricius)

FABRICIUS, 1804, Syst. Piez., p. 400, ♀.

Bahamas:—Andros (Mangrove Cay).

Cuba:—Baracoa; Pinares; Mina Carlota; Felton.

I fail to find in a large series any specimens that can be identified as Roger's *succedanea*.

**Ponera opaciceps** Mayr

MAYR, 1887, Verh. zool.-bot. Ges. Wien, XXXVII, p. 536, ♀, ♀.

Cuba:—Guantanamo; Piedra Gorda; Pinares; Santiago de Cuba; San Blas; Mina Carlota.

**Leptogenys (Leptogenys) puncticeps** Emery

EMERY, 1890, Ann. Soc. ent. France, (6) X, p. 62, note, ♀.

Cuba:—Baracoa.

Several workers taken from a small colony beneath a stone are referable to the typical form of this species, which is known also from Costa Rica, Grenada, and Hayti.

**Odontomachus hæmatoda** (Linné) *notata*, new variety

The body is black as in the typical form, but the dorsal surface of the epinotum, the petiole, and the femora are rich brownish red in color; the apices of the femora, the tibiæ, tarsi, and the scapes are fuscous.

I propose this name for a color variety of *hæmatoda* from Monte Mandios, Porto Rico (Wheeler Coll.).

**Odontomachus hæmatoda** (Linné) subspecies *insularis* Guérin  
variety *ruginodis* Wheeler

WHEELER, 1905, Bull. Amer. Mus. Nat. Hist., XXI, p. 82, ♀, ♀.

Cuba:—Santiago de Cuba.

**Odontomachus hæmatoda** (Linné) subspecies **insularis** Guérin  
variety **pallens** Wheeler

WHEELER, 1905, Bull. Amer. Mus. Nat. Hist., XXI, p. 82, ♀, ♀, ♂.

Bahamas:—Eleuthera (Bluff).

Cuba:—Mina Carlota; Piedra Gorda; Baracoa; Guantanamo.

This is the commonest form of the species, both in Cuba and the Bahamas.

**Odontomachus hæmatoda** (Linné) subspecies **insularis** Guérin  
**wheeleri**, new variety

Near var. *pallens*, but distinguished by having the dorsal surface of the epinotum and the entire petiole yellow in color in contrast to the red of the thorax and head. The legs are yellow, with the tarsi fuscous. The specimens are undoubtedly mature and fully colored and I consider them a local and very distinct color variety.

Four workers from Baracoa, Cuba (V. J. Rodriguez Coll.), given to me by Prof. Wheeler, are very characteristically colored.

**MYRMICINÆ**

**Pseudomyrma elongata** Mayr

MAYR, 1870, Sitz. Akad. Wiss. Wien, LXI, pp. 408-413, ♀.

Bahamas:—Andros Island (Mangrove Cay); Eleuthera (Bluff).

**Pseudomyrma elongata** Mayr variety **cubaensis** Forel

FOREL, 1901, Ann. Soc. ent. Belg., XLV, p. 342, ♀.

Cuba:—Havana; Cienfuegos; Limones; Santiago de Cuba; Cristo; Guantanamo; Baracoa, Felton; Pinares, San Blas, Guane.

Common and widely distributed. It is known as the "mordehuya," a name meaning "bite and run," very descriptive of its habits.

**Pseudomyrma flavidula** F. Smith

SMITH, 1858, Cat. Hym. Brit. Mus., part 6, Formicidæ, p. 157, ♀.

Bahamas:—Andros (Mangrove Cay); Eleuthera (Bluff).

On both visits to the Bahamas I have found the sexual phases of this species living with workers of *P. elongata*. Wheeler, who found the two species associated in a similar manner, but with workers of *flavidula* also present, on New Providence, has placed the record among cases of mixed colonies of exceptional or problematic character (Ants, p. 504). The females from these mixed nests are much smaller (length 4-4.25 mm.) than queens from ordinary colonies in the same localities (length 6 mm.) None are deälated and some are not fully colored, evidently recently transformed individuals, which shows that they have developed in the same nests, indicating that *flavidula* is an occasional temporary parasite of *elongata*.

**Pseudomyrma flavidula** F. Smith variety **pazosi** Santschi

*P. pazosi* SANTSCHI, 1909, Bull. Soc. ent. France, p. 309, ♂, ♀.

Cuba:—Havana; Guane; Cienfuegos; Mina Carlota; Santiago de Cuba; Pinares; Cardenas.

Moderately abundant throughout the island.

**Monomorium floricola** (Jerdon)

*Atta floricola* JERDON, 1851, Madras journ. litt. sci., XVII, p. 107, ♂.

Cuba:—Cienfuegos; Santiago de Cuba.

**Monomorium carbonarium** F. Smith subspecies **ebeninum** Forel

FOREL, 1893, Trans. Ent. Soc. London, p. 388, ♂, ♀.

Bahamas:—Andros (Fresh Creek).

Cuba:—Yateras District; Guantanamo.

**Monomorium (Xenomyrmex) stolli** Forel subspecies **floridanus** Emery  
variety **lucayanus** Wheeler

WHEELER, 1905, Bull. Amer. Mus. Nat. Hist., XXI, p. 87, ♀.

Bahamas:—Andros (Mangrove Cay).

One colony taken from a hollow twig.

**Cardiocondyla emeryi** Forel

FOREL, 1891, Grandidier's Hist. phys. nat. polit. Madagascar, XXII, pp. 160, 161.

Cuba:—Cabañas; (Wheeler Coll.).

**Tetramorium lucayanum** Wheeler

WHEELER, 1905, Bull. Amer. Mus. Nat. Hist., XXI, p. 101, fig. L, ♀.

FEMALE (deälated).—Length 3 mm.

The mesonotum is striated longitudinally, similar to the head. The striæ of the scutellum are feeble basally and coarse apically. The postpetiole is longitudinally striate. Other characters are as in worker with the usual sexual modifications.

Cuba:—Cienfuegos; Cristo; Guantanamo.

Lives in small colonies beneath stones. The Cuban workers agree closely with the description of this species from the Bahamas.

**Tetramorium simillimum** (Nylander)

*Formica simillima* Nylander, SMITH, 1851, List Brit. Animals, Brit. Mus., part 6, Aculeata, p. 118, ♂.

Bahamas:—Andros (Fresh Creek).

Cuba:—Cristo.

This is the first Cuban record of this common tropicopolitan species.

**Tetramorium guineense** Fabricius

FABRICIUS, 1793, *Entom. System.*, II, p. 357, ♀.

Bahamas:—Andros.

Cuba:—Throughout the island. One of the commonest ants attending Coccidæ.

**Macromischa**

The genus *Macromischa*, besides containing some of the most exquisitely structured and beautifully colored species of ants, is of much interest in being the only one of what may be considered as truly Antillean genera that is well developed. The two ponerine genera, *Spaniopone* and *Emeryella* from Hayti and the myrmicine *Nesomyrmex* from Grenada, each known from a single species, as well as *Aphænogaster relicta* and its variety *epinotalis* from Hayti, are undoubtedly relicts of an ancient and now almost extinct ant fauna, which has been replaced by numerous more recently introduced species. But *Macromischa*, belonging to this same endemic fauna, instead of dying out, has developed both in habit and structure into one of the most diversified myrmicine genera.

One-half, or fourteen, of the known species live in Cuba, the center of distribution; the others are scattered, two or three to each locality, on Hayti, Porto Rico, St. Thomas, the Bahamas, Central America, and one even as far as southern Texas. The number of undescribed, as compared with the known, species must be considerable and careful collecting in the West Indies, Central America and northern South America will surely yield many new forms. The species are extremely sporadic and often rare locally and hard to find. On New Providence, in the Bahamas, I searched for two days in the identical locality in which Wheeler found four colonies of *M. splendens* without finding it, but taking instead *M. allardycei*, new species. On Andros Island I found *M. pastinifera*, which was not taken by Wheeler, who found its variety *opacipes* and *M. androsana* on the same island. Of the six species taken during my five months in Cuba, only two species are referable to any of those taken by Gundlach and Poey, and described by Roger in 1863 and Wheeler in 1913.

The most usual nesting place for the known species is in hollow twigs. Some, as *affinis*, nest in rotten wood, and others, especially the small group that I separate as the subgenus *Antillamyrmex*, in the ground. *M. sallei* and its variety *haytiana* build beautiful carton nests, which have been figured by Guérin (1852, *Rev. Mag. Zool.*, II, Pl. iv) and Wheeler and Mann (1914, *Bull. Amer. Mus. Nat. Hist.*, XXXIII, p. 36). The habits of the greater number of species are unknown.

The species belonging to the genus may be separated into more or less well-defined subgenera, as follows:

Subgenus *Macromischa* [type *M. purpurata* Roger], including *purpurata*, *porphyritis*, *squamifera*, *subdetiva*, *lavissima*, *sallei*, *androsana*, *pastinifera*, *affinis*, *fuscata*, *salvini*, *flavitaris*, *allardycei*, *splendens*, *scabripes*, *isabellæ*, *punicans*, *cressoni*, and *lugens*. This is still a heterogeneous grouping, but the various characters intergrade so much that a further division is not desirable until larger series can be studied.

Subgenus **Cræsomymex**, new subgenus [type *Macromischa* (*Cræsomymex*) *wheeleri* Mann], including those species with unarmed epinota and elongate petiolar nodes—*wheeleri*, *iris*, *poeyi*, *gundlachi*, and *versicolor*.

Subgenus **Antillæmymex**, new subgenus [type *Macromischa* (*Antillæmymex*) *terricola* Mann]. Small, hypogæic species, with rectangular heads and short peduncles to the petiole, including *terricola*, *pulchella*, *albispina*, and *flavidula*.

The following key, a modification of the one published by Wheeler (1908, Bull. Amer. Mus. Nat. Hist., XXIV, pp. 141–142) includes all of the known species with the exception of *lucayensis* Forel and *schwarzi* Mann, which are known only from females.

1. Species with metallic coloration . . . . . 26.  
Species without metallic coloration, or merely with violet reflections, on head or first gastric segment . . . . . 2.
2. Epinotum unarmed . . . . . 3.  
Epinotum armed with spines . . . . . 6.
3. Thorax with a profound meso-epinotal constriction; light red, with black antennæ and gaster; legs dark brown. Length 7 mm. (Cuba) . . . . . *punicans* Roger.  
Thorax without meso-epinotal constriction . . . . . 4.
4. Dark red, the whole body with violet reflections; petiole three times as long as broad. Length 4 mm. (Cuba) . . . . . *gundlachi* Wheeler.  
Bicolored species . . . . . 5.
5. Head and gaster black or dark brown; body red; femora with basal half thin and apical half suddenly strongly incrassated; thorax finely and densely punctate. Length 5 mm. (Cuba) . . . . . *poeyi* Wheeler.  
Femora less strongly incrassated. Thorax densely tuberculately punctate. Length 5.5 mm. (Isle of Pines) . . . . . *versicolor* Roger.
6. Meso-epinotal constriction profound. (Mexico) . . . . . *cressoni* Ern. André.  
Meso-epinotal constriction obsolete or very feebly marked . . . . . 7.
7. Small yellow species. Length 1.5–2.25 mm. . . . . 8.  
Small species. Length 1.5–2.25 mm.; color, at least in part, black . . . . . 9.  
Larger or differently colored species . . . . . 13.
8. Smooth and very shining. Length 1.5–1.7 mm. (Hayti) . . . . .  
*flavidula* Wheeler and Mann.

- Head and thorax, petiole and postpetiole sculptured and less shining. Length 2-2.5 mm. (Bahamas)..... *allardycei* Mann.
9. Petiole with a long slender peduncle, suddenly enlarged into an upright antero-posteriorly compressed scale..... 10.  
 Peduncle short, gradually sloping into the node which is not compressed antero-posteriorly. Subterranean species..... 11.
10. Head and thorax rugulose; epinotal spines shorter and stouter; hairs on body longer and more abundant. Length 2 mm. (Texas).... *subdetiva* Wheeler.  
 Head and thorax glabrous; epinotal spines longer and more slender; pilosity less abundant. Length 1.6 mm. (Mexico)..... *laevissima* Wheeler.
11. Surface of body, except the gaster, very densely punctate and opaque. Length 2-2.25 mm. (Culebra and Mona I.)..... *albispina* Wheeler.  
 Surface of body, at least in part, shining..... 12.
12. Thorax glabrous above. Length 1.5 mm. (St. Thomas).... *pulchella* Emery.  
 Thorax punctate, though not densely, and less shining. Length 1.5-1.75 mm. (Cuba)..... *terricola* Mann.
13. Bicolored species, with at least the head or thorax red or yellowish..... 14.  
 Deep brownish red or black, or with a brown transverse band on each gastric segment..... 22.
14. Petiolar node rising abruptly from a long and slender peduncle..... 15.  
 Petiolar node gradually sloping from a shorter and thicker peduncle..... 21.
15. Jet black, except the head, which is red, and coxæ and trochanters which are yellow; thorax and epinotum with strong and even transverse sulci. Length 3.5 mm. (Cuba)..... *scabriipes* Mann.  
 Differently colored and sculptured species..... 16.
16. Larger species. Length 3.5-5 mm. Node rising abruptly from peduncle, but rather broadly rounded above, not strongly compressed anteroposteriorly and not bent forward at upper margin..... 17.  
 Smaller species. Length 1.9-2.6 mm. Node strongly compressed anteroposteriorly and distinctly bent forward at upper margin..... 19.
17. Petiolar node in profile longer than high, with anterior surface more rounded. Length 3 mm. (Cuba)..... *affinis* Mann.  
 Petiolar node in profile higher than long, with anterior surface more abrupt... 18.
18. Length 5 mm., form stouter; epinotal spines more thickened at base. (San Domingo)..... *sallei* Guérin.  
 Length 3.5-4 mm., form more slender; epinotal spines less thickened at base. (Hayti)..... *sallei* subsp. *haytiana* Wheeler and Mann.
19. Upper border of petiole node bent forward but slightly; head, postpetiole and gaster black. Length 1.9-2 mm. (Bahamas)..... *androsana* Wheeler.  
 Upper border of petiole much curved forward, both head and thorax red... 20.
20. Legs shining. Length 2.6 mm. (Bahamas)..... *pastinifera* Emery.  
 Legs opaque, finely and densely punctate. Length 2-2.5 mm. (Bahamas) *pastinifera* var. *opacipes* Wheeler.
21. Petiolar node laterally compressed, with a conical summit; epinotal spines very small and erect; head, gaster and femora black; thorax, petiole and postpetiole red; tibiae and tarsi yellow; head and thorax opaque. Length 3.5-2.7 mm. (Porto Rico)..... *isabellæ* Wheeler.



- Petiolar node not laterally compressed; epinotal spines long and slender and pointing backward; brown, gaster black. Length 3 mm. (Cuba).  
*affinis* Mann.
22. Large species (length 6–6.5 mm.); surface opaque; head and gaster with faint violet reflections. (Cuba).....*lugens* Roger.  
 Smaller. (Length 3–3.5 mm.). At least somewhat shining.....23.
23. Petiolar node gradually sloping from the peduncle, from above longer than broad and not compressed anteroposteriorly. Length 3 mm. (Guatemala).  
*fuscata* Mann.
- Petiolar node rising abruptly from the peduncle; from above twice as broad as long.....24.
24. Thorax above finely striate and punctate and shining; epinotal spines much longer than their distance apart at base. Length 3 mm. (Guatemala).  
*flavitaris* Mann.
- Thorax above coarsely rugose and subopaque; epinotal spines shorter and thicker. Length 4–4.2 mm.....25.
25. With a brown transverse band on each gastric segment; antennal scapes reaching or barely surpassing occipital corners. (Panama)....*salvini* Forel.  
 Gaster entirely brown; scapes distinctly surpassing the occipital corners; femora less incrassated; peduncle of petiole longer and more slender. (Panama).....*salvini* var. *obscurior* Forel.
26. Epinotum unarmed.....27.  
 Epinotum armed with long spines.....28.
27. Head opaque, densely punctate; nodes, gaster and femora dark metallic green or brown; pedicel yellowish brown; tibiae, tarsi, and funiculi lighter brown. Length 5–5.5 mm. (Cuba).....*iris* Roger.  
 Head smooth and very shining; metallic green throughout, except tarsi, which are brownish. Length 3.75–4 mm. (Cuba).....*wheeleri* Mann.
28. Greater portion of head glabrous.....29.  
 Head, at least on front, rugose or striate.....30.
29. Body shining metallic green with violet reflections; nodes of petiole and post-petiole brown, shining, with metallic green or blue reflection; peduncle of petiole and articulations honey-yellow; scapes light brown. Length 4 mm. (Cuba).....*squamifera* Roger.  
 Nodes of petiole and the postpediole jet black; antennal scapes dark brown to black. (Cuba).....*squamifera* var. *atrinodis* Mann.
30. Petiole as long as the thorax, very slender; epinotal spines long and slender; thorax irregularly rugose; head finely striate in front, smooth above; violet in color, thorax red, passing into violet on the pleurae. Length 5–6 mm. (Cuba).....*purpurata* Roger.  
 Petiole not as long as thorax; less elongate and differently colored species...31.
31. Head and thorax densely punctate and purplish red, with violet reflections and silky lustre; gaster black. Length 5–5.5 mm. (Cuba)....*porphyritis* Roger.  
 Thorax covered with strong, regular arcuate, transverse rugae; head with dense longitudinal rugae; head and thorax deep metallic green, passing into violet on the checks, pleurae and epinotum; mandibles, clypeus, frontal carinae, neck, terminal tarsal joints, and anterior end of petiolar peduncle dull orange; remainder of petiole, postpetiole, gaster, and legs black; coxae, trochanters and extreme bases of femora honey-yellow. Length 3–3.5 mm. (Bahamas).....*splendens* Wheeler.

**Macromischa (Macromischa) purpurata** Roger

ROGER, 1863, Berliner Ent. Zeitschr., VII, p. 184, ♀.

WORKER.—Length 5–6 mm. (Fig. 1).

Form slender. Head oval, narrowed behind, corners rounded and occipital margin straight. Mandibles stout, five-toothed. Clypeus rather strongly notched at anterior border. Antennæ short, their scapes not attaining occipital margins; first and second funicular joints twice as long as broad, the remaining joints gradually increasing in size to the club; terminal joint longer than the two preceding joints together. Prothorax evenly rounded at sides, not much broader than the mesothorax; sides of meso- and epinotum subparallel. Epinotal spines rather thick at basal half and very slender apically, divergent and curving slightly upward. Peduncle of petiole exceedingly slender, as long as the femora, gibbous at sides posterior to the middle; node less than a third as long as the pedicel, high and rounded above and in front, sloping behind; from above about twice as long as broad, with sides rounded in front. Postpetiole bell-shaped, nearly three times as broad behind as in front. Femora and tibiæ incrassate.



Fig. 1. *Macromischa (Macromischa) purpurata* Roger, ♀. Thorax and petiole from side.

Body and appendages shining. Mandibles with sparse and coarse punctures and short longitudinal striæ. Clypeus with a longitudinal carina at middle. Front and cheeks with separated curved striæ, some of which are concentric with the eye and others extend medially on the occiput; sides of occiput smooth. Thorax and epinotum with coarse rugæ which are longitudinal on pronotum and very irregular behind. Petiole, postpetiole, gaster, legs and antennæ finely punctate. Hairs on body and appendages long, fine and erect.

Head black, with violet reflections. Thorax and epinotum red; petiole and postpetiole brown to dark brown, gaster and appendages black.

FEMALE (dealtated).—Length 6 mm.

Differing from the worker in the much finer sculpture of the thorax. The scutellum is twice as broad as long and broadly impressed longitudinally at middle. The epinotal spines are short and triangular, basally as broad as long. The pedicel is very much shorter and stouter than in the worker

Cuba:—Pinares (Oriente).

The exceedingly long petiole, with the low, rounded node, the long epinotal spines, and the beautiful coloration make this one of the most striking species of ants.

The three colonies that I found were in deep woods near the Woodford Inn at Pinares, one in a hollow twig on the ground, one in a twig that was dangling at the end of a slender vine and one among the suckers at the base of a *Tillandsia*. Several foraging workers seen on leaves and fern fronds were moving leisurely about and were holding the gaster in a horizontal position. When excited, they bent it somewhat downward.

My specimens agree well with Mayr's description, except that the petiolar spines and legs are very dark reddish brown to black. They may represent a local variety, as the types were from Yateras and Santiago de Cuba on the other side of the island and all of the species are very local, but I prefer to consider the series before me as typical, until I see others with light brown legs and epinotal spines.

**Macromischa (Macromischa) squamifera Roger atrinodis**, new variety

WORKER.—Length 4 mm. (Fig. 2).

Head a little longer than broad, occipital angles broadly rounded; border nearly straight. Surface of clypeus rather flat; anterior border straight. Antennæ short, their scapes not quite attaining the occipital corners; first funicular joint about as long as the next two joints together; club moderately well defined, with the first two joints subequal in length and the terminal joint as long as both the others together. Eyes convex, situated at middle of sides of head. Thorax robust, without distinct sutures. Epinotal spines about as long as peduncle of petiole, slender and nearly straight. Peduncle more than twice as long as node, toothed anteroventrally and tuberculate at sides a little behind middle; node shorter than high; from above more than twice as broad as long, and strongly narrowed at sides. Postpetiole a little broader than petiole, nearly as broad in front as behind. Femora and tibiæ strongly incrassated.

Shining throughout. Head sparsely punctate above; rugulose on cheeks, clypeus and between frontal carinæ. Mandibles striate. Antennæ striolate and punctate. Thorax transversely rugose, the rugæ on pronotum being more widely separated and less regular than those on the meso- and epinotum. Petiole, postpetiole, gaster, and legs finely punctate.

Hairs scattered, coarse and erect.

Color violaceous black to blue, the violet varying as the light changes, most pronounced on the occiput and thorax and less on the gaster. Mandibles and antennal scapes brownish. Peduncle of petiole, tips of coxæ, trochanters, and base of femora yellow.

FEMALE (deâlated).—Length 6.5 mm.

Epinotal spines shorter than in the worker and femora proportionally less swollen. Ocelli large. Pronotum coarsely and irregularly striated transversely. Striæ of mesothorax and scutellum finer and more rugose than in the worker.

Cuba:—Mina Carlota (Trinidad Mts.).

The workers in my series agree with Roger's description of *squamifera*, except that the petiolar node and postpetiole are jet-black in color and not brown.

Several colonies of this beautiful species were found in the woods about the mine. During my first visit, in November, the weather was cold and misty, and this species was, with the exception of a few *Tetramorium guineense* workers, the only ant that I observed foraging.

It nests in hollow twigs, sometimes in live plants but preferring small ones on the ground, in humid woods. Apparently it is not rare, but is very local. On December 24, I hunted the entire day without finding a single specimen; on the 25th I found, in practically the same part of the

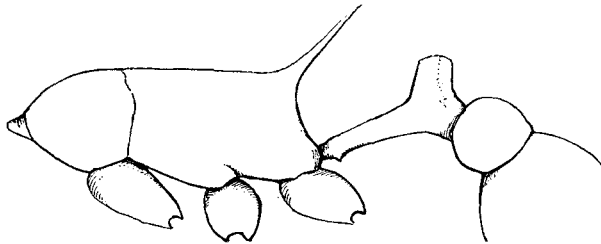


Fig. 2. *Macromischa (Macromischa) squamifera* Roger var. *atrinodis* Mann, ♀. Thorax and petiole from side.

woods, eight colonies. The workers are timid. When a twig containing a colony is broken, some come out and attempt to sting, but the sting is too feeble to make itself felt.

Several colonies were kept alive for more than a month. While getting them to leave the twigs that I had broken and to enter others, I put them in a box over a pan of water. Many of the workers fell into the water and apparently drowned. I afterwards put these half-drowned workers back in the box and the others cleaned them of water and carried them into the nest. About fifty workers were "salvaged" in this manner. They were seized by the mouth-parts, with the pedicel held backward over the body of the bearer, and carried in this manner. They all recovered, for no dead ones were afterwards brought out of the twigs.

#### **Macromischa (Macromischa) porphyritis** Roger

ROGER, 1863, Berliner ent. Zeitschr., VII, p. 185, ♀.

WORKER.—Five to 5½ mm. long and slender; head and thorax purple-red with violet reflection, with rather opaque silky lustre. Petiole and legs shining yellowish brown; abdomen black, shining. The whole body, especially the antennæ and legs, with whitish, erect pubescence.

Head oval, moderately narrowed posteriorly. Eyes towards the sides in the middle. Mandibles with four to five teeth, strongly striate longitudinally. Clypeus between the antennæ triangular, truncated behind, feebly carinate in middle; towards the carina, obliquely rugose. Frontal area triangular, not sharply defined; longitudinally rugose, opaque. Antennal grooves not as large and deep as in the preceding species. Antennæ black with blue or violet lustre; scape extending considerably beyond the hind margin of head, indistinctly striate, first funicular joint as long as the two following; last four joints are much longer than wide and form a feeble club. Head densely punctate "thimble-like" and irregularly longitudinally rugose.

Pronotum rounded laterally, constricted before mesonotum, "thimble-like" punctate, and besides especially apically, moderately densely rugose longitudinally. Rest of the thorax transversely and on the sides longitudinally rugose. Thoracic sutures absent, but between the pro- and mesonotum one sees indicated a feeble semi-circular impression. Epinotal spines very long, slender, directed posteriorly and above, and in the middle feebly bent angularly.

Petiole very long, slender, when viewed from above feebly angularly dilated at middle, and swollen behind into a low rounded node. Postpetiole bell-shaped, somewhat wider than the first, both are smooth. Abdomen long and oval, first segment the largest. Femora slightly, the tibiæ not at all swollen, more slender than in the preceding species. [Translation.]

Cuba:—One worker; (Roger).

**Macromischa (Macromischa) pastinifera** Emery

EMERY, 1896, Bull. Soc. ent. Ital., XXVII, p. 28, Pl. I, fig. 18, ♀.

Several workers were taken running about on the ground in a pine yard near Fresh Creek on Andros Island, Bahamas.

**Macromischa (Macromischa) allardycei**, new species

WORKER:—Length 2–2.50 mm. (Fig. 3).

Head longer than broad, as broad in front as behind with feebly convex sides and occipital border. Mandibles with five teeth. Clypeus convex, tricarinate; anterior border straight. Antennæ short, scapes extending about two-thirds the distance to occipital corners in the smallest workers and three-fourths in the largest; first funicular joint more than twice as long as the two following joints together; joints three to eight twice as broad as long; club well-defined, as long as the rest of funiculus, with the first and second joints only slightly longer than broad and the terminal joint distinctly longer than the other two together. Eyes large and convex; situated at middle of sides of head. Thorax robust, without sutures, slightly tapering from greatest width (at anterior part of pronotum) to the epinotal declivity. Epinotal spines widely separated at base, longer than peduncle, sickle-shaped, curved downward and moderately divergent. Petiole with a thick peduncle, shorter than the node, armed anteroventrally with a strong, elongate tooth; node longer than high, dorsal surface broad (in profile but slightly convex), anterior and posterior surfaces sloping; from above evenly tapering into the peduncle, with two minute lateral tubercles a little in front of middle. Postpetiole a little broader than the petiole and broader than long, slightly narrowed in front, with moderately rounded sides. Gaster short and broad. Sting very feeble. Femora and tibiæ somewhat swollen.

Shining throughout. Mandibles striate. Head, thorax, epinotum, and petiole reticulately carinulate, with the intermediate spaces foveolately punctate and rugulose. Postpetiole rugulose. Gaster and legs minutely punctate and more shining than the rest.

Erect, stiff, acuminate, yellowish hairs moderately abundant on head, body and appendages.

Color uniformly testaceous.

FEMALE (deälated).—Length 3.25 mm.

Head about as long as broad, broadest behind. Epinotal spines stout, triangular, shorter than their distance apart at base. Petiolar node shorter and deeper than in the worker, and more declivous in front. Postpetiole twice as broad as long.

Head, epinotum, petiole and postpetiole sculptured as in the worker. Mesonotum and scutellum with very fine longitudinal striæ and sparse, foveolate punctures.

Color darker than the worker, with the mesonotum and gaster and a spot at the ocelli, ferruginous, and the margins of the mesonotum and scutellum fuscous.

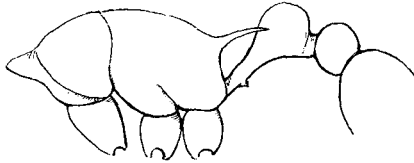


Fig. 3. *Macromischa (Macromischa) allardycei* Mann, ♀. Thorax and petiole from side.

Bahamas:—New Providence.

A small colony of this species, which is dedicated to Sir William Allardyce, Governor of the Bahamas, a naturalist himself and a friend of naturalists, was found in a hollow stem of *Cladium jamaicensis* on the borders of a swamp on the road between Grants Town and the Blue Hills.

The structure of the head and the petiole are very distinctive. The most curious thing about the species is the presence of some degree of polymorphism, one worker, the largest in the series, having the head proportionately broader than the others and the epinotal spines bent slightly upward. In general habitus *allardycei* resembles a large *Leptothorax*.

***Macromischa (Macromischa) schwarzi*, new species**

FEMALE (deälated).—Length 4.5 mm.

Head, excluding the mandibles, a little broader than long, considerably broader behind than in front, with rounded corners and nearly straight occipital borders. Mandibles with five small separated teeth. Clypeus convex basally and concave at anterior border. Eyes situated at middle of sides of head. Ocelli small. Antenna: stout, their scapes slightly surpassing occipital corners; first funicular joint nearly as long as the three following joints together; joints two to eight transverse; terminal

joint of the club slightly longer than the two preceding joints together. Thorax robust, flat above. Mesothorax a little broader than longer. Scutellum twice as broad as long. Epinotal base and declivity rounding into each other. Epinotal spines stout, divergent and slightly curved, their length equal to the height of the petiolar node. Peduncle of petiole much longer than the node, with a small ventral tooth a little in front of the middle. Node in profile deeper than long, narrow above, with a declivous anterior and a rounded posterior face; from above more than twice as broad as long, impressed medially and narrowly rounded at sides. Postpetiole short, one and a half times as broad as the petiole, nearly twice as broad as long and broadest in front. Sting powerful. Femora and tibiæ moderately incrassated.

Moderately shining. Mandibles striate. Head and mesonotum finely and densely striate longitudinally; remainder of body and the appendages very finely punctate, the punctation of the postpetiole more dense.

Scattered erect hairs present throughout. Gaster with sparse, short, recumbent hairs.

Color brownish red, the gaster somewhat darker than the rest.

Cuba:—Cayamas; (E. A. Schwarz). One specimen.

Very distinct from the other Cuban species. The petiolar node in profile is somewhat bent forward at its upper anterior margin similar to, but less than in, *androsana*. The small size, color, and lack of metallic lustre distinguish it from the other Cuban species that have a similarly anteroposteriorly compressed petiolar node.

#### **Macromischa (Macromischa) scabripes, new species**

WORKER.—Length 3.5 mm. (Fig. 4).

Head longer than broad, slightly narrowed in front, with convex sides, broadly rounded occipital corners and straight border. Mandibles 5-dentate. Clypeus rounded basally, very shallowly concave at anterior border. Antennæ short, scapes not attaining occipital corners; funicular joints three to eight a little broader than long, club distinct, the terminal joint slightly longer than the two preceding taken together. Eyes convex; situated at middle of sides of head. Thorax robust. Prothorax rather flat above, with rounded sides and humeri and a pronounced neck in front; a little broader than the mesonotum. Pro-mesonotal suture not discernible. Basal and declivous portions of epinotum rounding into each other and not distinct. Epinotal spines short and stout, curving moderately downward, shorter than the distance from their bases to posterior margin of declivity. Peduncle of petiole twice as long as the node, bisinuate below and bluntly toothed at sides beneath node; node thick, in profile higher than long, broadly rounded above; the anterior surface slightly convex and the posterior more flattened; from above less than twice as broad as long, rounded at sides and in front and straight behind. Postpetiole a little longer than high; from above about as long as broad, rounded at sides and in front. Femora strongly incrassated, the tibiæ moderately so. Sting moderate.

Body and appendages shining. Mandibles and antennal scapes striate. Head irregularly, densely rugosely striate. Thorax and epinotum with a series of about twenty-eight strong sulcæ, which extend transversely across the dorsum and con-

tinue diagonally on the pleuræ. Petiole, postpetiole and gaster minutely punctate and shining. Femora tuberculate, the tubercules small and scattered; the intermediate surface irregularly striolate; tibiæ with short, but rather strong striæ.

Hairs coarse, and erect and white; moderately abundant on head, body, and appendages.

Head, base of mandibles and anterior portion of prothoracic collar brownish red; coxæ and trochanters yellow, the rest black; thorax and epinotum with greenish lustre.

Cuba:—*Saetia* (Oriente).

The prominent tuberculated femora and the strongly sulcated thorax and epinotum are characteristic. There is a greenish reflection to the thorax. *M. splendens* Wheeler from the Bahamas is the species nearest to *scabripes*, but the two are very distinct.

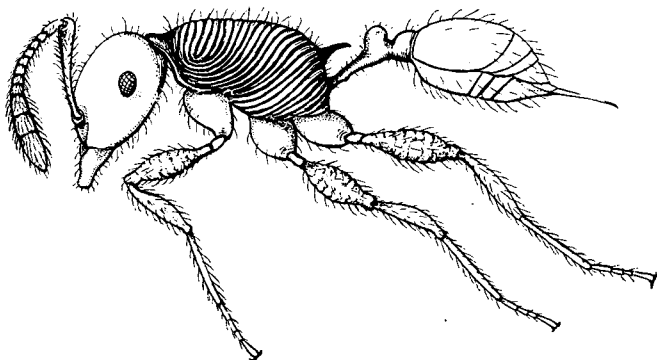


Fig. 4. *Macromischa (Macromischa) scabripes* Mann, ♀. Lateral view.

The two workers from which the species is described were found in dry open woods at an altitude of about two hundred feet. They were running very rapidly over the leaves of a shrub and while moving carried the gaster bent downward and forward beneath the body so that the insect appeared to be only half as long as it really was. This manner of carrying the gaster is more or less characteristic of all the species but is most extreme in *scabripes*. In *squamifera* the gaster is held perpendicularly, in *wheeleri* it is less bent and in *purpurata* scarcely at all downward, except when the insect is excited.

***Macromischa (Macromischa) affinis*, new species**

WORKER.—Length 3.25–3.50 mm. (Fig. 5).

Head ovate, longer than broad, with straight posterior border. Mandibles stout, 5-dentate. Clypeus flattened above, with a median longitudinal and two lateral curved carinæ; anterior border narrowly but distinctly concave at middle. Eyes strongly convex, situated at middle of sides of head. Antennæ slender, their scapes



slightly surpassing the occipital borders; first funicular joint as long as the two succeeding joints together; club poorly defined, its terminal joint a little shorter than the other two together. Thorax and epinotum two and a half times as long as broad; pronotum scarcely broader than epinotum. Epinotal spines as long as petiolar peduncle, rather thick at basal half, curving downward at middle, with the tips bent distinctly upward. Peduncle of petiole slender, about as long as node, with a small angular tooth anteroventrally and tubercles at base of node; node longer than high, broad and feebly rounded above, with sloping anterior and posterior surfaces; from above, longer than broad, with rounded sides. Postpetiole one and a half times as broad as petiole, a little broader than long; seen from the side, longer than high and rather flat above. Gaster short; sting large. Femora incrassate and tibiae almost as strongly so.

Shining, the gaster and legs much more strongly than the rest. Mandibles and scapes finely striate and punctate. Head, thorax and epinotum densely and coarsely rugose punctate longitudinally. Petiole and postpetiole with concentric striae; gaster and legs smooth.

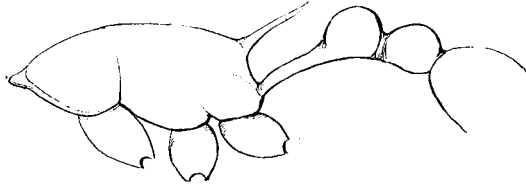


Fig. 5. *Macromischa (Macromischa) affinis* Mann, ♀. Thorax and petiole from side.

Long and fine white pubescence rather abundant on head, body and appendages.

Antennae, gaster, border of mandibles, apical half of femora, base and apex of tibiae and the tarsi black, the rest rufo-testaceous.

Cuba:—Felton; Piedra Gorda.

Described from several workers taken on leaves in dense woods and from one small colony in rotten wood. The general appearance in life is very much like that of a *Tetramorium*. This species resembles *sallei* subsp. *haytiana*, but is smaller, the petiolar node rises less abruptly from the peduncle, the thorax is more robust and the sculpture and color different.

#### ***Macromischa (Macromischa) punicans* Roger**

ROGER, 1863, Berliner ent. Zeitschr., VII, p. 189, ♀.

WORKER.—Length 7 mm.

This species differs from the other species of the genus in having a saddle-shaped impressed thorax and also in having a more square than oval head, and finally in the postpetiole not being bell-shaped, but quadrate. But since the petiole is moderately long and since the middle and hind tibiae are without terminal spurs I have placed this species here.

Light red with black antennæ and abdomen, legs dark brown. Head slightly shining; thorax and petiole opaque; abdomen and legs very strongly shining. Yellowish erect hairs scattered everywhere. Head almost quadrate, rounded at angles. Clypeus convex, longitudinally striate, posteriorly smooth and shining. Frontal area indistinct. Mandibles with five teeth, the two anterior ones strongest. Mandibles longitudinally rugose. Antennal fossæ small; scape stout, of uniform thickness, reaching the hind margin of the head. First funicular joint as long as the two following joints, remaining joints as broad as long and approximate; club three-jointed. Head densely striate longitudinally. Pronotum convex, rounded laterally, depressed posteriorly; mesonotum deeply impressed transversely as in *Aphaenogaster*; epinotum more elevated, rounded, without spines. Entire thorax densely punctate, pro- and mesonotum besides irregularly rugose. Petiole not as much produced cylindrically in front as in the other species. It gradually thickens from base to the moderately high node, but it has in the middle small lateral tubercles and a small tooth antero-ventrally. Postpetiole elongate quadrate with rounded corners. Both nodes feebly rugose. Abdomen smooth, very shining, its first segment much the largest. Legs comparatively short, femora thickened, rounded, tibiæ moderately short and somewhat thickened. Posterior metatarsi shorter than the femora. [Translation.]

Several workers from Cuba; (Roger).

According to Wheeler, who looked up Gundlach's notes on the Cuban ants, this species was found at Santiago de Cuba and Monte Toro in the mountains of Guantanamo.

**Macromischa (Macromischa) lugens** Roger

ROGER, 1863, Berliner ent. Zeitschr., VII, p. 188, ♀.

WORKER.—Length 6–6.5 mm.

Black, opaque, abdomen feebly shining, with bluish reflections; head when viewed in certain lights with very feeble violet reflection. Legs dark brown, shining and as well as the whole body, beset with white hairs. The oval head is densely "thimble-like" punctate, not shining, at sides in front of eyes longitudinally rugose. The "thimble-like" punctate clypeus anteriorly with curved, posteriorly with longitudinal rugæ. Frontal area in the middle with strong, laterally with weaker longitudinal rugæ. Mandibles coarsely longitudinally rugose.

Pronotum feebly and somewhat angulately widened at sides, behind the angle somewhat constricted, but elsewhere of equal width, above slightly convex, not impressed, very coarsely rugose longitudinally. Petiole moderately elongate in front, posteriorly enlarged into a moderately high rounded node, without ventral tooth, "thimble-like" punctate with some longitudinal rugæ. Postpetiole bell-shaped and as well as gaster indistinctly and very finely rugose. Legs long, femora thickened in front of middle, tibiæ very long and slender. [Translation.]

One worker from Cuba; (Rogers).

Gundlach's notes state that this species was taken in the "highland of Camoa." This is an indefinitely defined region in the province of Pinar del Rio.

**Macromischa (Macromischa) fuscata**, new species

WORKER.—Length 3 mm.

Head a little longer than broad, as broad in front as behind, with narrowly rounded corners and straight occipital border. Clypeus convex; anterior border straight. Eyes moderately convex, situated at middle of sides of head. Antennal scapes not attaining occipital corners; first funicular joint distinctly longer than the two succeeding joints together; terminal joint as long as the two preceding joints together. Thorax and epinotum rather slender; pronotum proportionately broader than in *flavitarsis*. Epinotal spines thick, longer than the declivity and rather strongly bent downward at apical third. Peduncle of petiole acutely toothed antero-ventrally, as long as the node, into which it slopes gradually; node longer than high, the anterior, dorsal and posterior surfaces broadly rounding into each other, from above as long as broad. Postpetiole one and a half times as broad as petiole, a little longer than broad and slightly narrower in front than behind, with moderately convex sides. Gaster ovate; sting fine. Femora moderately and tibiae scarcely swollen.

Shining. Mandibles striate. Head coarsely and very densely punctate throughout, with longitudinal, moderately dense and interrupted striae on vertex, front, cheeks and clypeus. Thorax and epinotum longitudinally, rugosely carinate. Petiolar node rugose. Postpetiole densely punctate. Gaster smooth. Legs and antennae finely and densely punctate.

Scattered, erect, stiff, and obtuse hairs present on head and body and finer, silky pubescence on legs and antennae.

Color very dark brown to black, gaster black, with deep blue lustre; tarsi brown.

Guatemala:—Antigua; December 1911; (W. M. Wheeler).

The elongate postpetiole and the structure of the petiolar node sharply distinguish *fuscata* from the other Central American species. The epinotal spines are unusually coarse and strongly curved. The species was taken in a hollow twig.

**Macromischa (Macromischa) flavitarsis**, new species

WORKER.—Length 3 mm.

Head longer than broad, rectangular, with slightly convex sides and nearly straight posterior border. Mandibles stout, with five teeth. Clypeus with a strong median and two weaker lateral carinae, indistinctly concave at middle of anterior border. Eyes large and moderately convex, situated at middle of sides of head. Antennae slender, scapes not attaining occipital borders; first funicular joint as long as the two succeeding joints together; club slender; terminal joint as long as the two preceding joints together. Thorax stout, without sutures. Pronotum rounded at sides, little broader than mesonotum. Epinotal spines moderately thick, a little shorter than the peduncle of petiole, curved downward, somewhat angularly at middle. Petiole long and slender, its peduncle nearly three times as long as the node, with a short, stout tooth anteroventrally, node in profile twice as high as long, with abrupt anterior and posterior surfaces, narrowly rounded above; from above twice as broad as long, rounded in front and behind and narrowed at sides. Postpetiole a little broader than petiole, broader than long, with rounded sides. Femora slightly swollen, tibiae not enlarged. Sting long and powerful.

Moderately shining. Mandibles coarsely striate and punctate. Head with fine, interrupted and separated carinulae, parallel on front and vertex and curved on cheeks, and also irregularly punctate. Striation on thorax and epinotum delicate and sparse, with rather abundant though scattered punctures. Meso- and metapleurae densely, but shallowly punctate. Petiole and postpetiole very finely punctate. Gaster with sparse, minute punctures. Legs and antennae less shining than the rest and densely and shallowly punctate.

Hairs on head and body erect, stiff, obtuse, and sparse; those on antennae and legs fine, silky and recumbent.

Color black; tarsi brownish yellow.

FEMALE.—Length 4–4.25 mm.

Epinotal spines shorter and stouter than in the worker, though longer than their distance apart at base. Petiolar node somewhat shorter and broader above when seen from the side. Mesonotum very densely and finely striate longitudinally.

Color black, with the outer border of tibiae and the tarsi brownish yellow.

Wings slightly infuscated. Veins and stigma brownish.

Guatemala:—Guatemala City; Antigua, December 1911; (W. M. Wheeler).

I have before me two females and a small series of workers from two colonies, one of them taken in a fence-post, the other in a hollow twig.

The amount of brown coloration on the outer edge of the tibiae varies. In the Antigua specimens it is stronger than in the others and very pronounced in the females.

Near *salvini* Forel and its variety *obscurior* Forel from Panama, but differing markedly in sculpture, the Panama forms having the thorax rugose and subopaque. The antennal scapes in *flavivarsus* do not extend to the occipital corners and in the related species they reach or extend beyond them.

#### **Macromischa (Cresomyrmex) versicolor** Roger

ROGER, 1863, Berliner ent. Zeitschr., VII, p. 187, ♀.

WORKER.—Length 5–5½ mm.

Slender. Thorax and first petiolar segment light red, second joint, head and abdomen black, the latter also with blue lustre. Legs and antennae dark reddish brown; mandibles and anterior margin of head more indistinctly so. White, stiff, erect hairs distributed over the body and appendages.

Head elongate oval, moderately narrowed posteriorly. Antennae very slender, long, their scapes longer than the head, the two last funicular joints long and cylindrical, but still somewhat shorter than the remaining joints together. Frontal area triangular, acuminate posteriorly, the head resembling that of *Aphaenogaster testaceopilosa*. Mandibles longitudinally rugose. Head not shining, very densely tuberculately or “thimble-like” punctate, on the sides in front of eyes longitudinally rugose.

Thorax somewhat arcuate at sides. Pronotum very little enlarged at middle, rest of thorax subequal in width. Epinotum behind obliquely truncate, unarmed. Thorax almost without lustre, “thimble-like,” densely punctate and longitudinally with

separated flattened rugæ. Petiole red, somewhat blackish above, finely "thimble-like" punctate, long cylindrical and arcuate, the node small, the angular enlargement in middle of pedicel, when viewed from above is barely indicated; apparently without ventral tooth. Postpetiole bell-shaped, shining. Abdomen smooth and shining. Legs slender, shining, the femora very thin basally, then awl-shaped and thickened, but not as strongly as in *purpurata*, tibiæ not thickened. [Translation.]

A single worker from Cuba; (Roger).

Gundlach's locality is "Isle of Pines," in the farallones near Nueva Gerona.

### **Macromischa (Cresomyrmex) iris** Roger

ROGER, 1863, Berliner ent. Zeitschr., VII, p. 188, ♀.

WORKER.—Length 5.5 mm.

Head green, with violet and blue reflections, not shining; thorax purple-violet with strong æneus reflection. Petiole yellowish brown, lobes and gaster as well as femora dark metallic green or brown, very shining, tibiæ, tarsi, and antennal funiculus lighter brown. Everywhere with erect, whitish pubescence.

Head rather broadly oval, densely "thimble-like" punctate. Clypeus transverse or arcuate in front, longitudinally rugose posteriorly; mandibles rugose longitudinally. Frontal area triangular, shining. Antennal fossæ small. Antennal scapes slender. Club three-jointed.

Pronotum very feebly arcuately widened at sides. Meso-epinotum somewhat compressed laterally, above feebly "roof-shaped." (Seen from above the thorax appears subequal in width throughout.) Epinotum posteriorly arcuately rounded, scarcely truncated, unarmed. The whole thorax is irregularly rugose above and longitudinally and very coarsely rugose at sides.

Petiole in front cylindrical, long, in the middle (when viewed from above), very feebly angular, posteriorly swollen into a moderately strong node; the ventral tooth appears to be absent. Postpetiole bell-shaped, both nodes smooth and shining. Abdomen smooth and shining. Femora strongly incrassate at middle; tibiæ not incrassate. [Translation.]

One worker from Cuba; (Roger).

This species was taken on the cliffs at the entrance to the Yumuri Valley at Matanzas. I searched unsuccessfully for it in the same locality.

### **Macromischa (Cresomyrmex) wheeleri**, new species

WORKER.—Length 3.75–4 mm. (Fig. 6).

Head longer than broad, sides little convex, occipital corners very broadly rounded, border slightly convex. Mandibles with five rather stout teeth. Clypeus rounded; anterior border broadly and shallowly concave. Frontal carinæ short, only moderately divergent behind. Eyes situated at middle of sides of head. Antenna slender, their scapes surpassing the occipital corners; first funicular joint a little longer than the two succeeding joints together, the joints gradually increasing in size to the slender club; first two joints of club subequal in length, terminal joint a little shorter than the two preceding joints together. Thorax two and a half times as long as broad. Prothorax as broad as long, with rounded sides and humeri. Base of epinotum

longer than the declivity, from which it is separated by an obtuse angle; sides subgibbous, but without spines; declivous surface flat. Peduncle of petiole somewhat curved, bluntly toothed beneath in front, about as long as the node, which in profile is longer than high and very broadly rounded above and, from above, twice as long as broad, with slightly convex sides. Postpetiole as long as the petiolar node; from above, three times as broad behind as in front and about as long as broad. Femora incrassated, tibiae very slightly so.

Body and appendages shining, postpetiole and gaster with sparse punctures; mandibles, clypeus, cheeks and scapes striate. Thorax and epinotum coarsely rugose, the rugæ tortuous on pronotum and transverse on meso- and epinotum. Petiole rugulose at sides.

Body and appendages with sparse stiff hairs.

Color brilliant metallic green; thorax and epinotum darker than the rest.

FEMALE (deälated).—Length 5 mm.

Epinotum armed with a pair of blunt spines, the rest similar to the worker, with the usual sexual modifications and the following differences in sculpture. Pronotum transversely rugose. Mesonotum in front rugulose, but with a nearly smooth surface at middle; posterior third more coarsely rugose. Scutellum rugose at sides, more finely above and with a smooth disc at middle. Epinotum transversely rugose.

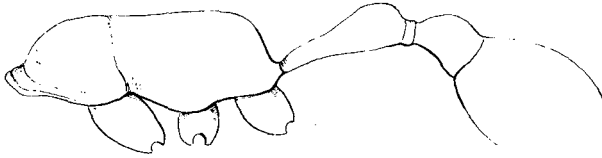


Fig. 6. *Macromischa (Crasomyrmex) wheeleri* Mann, ♀. Thorax and petiole from side.

Cuba:—Mina Carlota (Trinidad Mts.).

This beautiful species is related to *porphyritis* and *vis*, but is much smaller than either of these, differently colored, and has the head smooth and very shining.

Described from a series of workers and females taken from several colonies. One colony was nesting in a block of limestone. I attempted to turn the stone over to search beneath it, when it split in two, disclosing the whole colony of about thirty workers and one deälated female with many larvæ and pupæ gathered in a little pocket. The other colonies were found in hollow twigs lying on the ground.

***Macromischa (Antillæmyrmex) terricola*, new species**

WORKER.—Length 1.50–1.75 mm. (Fig. 7).

Head rectangular, longer than broad, as broad in front as behind, with feebly convex sides and nearly straight occipital border. Mandibles with five small teeth. Clypeus convex, rounded at anterior border. Eyes at sides of head in front of middle. Antennæ short, not quite attaining occipital corners; first funicular joint stout, as long as the two succeeding joints together; remaining joints, except those of the

club, transverse; terminal joint of club distinctly longer than the two preceding joints together. Thorax robust, without sutures; sides of pronotum rounded; of meso- and epinotum subparallel. Epinotal spines a little longer than their distance apart at base, rather stout, divergent and curving slightly downward. Petiole a little more than twice as long as broad, peduncle stout, about as long as node, toothed antero-ventrally; node higher than long, broadly rounded above with declivous anterior and rounded posterior surfaces. Postpetiole more than three times broader than petiole and twice as broad as long, with rounded sides and straight anterior border. Gaster thick. Femora and tibiæ moderately incrassate.

Body and appendages shining; thorax, epinotum, and petiole densely, rather coarsely but shallowly punctate and less shining than the rest. Mandibles subtilly striate. Head and gaster sparsely and finely punctate.

Head, thorax, and gaster with sparse, erect, blunt hairs; antennæ and legs with fine pilosity, but no erect hairs.

Head, except anterior margin, and gaster dark brown to black; thorax, epinotum, petiole and postpetiole dark ferruginous; anterior margin of head, mandibles, antennæ, and legs brownish yellow.



Fig. 7. *Machromischa (Antillemyrmea) terricola* Mann, ♀. Thorax and petiole from side.

FEMALE (dealarated).—Length 2.25 mm.

Epinotal spines very broad basally, curving downward at tips. Petiole shorter than in worker, with the node from above broader than long and truncate in front.

Shining. Mesonotum with dense longitudinal striolæ at middle; smooth at sides. Sides of scutellum and the epinotum densely punctate and less shining than the rest. Head, petiole, postpetiole and gaster as in worker.

Color black, thorax, epinotum, petiole and postpetiole slightly brownish; anterior border of head, the mandibles, antennæ and legs brownish yellow.

Cuba:—Baracoa.

Described from individuals taken in a small colony beneath a stone in a pine forest near the village.

This species belongs in a group of small, ground-inhabiting forms, characterized by the more or less rectangular form of the head, the stoutly pedunculate petiole, and small size. *M. flavidula* from Hayti is a member of the group but distinct from the others, *albispina* and its variety *pallipes* from Porto Rico, *pulchella* from St. Thomas and *terricola*. These latter three are closely related and may be specifically identical. *M. albispina* is larger and very densely punctate and opaque; *pulchella* has the body shining but lacks the punctation on the thoracic dorsum. *M. terricola* appears to be intermediate between these two.<sup>1</sup>

**Crematogaster sanguinea** Roger

ROGER, 1863, Berliner ent. Zeitschr., VII, p. 208, ♀.

Cuba:—Herradura.

Several small workers taken on a fence-post have the basal portion of the first gastric segment red in color and are, for that reason, referred to the typical form of *sanguinea*.

**Crematogaster sanguinea** Roger variety **torrei** Wheeler

WHEELER, 1913, Bull. Mus. Comp. Zool. Camb., LIV, p. 490, ♀, ♀.

Cuba:—Felton; Limones.

This variety differs from the preceding only in having the gaster entirely black.

**Crematogaster sanguinea** Roger **atavista**, new variety

Several workers from a colony found nesting in rotten wood are distinct in having the head, thorax, and abdomen entirely black. The legs and antennæ are very dark, except the tarsi and funicular club which are fuscous.

Cuba:—Yateras District.

**Crematogaster sanguinea** Roger **sotolongoi**, new subspecies

The thorax, instead of being rather strongly rugose, as in the typical form and its varieties, is smooth and very shining. The head and gaster are black; the thorax, petiole, postpetiole, and the appendages obscurely rufous.

Cuba:—Pinares. A small series of workers found beneath the bark of pine trees near the Woodfred Inn.

**Crematogaster victima** F. Smith **cubaensis**, new subspecies

WORKER.—Length 1.50–1.75 mm.

Head a little broader than long, as broad in front as behind, with convex sides and rounded occipital corners; border narrowly concave at middle, frontal area indistinct. Mandibles five-dentate. Antennæ stout, their scapes slightly surpassing occipital corners; first funicular joint as long as the two succeeding joints together; remaining joints, except those of club, broader than long; club slender, three-jointed; terminal joint three and a half times as long as broad and as long as the two preceding joints together. Eyes large and convex, situated at sides of head posterior to middle. Thorax strongly impressed at meso-epinotal suture. Epinotal spines straight, triangular and about half as long as their distance apart at base. Petiole longer than broad, a little broader behind than in front, with straight sides and flattened surfaces; in profile thick behind and gradually tapering anteriorly, less than twice as long as high. Postpetiole a little broader than the petiole; subglobose. Gaster broad, triangular and flattened above. Legs rather stout.

Shining. Epinotum, petiole and postpetiole microscopically punctate.

Head, body and appendages with sparse, coarse hairs, rather sparsely distributed.

Color yellow.

FEMALE.—Length 3 mm.



Similar to worker, with the usual sexual differences.

Cuba:—Guantanamo.

Described from one female and a small series of workers taken from beneath a stone in the woods.

This subspecies is distinct from *vicima* var. *steinheili* Forel in its more robust structure, its more globose pronotum, in sculpture, and in color. The punctuation on the epinotum, petiole and postpetiole of *steinheili* is distinct, in *cubaensis* it is barely discernible.

***Pheidole cubaensis* Mayr *grayi*, new variety**

Several soldiers and workers from a colony found beneath a stone agree with Mayr's description except in colors. In the soldiers the head and body are black, only the clypeus being reddish brown. The mandibles and legs are brown. The workers are black, except the mandibles, antennæ, tibiæ, and tarsi which are brown.

Cuba:—Limonas.

The head of the typical form is described as red and, according to Wheeler, the single soldier in Gundlach's collection has the head red, so I am considering the series before me as distinct. A soldier in Wheeler's collection from Cayamas (Collector Schwarz) and noted by Wheeler (1913, Bull. Mus. Comp Zool. Camb. LIV, No. 17, p. 490), evidently belongs to this variety.

***Pheidole fallax* Mayr**

MAYR, 1870, Verh. zool.-bot. Ges. Wien, XX, pp. 980, 984, ♀.

Cuba:—Cienfuegos.

Cuba is the type locality for this species, but it has apparently not been previously taken on the island since Gundlach's time. My specimens were found on the railroad track near the station. They were nesting beneath the ties.

***Pheidole androsana* Wheeler**

WHEELER, 1905, Bull. Amer. Mus. Nat. Hist., XXI, p. 90, ♂, ♀.

Bahamas:—Eleuthera.

A single colony from beneath a stone.

***Pheidole androsana* Wheeler subspecies *bakeri* Forel**

FOREL, 1912, Ent. mitt., I, p. 82, ♀, ♂.

Cuba:—Cardenas; San Blas.

One large colony was found in each locality. The type locality is Havana, so the species occurs throughout at least the eastern part of the island, though it is rare locally.

**Pheidole flavens** Roger

ROGER, 1863, Berliner, ent. Zeitschr., VII, p. 198, 2, ♀.

Bahamas:—New Providence; Eleuthera.

Cuba:—Herradura; Limones.

**Pheidole flavens** Roger subspecies **asperithorax** Emery variety **semipolita**  
Emery

EMERY, 1896, Bull. Soc. ent. Ital., XXVIII, p. 78, 2, ♀.

Cuba:—Baracoa.

Several soldiers from a single colony agree perfectly with Emery's description of this variety from Para, Brazil.

**Pheidole flavens** Roger **asperithorax** Emery, variety ?

Bahamas:—Andros.

A single colony of a variety close to, if not identical with, this subspecies.

**Pheidole punctatissima** Mayr subspecies **annectens** Wheeler

WHEELER, 1905, Bull. Amer. Mus. Nat. Hist., XXI, p. 93, 2, ♀, ♀.

Bahamas:—New Providence (Nassau).

**Pheidole punctatissima** Mayr variety

Cuba:—Mina Carlota; Pinares.

**Solenopsis geminata** Fabricius

*Atta geminata* FABRICIUS, 1804, Syst., Piez., p. 423, No. 6, ♀.

Distributed everywhere throughout Cuba and the Bahamas, where it is a decided pest, both on account of its sting and because it attacks the tender buds of plants, especially of citrus fruits, to which it does much harm. It is one of the species that are very fond of attending scale insects and, by protecting these, must cause, indirectly, considerable damage. Sometimes it lives in houses. At Guantanamo I got rid of a horde that was in my room at the hotel by leaving about honey mixed with a little Fowler's solution. The workers and soldiers ate it greedily as soon as they found it and during the week following no more were seen in the room.

**Solenopsis leviceps** Mayr

MAYR, 1870, Sitz. Akad. Wiss. Wien, LXI, p. 406, ♀.

Bahamas:—New Providence (Nassau).

Several workers from a small colony that was nesting with *Wasmania auropunctata* agree closely with Mayr's description of workers from Columbia.

**Solenopsis corticalis** Forel **binotata**, new variety

Differing from the typical form in color and in its very sparse pilosity. The color is clear yellow, with distinct fuscous spots at the sides of the first gastric segment apically.

Cuba:—San Antonio de Sul.

The variety *virgula* Forel, also from Cuba, has the head shorter than in the typical St. Thomas form and in *binotatus*, but in the description no mention is made of the color.

**Solenopsis globularia** F. Smith **desecheoensis**, new variety

Two workers, collected by Frank E. Lutz, given to me by Prof. Wheeler belong to an undescribed variety of *globularia*, differing from the typical form and the variety *borinquenensis* Wheeler in color. The head and body are jet black, with the antennæ and legs yellowish brown.

Desecheo Island, Porto Rico.

**Wasmannia auropunctata** Roger

ROGER, 1863, Berliner ent. Zeitschr., VII, p. 182, ♀, ♀, ♂.

Cuba:—Viguitas (Oriente); Mina Carlota.

**Atta insularis** Guérin

GUÉRIN, 1845, Iconogr. Regn. Anim., VII, Insect., p. 422, ♀.

Cuba:—Throughout the island.

With the possible exception of the black fly (*Aleurocanthus woglumi* Ashby), *Atta insularis* (known to the Cubans as "Bibijagua") is the most serious insect pest of the island. It gathers leaves from several species of plants, but chiefly from the tapioca ("Yuca") and citrus trees, especially the orange.

Solitary trees are sometimes protected by a double circle of tin at the base containing water (Fig. 8), a good protection where there are few trees. Small colonies may be exterminated by pouring carbon bisulphide in the burrows. Larger colonies are best destroyed by fumigation with sulphur fumes, forced into the nest entrance by a bellows. When this is thoroughly done it is an entirely satisfactory means of controlling the ant.

**Acromyrmex (Trachymyrmex) jamaicensis** Ern. André variety  
**maritima** Wheeler

*Atta (Trachymyrmex) maritima* WHEELER, 1905, Bull. Amer. Mus. Nat. Hist., XXI, p. 107, ♀.

Bahamas:—Andros (Mangrove Cay); Eleuthera (Bluff).

Large series from the two localities differ from typical *jamaicensis* in the uniformly darker color.



Fig. 8. Double pan, filled with water, at base of orange tree to protect it from the "bibijagua" (*Atta insularis* Guérin).

**Mycocepurus smithi** Forel variety **borinquenensis** Wheeler

WHEELER, 1907, Bull. Amer. Mus. Nat. Hist., XXIII, p. 718, ♀.

Cuba:—Limonas.

**Cryptocerys (Hypocryptocerus) hæmorrhoidalis** Latreille

LATREILLE, 1802, Hist. nat. fourmis, p. 276, ♀.

San Domingo:—Blanton Mine, north of San Cristobal; (Morrison)

**Cryptocerus (Cryptocerus) varians** F. Smith

SMITH, 1876, Trans. Ent. Soc. London, p. 606, ♀.

Bahamas:—New Providence (Nassau); Andros (Mangrove Cay).

Cuba:—San Antonio de los Baños; Cienfuegos (Quinta Cabada); Castillo; Yateras; Cardenas.

**Strumigenys eggersi** Emery **cubaensis**, new variety

A small series of workers differ from typical *eggersi* in not having the inner borders of the mandibles denticulate, in this respect resembling var. *vicentensis* Forel from St. Vincent, but the latter variety has the gaster smooth and shining, while in *cubaensis* it is opaque.

Cuba:—Cienfuegos.

**Strumigenys rogeri** Emery

*Pyramica gundlachi* ROGER, 1862, Berliner ent. Zeitschr., VII, pp. 253, 254, fig. 18a, ♀.

EMERY, 1890, Bull. Soc. ent. Ital., XXII, p. 31, Pl. VII, fig. 6, ♀.

Cuba:—Santiago de Cuba; Mina Carlota.

Several workers agree closely with Emery's description and figure of the worker of this species and with workers from Hayti. The single female before me undoubtedly is the same form that Roger described and figured as that of *Pyramica gundlachi*.

**Strumigenys alberti** Forel

FOREL, 1873, Trans. Ent. Soc. London, p. 380, ♀, ♀.

Cuba:—Santiago de Cuba; Baracoa; Mina Carlota; Yateras District; Cienfuegos; Limonas.

This is the commonest species of *Strumigenys* on the island. It nests beneath stones, bark, and among rotting leaves.

**Strumigenys margaritæ** Forel

FOREL, 1893, Trans. Ent. Soc. London, pp. 378-380, ♀, ♀, ♂.

Bahamas:—New Providence (Nassau).

**Epitritus emmæ** Emery

EMERY, 1890, Bull. Soc. ent. Ital., XXII, p. 70, Pl. VIII, fig. 6, ♀.

Bahamas:—Andros (Fresh Creek).

A single worker was found beneath a stone.

**Dolichoderinæ****Tapinoma litorale** Wheeler

WHEELER, 1905, Bull. Amer. Mus. Nat. Hist., XXI, p. 109, ♀, ♀, ♂.

Bahamas:—Andros (Fresh Creek; Mangrove Cay).

**Tapinoma litorale** Wheeler variety **cubaensis** Wheeler

WHEELER, 1913, Bull. Mus. Comp. Zool. Camb., LIV, p. 498, ♀, ♀.

Cuba:—Mina Carlota; Guantanamo.

**Dorymyrmex pyramicus** Roger

*Prenolepis pyramica* ROGER, 1863, Berliner ent. Zeitschr., VII, p. 160, ♀.

Cuba:—Limonas.

Much less common than the following variety.

**Dorymyrmex pyramicus** Roger variety **niger** Pergande

PERGANDE, 1895, Proc. Cal. Acad. Sci., (2) V, p. 871, ♀.

Cuba:—Abundant throughout the island.

San Domingo:—Blanton Mine; Duarte; San Pedro de Macoris.

**Camponotinæ****Brachymyrmex heeri** Forel variety **obscurior** Forel

FOREL, 1893, Trans. Ent. Soc. Lond., p. 345, ♀.

Cuba:—Cienfuegos; San Blas.

San Domingo:—San Domingo City; (Morrison).

**Prenolepis (Nylanderia) vividula** Nylander variety **antillana** Forel

*Prenolepis guatemalensis* subsp. *antillana* Forel, 1893, Trans. Ent. Soc. London, p. 340, ♀, ♀, ♂.

Cuba:—Guantanamo; Mina Carlota; Baracoa.

**Prenolepis (Nylanderia) steinheili** Forel

FOREL, 1893, Trans. Ent. Soc. London, p. 324, ♀.

Cuba:—San Antonio de los Baños.

**Prenolepis (Nylanderia) anthracina** Roger

ROGER, 1863, Berliner ent. Zeitschr., VII, p. 161, ♀.

Cuba:—Baracoa; Mina Carlota; Yateras District.

Several small colonies were found beneath stones, but no males were seen. The workers resemble those of *steinheili*, but have the head proportionately broader and more convex at sides and the color is much darker.

***Prenolepis (Nylanderia) myops*, new species**

WORKER.—Length 1.75 mm.

Head longer than broad, slightly narrowed in front, with nearly straight sides, broadly rounded corners and straight occipital border. Mandibles with four slender teeth. Clypeus twice as broad as long, strongly convex, narrowly concave at middle of anterior border. Antennal scapes surpassing the occipital corners by three-eighths of their length; first funicular joint a little shorter than the second and third together; terminal joint strongly compressed, about as long as the two preceding joints together. Eyes very small, composed of eight ommatidia, situated in front of sides and well anterior to middle. Pronotum longer than broad, flattened above. Mesonotum as broad as long, flattened. Epinotum rounded basally, the declivous portion flattened at middle obtusely margined and bituberculate at sides. Petiolar scale cuneiform, with the anterior surface flat and the posterior rounded; seen from behind, more than twice as high as broad, with nearly straight sides and rounded upper margin. Gaster stout, legs long and slender.

Smooth and shining, with erect hairs very coarse and moderately abundant on head and body and finer on appendages.

Color brownish yellow to lemon-yellow.

FEMALE (deälated).—Length 3.20 mm.

Differing from the worker in having the head as broad as long and with more convex sides. Mesonotum with strong lateral furrows. Scutellum much broader than long and flattened.

Front, vertex and occiput shallowly but densely punctate. Gastric segments densely striolate.

Hairs on head fine, silky and rather dense; elsewhere similar to those of worker.

Color brown; antennæ and legs yellowish brown.

MALE.—Length 1.50 mm.

Head, excluding eyes, a little longer than broad, convex at sides and straight behind. Vertex depressed between the ocelli; front with a strong impression beneath the median ocellus and another between the frontal carinæ. Mandibles well developed, edentate. Clypeus with straight anterior border. Eyes convex, about three times as long as their distance from anterior border of head. Antennal scapes attaining occipital corners; funicular joints one to five cylindrical, longer than broad; remaining joints compressed; terminal joint asymmetrically lanceolate, as long as the two preceding joints together. Thorax robust. Mesothorax flat in front, transversely impressed at apical third, without Mayrian furrows; parapsidal furrows narrow. Scutellum transverse, rounded. Base and declivity of epinotum rounding into each other. Petiolar scale small, thin and directed forward. Gaster large and stout; genitalia prominent; stipites large and spatulate apically, squamulæ convex and rounded apically.

Shining. Head and thorax densely, shallowly punctate. Without erect hairs. Legs, antennæ, and gaster with pollinose pubescence.

Black, appendages brown. Wings hyaline with veins and stigma brown.

Cuba:—Mina Carlota (Trinidad Mts.).

Described from a series taken beneath a stone. Distinct from related species in the very small size of the eyes as well as in color.

***Prenolepis (Prenolepis) gibberosa* Roger**

ROGER, 1863, *Berliner ent. Zeitschr.*, VII, p. 161, ♀.

WORKER.—Length 3–3.5 mm. (Fig. 9).

Head a little longer than broad, as broad in front as behind, with slightly convex sides, rounded corners and nearly straight occipital border. Mandibles slender, with five triangular teeth. Clypeus strongly convex, anterior border straight. Frontal carinæ short, feeble, and parallel. Frontal area distinct, a little broader than long. Antennæ long and slender, their scapes surpassing the occipital corners by two-thirds their length, slightly thickened at distal third; funicular joints one to seven about

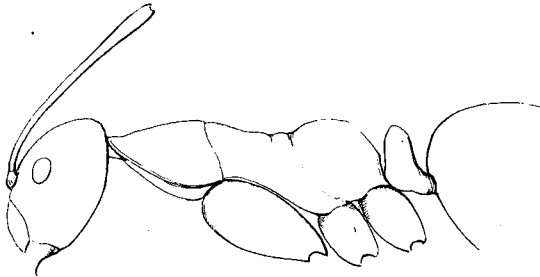


Fig. 9. *Prenolepis (Prenolepis) gibberosa* Roger ♀. Head, thorax, and petiole from side.

four times as long as broad; joints eight to ten proportionately shorter than the two preceding joints together, longitudinally impressed at anterior two-thirds. Eyes small and convex, situated in front of sides of head, a little behind the middle. Thorax slender. Pronotum longer than broad, narrowed anteriorly. Mesothorax in profile saddle-shaped; from above, strongly constricted, a third as broad as the pronotum, with a pair of small tubercles posteriorly. Epinotum at base elevated into a rounded hump. Petiolar scale in profile directed forward, with straight anterior and posterior surfaces, little narrowed above and rounded. Gaster oval. Legs very long and slender.

Head and body microscopically, granulosely opaque. Gaster opaque, finely and densely punctate and with small setigerous tubercles. Legs densely and shallowly punctate.

Coarse, stiff, erect hairs sparsely distributed on head and body, and finer and shorter hairs on appendages.

Color brown, gaster black, apices of femora, bases of tibiæ, tarsi, and apical half of antennal funiculi white.

Cuba:—Baracoa; Piedra Gorda; Pinares.

This form is apparently confined to the mountains of eastern Cuba, while the following subspecies occurs also in western localities.



**Prenolepis (Prenolepis) gibberosa Roger rogeri**, new subspecies

WORKER.—Length 4 mm.

Differing from the preceding form in its larger size more robust in form, in having the gaster shining instead of opaque and in color. The brown of the head, thorax, epinotum, and petiole is more reddish. The appendages are uniformly dark reddish brown, in some individuals almost black.

Cuba:—Yateras District; Guantanamo; San Blas (type locality).

Both *gibberosa* and its subspecies *rogeri* live in deep woods, where they form large colonies in decayed logs. The workers are exceedingly active and in habitus and behavior remind one of *Plagiolepis longipes* Jerdon.

**Myrmelachista rogeri** Ern. André

ANDRÉ, 1887, Rev. ent., VI, p. 288, ♀.

Cuba:—Saetia (Oriente.)

Several workers found on a tree trunk are referable to this species. The color is black with the anterior margin of the head and mandibles reddish and the antennæ and tarsi brown.

**Myrmelachista rogeri** Ern. André **rubriceps**, new variety

WORKER.—Length 1.75–2.5 mm.

Head a little longer than broad, as broad in front as behind, with slightly convex sides, broadly rounded occipital corners and shallowly concave border. Mandibles with four unequal teeth. Antennæ short, their scapes thickened at anterior half, extending two-thirds the distance to occipital corners; first funicular joint nearly as long as the three succeeding joints together; joints two to five very small, broader than long; club strong, three-jointed, the terminal joint longer than the other two together. Eyes small and flat, situated at middle of sides of head. Pronotum as long as broad, rounded above and at sides. Promesonotal impression distinct, but not deep. Mesonotum convex, a little broader than long. Meso-epinotal impression profound. Epinotum from above, longer than broad, with rounded sides, in profile rather flat with the basal portion a little longer than the declivity. Petiolar scale twice as high as thick, anterior face rounded, posterior face flat, upper border strongly excised at middle. Gaster large, nearly as long as the rest of body and head together, rather flat. Legs robust, especially the anterior ones, and somewhat compressed.

Shining throughout. Mandibles finely striate and punctate; the head and body smooth, except for widely separated and minute punctures which are very distinct and regular on head and antennal scapes and more minute and less discernible on the rest of the body.

Pilosity sparse and very fine; shorter and somewhat coarser on antennæ and legs.

Head, mandibles, and antennæ brownish red; the rest, excepting tarsi, black. Tarsi brown.

Cuba:—Pinares.

Described from numerous workers taken from the trunks of pine trees.

This variety is distinct from the typical form in color and somewhat larger size. The cleft in the upper border of the node is deeper than in the typical form, but this character is variable and I have only a small series of the latter to compare.

**Myrmelachista ambigua** Forel subspecies **ramulorum** Wheeler

WHEELER, 1908, Bull. Amer. Mus. Nat. Hist., XXIV, p. 155, ♀, ♂.

Porto Rico:—Maricao; Mayaguez.

St. Thomas:—Charlotte Amalie; (Morrison).

**Camponotus (Myrmobrachys) planatus** Roger

ROGER, 1863, Berliner ent. Zeitschr., VII, p. 146, ♀, ♂.

Cuba:—Occurs very abundantly through the island, where I found it in all localities visited, except in the vicinity of Pinares in the pine forest.

**Camponotus (Myrmoturba) santosi** Forel

FOREL, 1908, Verh. zool-bot. ges. Wien, LVIII, p. 408, ♀.

Cuba:—San Antonio de los Banos; San Blas; Baracoa; Pinares; Mina Carlota; Limones.

**Camponotus (Myrmoturba) ramulorum** Wheeler

WHEELER, 1905, Bull. Amer. Mus. Nat. Hist., XXI, p. 114, ♀, ♂.

Cuba:—Cienfuegos; Simpatia; Yateras District; San Blas; Cardenas; Victoria de las Tunas; Mina Carlota.

**Camponotus (Myrmoturba) maculatus** (Fabr.) subspecies **lucayanus**

Wheeler

WHEELER, 1905, Bull. Amer. Mus. Nat. Hist., XXI, p. 112, 3 ♀♀, ♂.

Bahamas:—Andros (Fresh Creek); Eleuthera (Bluff).

**Camponotus (Myrmeurynota) gilviventris** Roger

ROGER, 1863, Berliner ent. Zeitschr., VII, p. 145, ♀.

WORKER MAJOR.—Length 7-7.5 mm.

Head slightly longer than broad, a little narrowed in front, with feebly convex sides, rather prominent and very narrowly rounded occipital corners and nearly straight border. Mandibles thick, with five strong, triangular teeth. Clypeus broader than long, with anterior border very shallowly concave at middle; surface convex at middle and shallowly depressed at sides anterior to middle. Frontal carinae strong, extending half the distance to occipital border. Frontal area triangular. Cheeks with a strong pit touching marginal suture of clypeus a little in front of middle. Eyes large and rather flat, situated in front of sides of head at posterior third. Antennal scapes arcuate, thickened distally, surpassing occipital corners by a distance equa-

to twice their thickness at apex; first funicular joint three times as long as broad; succeeding joints much longer than broad, becoming proportionately shorter and thicker apically; penultimate joint less than twice as long as broad; terminal joint a little less than twice the length of the penultimate. Prothorax much broader than long, strongly lamellate at sides, with prominent, narrowly rounded humeri; surface very slightly convex. Mesothorax transversely oval; sides narrowly rounded, surface flat. Basal portion of epinotum from above appearing as an elevated hump, somewhat triangular in outline; in profile rounded above and about a third as long as the declivity, from which it is separated by a rounded angle. Node in profile wedge-shaped; sides very thin, apical border strongly and broadly excised at middle, with the sides produced angulately. Gaster short, broad and thick.

Subopaque. Mandibles very coarsely punctate, somewhat shining. Head, pronotum, mesonotum, and base of epinotum evenly and very densely punctate; sides of basal portion of epinotum, the declivity and petiolar node regularly striate. Gaster opaque, finely and densely punctate.

Antennæ with fine silky appressed hairs and a few longer suberect ones at tips of scapes. Head, thorax, epinotum, node, and legs with erect, very coarse white setæ, which are strongest and form a crest on the margin of the node. Head, besides, with fine and recumbent white hairs. Gaster with moderately dense scale-like, oppressed hairs and scattered, erect pile, golden in color.

Color black, with anterior portion of head, mandibles, antennæ, and dorsum of gaster red, the latter, however, with a black blotch at middle of base of first segment and blackish basal margins to the other segments. Legs black, tarsi brownish.

WORKER MINOR.—Length 5.5–6.5 mm.

Closely resembling the worker major, except in the smaller size of the head and the more elongate and slender antennal scapes, which surpass the occipital corners by a distance equal to one-fourth their length.

Cuba:—Mina Carlota; Pinares.

Found in the deep woods in the mountains, where workers are seen foraging on leaves and tree trunks. The colonies are very large and nest in hollow twigs or in cavities of trees. One colony was found in a fern stalk, the other end of which was occupied by a flourishing colony of *C. (Colobopsis) sphæricus* Roger.

### ***Camponotus (Colobopsis) sphæricus* Roger**

*Camponotus sphæricus* ROGER, 1863, Berliner ent. Zeitschr., VII, p. 146, ♀.

WORKER MAJOR.—Length 7 mm. (Fig. 10).

Head a little longer than broad, slightly narrowed in front, sides nearly straight, occipital corners narrowly rounded, border moderately convex, anterior truncated portion twice as broad as long, strongly carinate at sides and posteriorly strongly depressed; anterior third of the sides less depressed. Mandibles very stout, four-dentate. Clypeus slightly longer than broad, strongly narrowed behind, convex at middle, depressed in front laterally, not carinate; anterior border moderately excised at middle. Frontal carinæ strong, arcuate, extending three-fourths the distance to posterior border. Front, between carinæ, strongly impressed, the impression margined behind with elevated ridge, which becomes feeble at middle and divided by a longitudinal carina at middle. Eyes flat, situated a little posterior to the middle of

the space between posterior border of head and the truncated portion. Antennal scapes strongly curved and flattened basally, thickened apically, surpassing the occipital corners by a distance equal to their diameter at tips; first funicular joint a little longer than the second; remaining joints gradually decreasing in length; terminal joint twice as long as penultimate. Thorax robust. Pronotum more than twice as broad as long, arcuate, separated from pleuræ by an indistinct, rounded margin. Mesonotum a little broader than long. Epinotum evenly rounded above, the declivous portion flattened. Petiole in profile thin, wedge-shaped. Gaster thick, short. Legs short; femora compressed.

Subopaque. Head and legs somewhat more shining than the rest. Head, body and appendages finely and very densely punctate, impressed portions of head densely rugulose; vertex with scattered foveolate punctures. Mandibles sparsely and rugosely punctate and with fine striae.

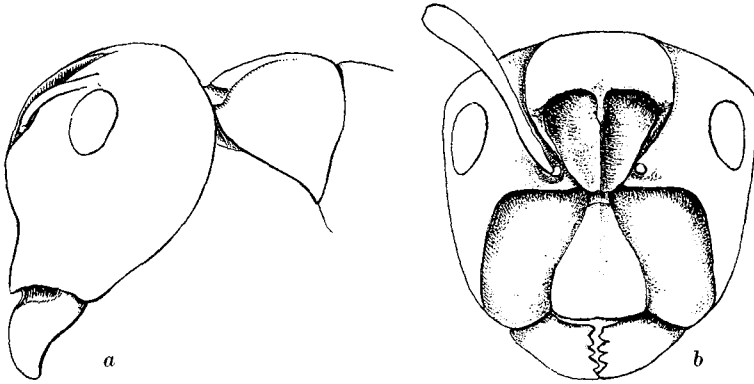


Fig. 10. *Camponotus (Colobopsis) sphericus* Roger, ♀. a.—Head and pronotum from side. b.—Head from front.

Vertex, thorax, epinotum, and gaster with abundant white, glistening hairs, erect on vertex and thorax, but both erect and recumbent on gaster. Legs with finer recumbent hairs. Antennal scapes with a few erect hairs at tips.

Color black, antennæ and legs red, the anterior femora infuscated on flexor sides.  
WORKER MINOR.—Length 5.5 mm.

Head longer than broad, narrowest in front, sides nearly straight. Clypeus broader than long, indistinctly and bluntly elevated at middle, with straight anterior border. Frontal carinæ feeble and short, not extending to opposite middle of eye. Antennæ slender, their scapes surpassing occipital corners by about one-third their length.

Body and appendages somewhat shining. Sculpture similar to that of soldier, except that the head is not rugulose in front and the erect white hairs are much more abundant and not absent on the front of head.

Color as in worker, except the mandibles which are red instead of black.

Cuba:—Pinares Baracoa.

Redescribed from a large series which I found in a hollow fern stalk at Pinares and from specimens collected and given to me by Señor Patrucio Cardin, Government Entomologist of Cuba, who took them at Baracoa. The types of the species came from Santiago de Cuba. It apparently is a mountain form, confined to the eastern end of the island.

**Camponotus (Colobopsis) sphaericus** Roger **cardini**, new variety

Two workers collected by Frank E. Lutz and given to me by Prof. Wheeler differ from the preceding form in having all the femora black, except at the tips, and the pilosity of the gaster is rather more abundant.

Cuba:—North of Viñales.

**Camponotus (Colobopsis) sphaericus** Roger subspecies **sphaeralis** Roger  
*Camponotus sphaeralis* ROGER, 1863, Berliner ent. Zeitschr., VII, p. 147, ♀.

SOLDIER.—Length 5 mm.

Differing from typical *sphaericus* in its smaller size and in the following characters: the pro- and mesothorax are longer in proportion to their width; the erect hairs on the body are sparser, the oppressed ones on the gaster are decidedly squamiform.

WORKER.—Length 4–4.5 mm.

Head proportionately a little longer than in *sphaericus*. Head and body beset with abundant, though not dense, squamiform white hairs. Erect pile much less abundant than in the typical form.

Cuba:—Cardenas; Victoria de las Tunas.

This and the preceding form, though distinct, are no more than sub-specifically different. The typical form is mountain inhabiting, living in the dense woods in hollow twigs. The subspecies occurs at lower altitudes and in dry open woods.

**Camponotus (Colobopsis) gundlachi**, new species

WORKER.—Length 3 mm.

Head a little longer than broad, with convex sides, rounded corners and convex occipital border. Mandibles with four elongate triangular teeth. Clypeus convex, obtusely carinate at middle, rounded in front. Antennæ slender, their scapes surpassing occipital corners by about one-third of their length; first funicular joint less than twice as long as the second; remaining joints subequal; terminal joint not as long as the two preceding joints together. Eyes large and convex, situated in front of sides of head and posterior to the middle. Pronotum about twice as broad as long, roundly margined at front and at anterior two-thirds of sides; the surface rather flat. Pro-mesonotal impression feeble; meso-epinotal impression obsolete above. Mesonotum twice as long as broad. Basal and declivous portions of epinotum rounding into each other, the surface of the latter flat, with rather prominent lateral tubercles. Petiolar node in profile a little more than twice as high as long, rounded in front, behind and above; margined at sides. Gaster small and elongate.

Shining throughout. Mandibles with dense and fine punctation and sparse, coarser punctures. Head and thorax above very densely, evenly and shallowly punctate; thoracic pleuræ, epinotum, petiole, and gaster subtilly striolate. Legs punctate.

tate similarly to body, but rather more fully.

Hairs on head and body very sparse, fine, silky and semirecumbent, those on antennæ and legs short and stiff.

Black, with the anterior portions of head and the mandibles reddish. Antennæ and legs yellowish brown.

Cuba:—Saetia (Oriente).

Described from a single worker taken on a leaf in dry open woods. I do not hesitate to describe the species from the worker phase, because it is undoubtedly a *Colobopsis* and strikingly different from any of the other West Indian species.

**Camponotus (Colobopsis) culmicola** Wheeler **haweisi**, new variety

Distinguished from typical *culmicola* as follows. In the soldier the head is red, the remainder testaceous to brownish, with the last two gastric segments black. The workers are similarly colored, except that the head is light brown, similar to the thorax. The structure and sculpture are as in *culmicola*.

A soldier and small series from a colony taken in a hollow stalk at Nassau, Bahamas.

This very handsome variety is named after Mr. Stephen Haweis, the artist.