

ART. II.—*New Formicidae, with Notes on some Little-known Species.*

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The following pages contain the descriptions of fourteen new species, and the female of a previously described species.

A new genus, *Eubothroponera*, has been erected to contain three species which cannot satisfactorily be placed elsewhere. It is certainly close to *Bothroponera* Mayr.

Owing to the confusion which has always surrounded the ants collected by the members of the Horn Expedition and described by W. F. Kirby (Horn Expedition, i, suppl., pp. 203-207, 1896), it has been considered advisable to review the types in the National Museum collection. The identifications and descriptions are worthless, and none of the species are recorded by Emery in the *Genera Insectorum*. This is not to be wondered at, as it is impossible to determine anything from the descriptions given, and even with the types at hand it is difficult to make them agree. There appears to be five valid species among the material. These, with the exception of *Iridomyrmex flavipes*, have been redescribed. Forel's description of *I. rostrinotus* (= *I. flavipes* Kirby) is too complete to warrant further detail.

EUSPHINCTUS (NOTHOSPHINCTUS) BRUNNICORNIS, n. sp.

(Text-fig. 1, No. 1.)

*Worker*.—Length, 3.5—4.5 mm.

Yellow. Mandibles and funiculus, except the apical segment, brown.

Shining. Finely and densely punctate throughout.

Hair yellow, short and suberect, longer and more numerous on the apical segments of the gaster. Pubescence very fine, short, particularly on the antennae and legs.

Head one fourth longer than broad, as broad in front as behind, the occipital border concave, the sides feebly convex. Frontal carinae erect, truncate behind. Clypeus very short, with a blunt translucent tooth-like projection at the middle in front. Cheeks not, or very feebly, carinate. No trace of eyes or ocelli. Antennae short and robust, scapes not extending beyond the middle of the head; segments one to ten of the funiculus broader than long, the apical as long as the four preceding together. Mandibles large and triangular, furnished with twelve to fourteen teeth. Thorax one and three-quarter times longer than broad, without traces of sutures, feebly constricted in the mesonotal region, posterior

border of the epinotum feebly margined. Epinotal declivity abrupt, concave below, submarginate on the sides above; there is a blunt, tooth-like projection at each side below. Node as broad as long, slightly broader behind than in front, the anterior border straight, the sides and posterior border feebly convex; in profile as high as long, almost dome shaped; there is a broad, blunt, tooth-like projection on the ventral surface in front. Postpetiole almost one and a half times broader than long, broader behind than in front, the sides feebly convex. There is a deep and wide constriction between each of the segments of the gaster, all the segments broader than long. Pygidium truncate, flattened above, with a row of short, sharp spines on each side. Legs short and stout.

Habitat.—Western Australia: Collie (J. Clark).

Near *E. (N.) silaceus* Clark, from which it is readily distinguished by the somewhat shorter thorax, longer node and broader postpetiole, as well as by the colour of the mandibles and antennae.

PHYRACACES CLARUS, n. sp.

(Text-fig. 1, No. 2.)

*Worker*.—Length, 9—10 mm.

Bright castaneous. Antennae and tarsi darker. Eyes, ocelli, margins of the thorax and node black.

Shining. Densely and microscopically punctate throughout, slightly coarser on the front of the head than elsewhere. Lower half of the sides of the thorax finely rugose.

Hair yellow, long and erect, pointed, abundant throughout, particularly on the apical segments of the gaster, shorter on the antennae and legs. Pubescence very fine and adpressed, confined to the antennae and legs.

Head as long as broad, the occipital border almost straight, the sides convex. Frontal carinae erect, truncate and confluent behind. Carinae of the cheeks short, extending back level with the frontal carinae. Clypeus short, broadly rounded and feebly produced in front. Eyes large, almost globular, placed at the middle of the sides. Three large prominent ocelli. Scapes extending to the anterior ocellus; second segment of the funiculus fully one-third longer than the first, apical barely as long as the two preceding together. Mandibles triangular, finely denticulate, abruptly bent at their base. Thorax one and three-quarter times longer than broad, constricted at the mesonotal region, with faint traces of sutures. Pronotum convex and subbordered in front, strongly bordered and convex on the sides, the border terminates at the suture. Mesonotum not margined. Epinotum strongly convex and margined on the sides, the posterior border feebly convex and strongly margined. The declivity short and steep, submarginate on the sides. Petiole broader than long, much broader behind than in front, the anterior border concave, submarginate, the sides

strongly convex and marginate, the anterior angles sharp, the posterior angles produced as broad translucent teeth, directed outward and curved inward. There is only a feeble indication of a tooth on the ventral surface, near the middle. Postpetiole fully one-third broader than long, much broader behind than in front, the anterior border straight, marginate, the sides strongly convex, the anterior two-thirds submarginate. A deep and wide constriction between the postpetiole and gaster, the latter broader than long. Legs long and slender, hind coxae without a lamella behind.

*Female*.—Length, 10–12 mm.

Similar to the worker, but larger and winged. The pilosity is much more abundant. Parapsidal furrows strongly impressed. Mayrian furrows not defined. Wings hyaline, all the veins in front of the cubitus obsolete.

*Male*.—Length, 8 mm.

Colour and pilosity similar to the worker.

Shining. Head, pronotum, scutellum and epinotum finely and densely rugose. Mesonotum, node, postpetiole and gaster smooth with large, scattered, piligerous punctures.

Head broader than long, strongly convex behind. Frontal carinae erect, truncate but not confluent behind. Clypeus short, broadly rounded. Eyes large and convex, occupying almost half the sides. Ocelli large and convex. Scapes of the antennae extending to the anterior ocellus; second segment of the funiculus one third longer than the first. Mandibles large and triangular, edentate. Pronotum short, just visible from above, broadly convex. Mesonotum large, as broad as long, strongly arched in front, straight behind, mayrian and parapsidal furrows not indicated. Scutellum dome shaped, slightly broader than long. Epinotum broader than long, the posterior border margined; in profile the declivity straight, the sides margined. Node as long as broad, the anterior border straight, the sides and posterior border convex. Postpetiole as broad as long, almost three times broader behind than in front. First segment of the gaster one-fourth broader than long, broadest behind. Genitalia retracted. Legs long and slender.

Habitat.—Western Australia: Cannington (D. L. Serventy); Mundaring, Kalamunda and National Park (J. Clark).

This species comes nearest to *P. constricta* Clark, but may be distinguished by its smaller size and more robust thorax. In *P. constricta* the sides of the declivity are margined.

#### PHYRACACES FLAMMEUS, n. sp.

(Text-fig. 1, No. 3.)

*Worker*.—Length, 6.5 mm.

Red. Eyes and margins of the head, thorax and node black.

Shining. Mandibles punctate. Front of the face finely rugose, the rest of the head, thorax, node and gaster with isolated, shallow, piligerous punctures.

Hair yellow, long and suberect, abundant throughout, particularly on the apical segments of the gaster. Pubescence not apparent.

Head as broad as long, broader behind than in front, the occipital border and sides feebly convex, the angles rounded and margined; the margin extends from the inferior posterior corner to within one-third of its length from the posterior border of the eyes; this carina is continued on the under surface, and is the same length as the one above. Frontal carinae erect, truncate and confluent behind, with a distinct longitudinal carina between them. Clypeus very short and rounded. Eyes moderately large and convex, placed at the middle of the sides. No ocelli. A moderately strong carina on the cheek extending to the anterior third of the eyes, strongly bent inward behind the middle. Scapes extending to the posterior fourth of the head, gradually thickened to their apex; apical segment of the funiculus barely as long as the two preceding segments together. Mandibles triangular, the external border concave in the middle, the inner border edentate. Thorax one and one-half times longer than broad, the sutures feebly indicated. Pronotum feebly convex in front and on the sides, the angles sharp, strongly marginate. The posterior border of the epinotum almost straight, the sides convex; in profile the declivity straight and at an obtuse angle, the sides marginate. The pronotum is sharply margined vertically. Node one fourth broader than long, much broader in front than behind, the anterior border straight, strongly marginate, the sides strongly convex and marginate, the posterior corners produced as broad sharp teeth, directed upward and backward; in profile there is a broad bifid tooth in front below, directed backward. Postpetiole one fourth broader than long, the anterior border straight, or feebly concave, the sides strongly convex and margined. First segment of the gaster fully one fourth broader than long. Legs long and slender. Coxae of the hind pair with a broad translucent lamina on top behind.

*Female*.—Length, 6.5—7 mm.

Closely resembles the worker, differing only in larger size, the ocelli well developed, and the sutures of the thorax more strongly impressed. The pilosity is a little longer and more abundant.

*Habitat*.—Western Australia: Lesmurdie Falls (J. Clark).

This species comes nearest to *P. brevicollis* Clark, but is readily distinguished by its smaller size and more slender form.

PHYRACACES FLAVESCENS, n. sp.

(Text-fig. 1, No. 4.)

*Worker*.—Length, 3.8—4.3 mm.

Reddish yellow. Eyes and margins of the thorax and node black.

Shining. Head very finely and densely reticulate-punctate. Mandibles smooth, with some large scattered punctures. Thorax, node and postpetiole reticulate-punctate as on the head, remainder of the gaster superficially reticulate.

Hair yellow, long and erect, abundant throughout, very short and adpressed on the antennae and legs.

Head slightly longer than broad, as broad in front as behind, the occipital border straight, the sides convex. Frontal carinae erect, truncate and confluent behind. Clypeus short and rounded. Eyes large, moderately convex, placed at the middle of the sides. No ocelli. Carina of the cheeks extending to and touching the anterior third of the eyes, bent inward and branched at the middle, one portion extending to the frontal carina above the antennal fovea. Scapes extending to the posterior third of the head, gradually thickened to their apex; first segment of the funiculus one fourth longer than the second, the apical as long as the three preceding segments together. Mandibles triangular, abruptly bent near the base, the external border concave at the middle, the inner border sharp, edentate. Thorax fully one and three quarter times longer than broad, without traces of sutures. Strongly constricted at the mesonotal region, the pronotum and epinotum of equal width. All four sides of the dorsum strongly marginate. Anterior border of the pronotum feebly convex, the angles sharp; in profile a sharp carina extending downward from the anterior angle. Posterior border of the epinotum convex; in profile the declivity abrupt and concave, marginate on the sides. Petiole broader than long, slightly broader behind than in front, the anterior border concave, the sides feebly convex, the posterior angles produced backward and inward as sharp, translucent teeth. The anterior border and sides marginate. Postpetiole slightly broader than long, convex in front and on the sides. First segment of the gaster much broader than long. Pygidium truncate, feebly margined, with a row of short bristles on each side. Legs long and slender, the posterior coxae with a large translucent lamina on top behind.

*Female*.—Length, 4.5—5 mm.

Very similar to the worker, but larger and more robust. Ocelli well developed. Mesonotum without mayrian furrows, parapsidal furrows well developed. Wings hyaline, with a brownish tinge, all the veins in front of the cubitus obsolete.

*Habitat*.—Western Australia: Eradu (J. Clark).

Near *P. newmani* Clark, from which it is distinguished by the colour, sculpture and more slender form, as well as by the form of the node.

#### Subfamily PONERINAE.

##### ACANTHOPONERA NIGRA, n. sp.

*Worker*.—Length, 2.7—3 mm.

Black. Mandibles brown. Scares and tarsi blackish brown.

Head, thorax and node opaque. Mandibles coarsely punctate. Head finely, longitudinally, striate-rugose on the middle, more reticulate-punctate on the sides. Pronotum finely reticulate-punctate. Mesonotum, epinotum and node and postpetiole more coarsely so. Declivity and gaster finely and densely punctate.

Hair reddish, long and erect, abundant throughout, shorter and suberect on the antennae and legs. Pubescence reddish, rather long and coarse, particularly on the gaster.

Head longer than broad, as broad in front as behind, the occipital border straight, the sides parallel, feebly convex, the angles rounded. Frontal carinae short, not as long as their distance apart, overhanging the antennal insertions in front. Clypeus convex above, the anterior border broadly convex. There is a strong carina extending from the anterior border of the clypeus to the occipital border. Eyes convex, placed at the posterior two-thirds of the head. Scapes extending slightly beyond the hind margin of the eyes; first segment of the funiculus three times longer than the second, the others subequal to the apical, which is longer than the two preceding together. Mandibles triangular, armed with five or six sharp teeth. Thorax one and a half times longer than broad. Pronotum one and two-third times broader than long, convex in front and on the sides. Suture between the mesonotum and epinotum very feebly defined. Mesonotum almost twice as long as broad. Epinotum fully twice as broad as long, the posterior border strongly concave, the angles produced. Declivity concave, with a distinct median furrow below, margined above and on the sides. Node one and two-third times broader than long, the anterior border and sides strongly convex, posterior border straight, or very feebly convex; in profile twice as high as long, parallel, the anterior, posterior and dorsal faces straight, the angles feebly rounded. There is a long, strong tooth in the middle of the under surface. This is continued in front, by a translucent membrane, as a plate-like projection. Postpetiole slightly broader than long, strongly convex in front and on the sides. There is a strong constriction between the postpetiole and first segment of the gaster, the latter slightly broader than long. Legs short and stout.

Habitat.—Victoria: Mt. William, Grampians (J. Clark).

The colour and pilosity separate this from the other known species.

EUPONERA (TRACHYMESOPUS) PACHYNODA, n. sp.

(Text-fig. 1, No. 5.)

Worker.—Length, 5 mm.

Castaneous. Densely and finely reticulate-punctate, more coarsely so on the gaster. Mandibles coarsely punctate.

Hair yellow, erect, long and abundant throughout, particularly on the apical segments of the gaster. Pubescence yellow, long

and adpressed on the head, thorax and node, much longer and more abundant on the gaster, but not hiding the sculpture, shorter on the antennae and legs.

Head longer than broad, as broad in front as behind, the occipital border concave, the sides convex. Frontal carinae short, twice as long as broad, flattened, overhanging the antennal insertions, separated by a very fine groove. Clypeus short, convex, broadly rounded in front. Eyes very minute, placed in front of the anterior third of the sides. Scapes extending beyond the occipital border by barely their thickness; first segment of the funiculus almost twice as long as the second, the others subequal to the apical, which is as long as the two preceding segments together. Thorax twice as long as broad. Pronotum broader than long, convex in front and on the sides. Mesonotum broader than long, strongly convex in front, feebly so behind. Epinotum longer than broad, convex in front, the sides parallel, the posterior border concave; in profile the dorsum straight longitudinally, the declivity convex, the sides feebly bordered. Node massive, one-third broader than long, strongly convex in front and on the sides, the posterior border straight; in profile almost one-third higher than long, parallel, the anterior and posterior faces straight, the dorsum feebly convex. There is a long tooth on the middle of the ventral surface, directed backward. Postpetiole broader than long, the anterior border and sides feebly convex, almost straight. There is a deep constriction between the postpetiole and first segment of the gaster, the latter broader than long.

Habitat.—Victoria: Ferntree Gully (F. P. Spry; L. B. Thorn).

It is with some doubts that this species is placed in the present genus. The epinotum and node are similar to those of the genus *Acanthoponera*, whilst the remainder are quite those of the present genus.

#### Genus *Eubothronera* gen. nov.

*Worker*.—Monomorphic. Mandibles triangular, edentate, Maxillary palpi with four, labial palpi two segments. Eyes large and convex. No ocelli. Frontal carinae represented as small flat, horizontal plates, or lobes, overhanging the antennal insertions, not, or hardly, defined behind, widely separated. In profile the head forms an even convexity from the anterior border of the clypeus to the occipital border. Clypeus broad and convex, level with the top of the carinae. Antennae with twelve segments, scapes pass the occipital border. Suture between the pronotum and mesonotum strongly impressed. Mesoepinotum without traces of a suture. Node massive, broader than long, with a long tooth in front below. First and second segments of the gaster separated by a strong constriction. Legs long and slender, the anterior pair each with one spur, the middle and posterior pair each with two spurs, claws small and simple.

Male and female unknown.

Genotype *Eubothroponera dentinodis*, n. sp.

Near *Bothroponera*. Distinguished by its small size, large eyes and differently shaped epinotum.

KEY TO THE SPECIES.

1. Red. Node with a strong tooth at the middle of the posterior border above. . . . . *dentinodis*, n. sp.
2. Red. Head and gaster brown. Node with a slight indication of a tooth at the middle of the posterior border above . . . . . *bicolor*, n. sp.
3. Brown. Epinotal declivity sharply margined. Node without a tooth above. . . . . *micans*, n. sp.

EUBOTHROPONERA DENTINODIS, n. sp.

(Text-fig. 1, Nos. 6, 6a.)

*Worker*.—Length, 4—4.5 mm.

Castaneous. Mandibles, antennae and legs lighter, eyes and posterior margin of the node black.

Subopaque. Head finely reticulate, with some large, very shallow, punctures. Mandibles densely punctate. Scapes and thorax densely and very finely punctate, the punctures larger on the end of the epinotum. Node more coarsely punctate, almost rugose. Gaster microscopically punctate, with some large, isolated, shallow punctures.

Hair yellow, erect, long and abundant on the head, thorax, node and gaster, none on the antennae and legs. Pubescence yellow, very fine and moderately abundant, particularly on the apical segments of the gaster, very abundant and adpressed on the antennae and legs.

Head slightly longer than broad, the occipital border feebly, the sides strongly convex. Frontal carinae overhanging the antennal insertions in front, hardly defined behind. Clypeus large, convex above, level with the top of the carinae. Eyes large and convex, placed at the middle of the sides. Scapes extending beyond the occipital border by twice their thickness; first segment of the funiculus as long as the second, the others subequal. Mandibles triangular, abruptly bent at their base, edentate. Thorax one and three-quarter times longer than broad. Pronotum fully one-third broader than long, convex in front and on the sides, the suture strongly impressed. Mesonotum and epinotum united without traces of a suture, the posterior border straight, feebly margined; in profile convex longitudinally, the declivity face straight, at an obtuse angle, the sides feebly margined. Node one-fourth broader than long, convex in front and on the sides, the posterior border sharply margined; there is a strong, tooth-like projection at the middle, directed backward; in profile higher than long, the anterior face vertical, as long as the dorsum, the posterior face con-



cave; there is a long, broad, blunt tooth below in front, and a smaller one behind directed backward. First segment of the gaster one-third broader than long. There is a decided constriction between the first and second segments, the latter broader than long. Legs long and slender.

Habitat.—Western Australia: Bungulla (J. Clark).

EUBOTHROPONERA MICANS, n. sp.

(Text-fig. 1, Nos. 7, 7a.)

*Worker*.—Length, 4—4.7 mm.

Blackish brown. Mandibles, antennae and legs brown.

Subopaque. Head, thorax and node very finely and densely reticulate, with a few isolated shallow punctures. Mandibles coarsely punctate. Scapes, legs, and gaster densely and very finely punctate; face of the declivity reticulate.

Hair yellow, erect, short and pointed, sparse throughout, very short and suberect on the legs. Pubescence long and fine, adpressed, forming a thin, but distinct, clothing on all the body.

Head one-fourth longer than broad, the occipital border feebly, the sides strongly convex. Frontal carinae overhanging the antennal insertions. Clypeus convex above, strongly convex and projecting in front. Eyes large, placed at the middle of the sides. Scapes extending beyond the occipital border by one-fourth of their length; first segment of the funiculus as long as the second, the others subequal. Mandibles triangular, abruptly bent near the base, edentate. Thorax almost twice as long as broad. Pronotum one-third broader than long, the anterior border strongly, the sides feebly, convex, the suture strongly impressed. Mesonotum and epinotum united without traces of a suture, the posterior border and sides of the declivity sharply margined; in profile convex longitudinally, the declivity abrupt, concave laterally. Node one-third broader than long, broader behind than in front, the anterior border feebly, the sides strongly convex, the posterior border straight, the dorsum flattened behind in the middle; in profile one-third higher than long, the anterior face and dorsum feebly convex, the posterior face straight; there is a long, broad, translucent tooth in front below, and a feeble one behind, directed backward. There is a well-defined constriction between the first and second segments of the gaster. Legs long and slender.

Habitat.—Western Australia: Mundaring (J. Clark).

Two small colonies of this species have been found. One, the first, was nesting in a burrow made by a trap-door spider. The second was under a piece of old bark on the ground. Both colonies appeared to be temporary, or moving; no females, eggs, larvae nor pupae were present.

Readily separated from *E. dentinodis* by the form of the head and node, as well as by the colour, sculpture and pilosity.

## EUBOTHROPONERA BICOLOR, n. sp.

(Text-fig. 1, Nos. 8, 8a.)

*Worker*.—Length, 4·8—5·3 mm.

Red. Head and gaster brown, mandibles, clypeus, antennae and legs reddish brown.

Shining. Head, thorax and node finely and densely punctate, the punctures on the thorax a little larger than those on the head, some large shallow punctures scattered sparingly throughout. Gaster densely, microscopically punctate.

Hair yellow, short and suberect, very sparse throughout. Pubescence fine, short and adpressed, particularly on the antennae and legs.

Head slightly longer than broad, the occipital border and sides convex. Frontal carinae overhanging the antennal insertions. Clypeus strongly convex above, the anterior border strongly produced. Eyes convex, placed at the middle of the sides. Scapes extending beyond the occipital border by one-fourth of their length; first segment of the funiculus slightly longer than the second, the others subequal. Mandibles triangular, abruptly bent at their base, edentate. Thorax one and three-fourth times longer than broad. Pronotum fully one and two-third times broader than long, convex in front and on the sides. Mesonotum and epinotum united without traces of a suture, convex laterally, the posterior border not margined; in profile convex longitudinally, the declivity at an obtuse angle, the boundary between the two faces hardly defined. Node one-fourth broader than long, broader behind than in front, the anterior border straight, sides convex, the posterior border straight and submargined, with traces of a tooth in the middle. Gaster distinctly constricted between the first and second segments. Legs long and slender.

Habitat.—Western Australia: Ludlow (J. Clark).

Several specimens taken on tree trunks. No nest has been found. This species comes near *E. micans*, but can be distinguished by the form of the head and node, also by the colour, sculpture and pilosity.

## BOTHROPONERA TASMANIENSIS Forel.

*Pachycondyla (Bothroponera) tasmaniensis* Forel, Bull. Soc.

Vaud. Sc. Nat., xlix, p. 176, 1913. ♂

I have not seen this species, but from the description given by Forel I am of the opinion that it is congeneric with the three preceding.

## Subfamily FORMICINAE.

POLYRHACHIS (CHARIOMYRMA) OPALESCENS, n. sp.

(Text-fig. 1, Nos. 9, 9a.)

*Worker*.—Length, 5—6 mm.

Black, but so densely clothed with reddish green opalescent matter as to give it an iridescent brownish sheen.

Shining. Head and mandibles finely longitudinally striate. Thorax more coarsely so. Declivity of the epinotum transversely striate. Node smooth. Gaster very finely and densely reticulate.

Hair yellowish, very long and erect, abundant throughout, shorter and suberect on the antennae and legs. Pubescence very fine and adpressed.

Head longer than broad, convex behind and on the sides. Frontal carinae swerving outward at the middle. Clypeus carinate, broadly produced in front, feebly dentate, the angles sharp. Eyes large and convex, placed at the posterior third of the sides. Scapes extending beyond the occipital border by one-half their length; first segment of the funiculus one-fourth longer than the second, the others sub-equal to the apical. Mandibles broad, armed with five large sharp teeth. Thorax one and one-fifth times longer than broad. Pronotum one and two-third times broader than long, much broader in front than behind, the sides strongly convex, the anterior angles bluntly produced, the anterior border and sides marginate. Mesonotum twice as broad in front as long, the sides convex, marginate. The suture between the mesonotum and epinotum feebly defined, the latter twice as broad as long, furnished with two long slender spines directed backward and outward, as long as their distance apart at the base, on the side of the epinotum, between the spines and base, is a broad angular projection. In profile the dorsum and declivity united without traces of a boundary, the spines feebly inclined upward near the base, then horizontal. Node thin, furnished with two long slender spines encircling the gaster; between these, on the dorsum, is a short, blunt tooth directed upward; in profile the node is much thicker below than above, the spines almost straight. Gaster slightly longer than broad. Legs robust.

Habitat.—New Hebrides: Banaka (W. W. Froggatt).

POLYRHACHIS (HEDOMYRMA) KERSHAWI, n. sp.

(Text-fig. 1, Nos. 10, 10a.)

*Worker*.—Length, 6.5—7 mm.

Thorax and node bright castaneous. Apical half of the spines and the middle of the dorsum of the pronotum blackish brown. Head, mandibles, antennae, tibia, tarsi and gaster black. Femora brown.

Subopaque. Head finely and densely reticulate-punctate. Pronotum finely striate longitudinally, the anterior portion and the whole of the mesonotum finely punctate. Epinotum and node smooth and shining. Gaster microscopically punctate.

Hair brownish, erect, long and pointed, very abundant on the thorax and gaster. Pubescence yellow, long and adpressed on the

thorax and gaster, where it forms a distinct covering, but not hiding the sculpture.

Head very slightly longer than broad, broader behind than in front, the occipital border broadly convex, the sides feebly convex, the angles bluntly rounded. Frontal carinae erect, swerving behind. Clypeus carinate, bluntly produced in front. Scapes extending beyond the occipital border by more than half their length; first segment of the funiculus one-fourth longer than the second, the others subequal. Mandibles armed with four to five strong sharp teeth. Thorax one and one-half times longer than broad. Pronotum much broader than long, the dorsum square, marginate on the sides, furnished on each side in front with a long sharp spine directed outward and slightly forward; in profile the spines are curved downward at the points, the dorsum convex. Mesonotum one-third broader than long, much broader in front than behind, sharply marginate on the sides, convex laterally in front, flat behind. Epinotum broader than long, sharply marginate on the sides, furnished with two long sharp spines directed backward and slightly outward, the dorsum concave; in profile the spines horizontal, abruptly bent at their base, slightly higher than the dorsum, the declivity straight, at an obtuse angle, fully twice as long as the dorsum. Node one-fourth broader than long, the anterior border straight, the posterior convex, furnished with two long, slender spines directed outward, backward and slightly upward, much wider than the epinotum, almost encircling the gaster; in profile parallel, twice as high as long, the dorsum inclined behind, the spines raised toward the points. Gaster longer than broad. Legs long and slender.

Habitat.—North Queensland: Claudie River (J. A. Kershaw).

Near *P. daemeli* Forel, but readily distinguished by the longer spines on the pronotum, colour and pilosity.

POLYRHACHIS (MYRMHOPLA) GLABRINOTUM, n. sp.

(Text-fig. 1, Nos. 11, 11a.)

*Worker*.—Length, 10—10.5 mm.

Black. Legs brown. Mandibles and epinotum with a brownish tinge.

Subnitid. Mandibles and pronotum shining, almost smooth. Head coarsely rugose behind the eyes, finely and densely punctate in front of the eyes. Epinotum smooth above, finely and densely punctate. Sides of the mesonotum and epinotum coarsely and irregularly rugose. Gaster, legs and antennae microscopically punctate.

Hair greyish, erect, long and pointed, abundant throughout, shorter and suberect on the antennae and legs. Pubescence greyish, very fine and adpressed, abundant throughout, slightly longer on the gaster, but not hiding the sculpture.

Head one-third longer than broad, the sides convex, the occipital produced as a bluntly rounded point. Frontal carinae erect, diverging behind. Clypeus convex, with a distinct median carina, produced in front. Eyes large and globular, placed almost at the posterior third. Scapes extending beyond the occipital border by almost one-half their length; first segment of the funiculus one-fourth longer than the second. Mandibles armed with five to six strong sharp teeth. Thorax fully twice as long as broad. Pronotum as long as broad, convex laterally, furnished with a long, slender, sharp spine at each side in front, directed outward and curved forward; in profile the dorsum strongly convex longitudinally, the spines directed downward and forward. Mesonotum longer than broad, convex above. Epinotum as long as broad, furnished with two long, slender spines, meeting at their base, directed outward, and backward, fully twice as long as those on the pronotum; in profile suberect, curved backward, the dorsum of the epinotum and mesonotum forming a straight line, much lower than the pronotum. The declivity at an obtuse angle, as long as the dorsum. Node longer than broad, the sides strongly convex, furnished with two long, sharp, slender spines, directed outward and backward, slightly longer than their distance apart at the base; in profile one-fourth higher than long, higher behind than in front, the anterior and posterior faces straight, parallel, the dorsum convex, the spines directed slightly upward. Gaster longer than broad. Legs long and slender.

Habitat.—North Queensland: Cape York (W. B. Barnard).

This species is near *P. barnardi* Clark, but is readily distinguished by its smaller size and more slender form, more shining appearance, and highly polished pronotum. The sculpture is much coarser than in *P. barnardi*. The shape of the head and node at once separate this species from *P. clotho* Forel.

#### POLYRHACHIS (MYRMHOPLA) BARNARDI Clark.

Journ. Roy. Soc. W. Aust., xv, p. 39, pl. i, figs. 37-38, 1928.

*Female*.—Length, 14.5—15 mm. Not previously described.

Resembles the worker, but is much larger and more robust. The colour, sculpture and pilosity are identical. The spines of the pronotum, epinotum and node are shorter and thicker. On the mesonotum there is a sharp longitudinal carina in the middle of the anterior half, effaced behind. A strong carina on each side takes the place of parapsidal furrows. The posterior border finely, but sharply, margined, with a sharp tooth-like corner at the junction with the lateral carina. Wings hyaline, with a smoky tinge.

Habitat.—North Queensland: Cape York (W. B. Barnard).

Since the worker was described I have received further examples of this species from Mr. Barnard, including the female.

also examples of *P. clotho* Forel. The latter is very distinct from *P. barnardi*, having a differently shaped head and node. The formation of the thorax is somewhat similar. In *P. clotho* the head is almost as broad as long, and broadly rounded behind. The spines of the epinotum are more widely separated and raised at a very slight angle. The node is higher in front than behind, more like that of *P. trapezoidea* Mayr. The pilosity is similar to that of *P. glabrinotum*, described above.

POLYRHACHIS (CAMPOMYRMA) GRAVIS, n. sp.

(Text-fig. 1, Nos. 12, 12a.)

*Worker*.—Length, 7.5—9 mm.

Black. Mandibles, apical segments of the antennae, legs and four posterior coxae reddish brown, anterior coxae black. In a few examples the tibiae are darker than the femora.

Shining. Head very finely striate-rugose longitudinally. Clypeus slightly rugose behind, punctate in front. Mandibles very finely and densely striate longitudinally. Pronotum longitudinally arched striate-rugose, diverging outward behind, almost transverse in front. Mesonotum and epinotum longitudinally striate-rugose, the striae following the contour of the segments. Sides of the thorax longitudinally striate, much stronger than on the dorsum, declivity transversely striate. Node transversely striate in front and behind. Gaster finely and microscopically striate-punctate, with a longitudinally arched direction. Anterior coxae finely transversely rugose.

Hair yellow, erect, very short and sparse throughout, except on the apex of the gaster.

Head slightly longer than broad, the occipital border appearing strongly convex, but really composed of three straight portions, the base, or centre, short, the portions from the base to the angles three times longer than the base, sides convex. Frontal carinae parallel, or very feebly diverging behind. Clypeus broad and convex, not carinate, the anterior border broadly produced, straight, feebly crenulate. Eyes large and convex, placed at the posterior angles. Scapes extending beyond the occipital border by more than half their length; first segment of the funiculus slightly longer than the second, the others subequal to the apical. Mandibles armed with six large, sharp teeth. Thorax one and one-half times longer than broad. Pronotum almost twice as broad as long, convex and marginate in front and sides, the posterior border almost straight, the anterior angles bluntly produced. Mesonotum broader than long, one and a-half times broader in front than behind, the sides marginate. Epinotum one-third longer than broad, fully twice as broad in front as behind, the sides strongly marginate, produced behind as short, sharp teeth, directed upward, their length equal to their distance apart at the

base. The declivity abrupt, concave, as long as the dorsum. Node thick, broader than long, furnished with four sharp, slender spines, the middle pair slightly longer than the lateral pair, longer than their distance apart, parallel, the points of the lateral pair level with the base of those in the middle. First segment of the gaster strongly margined in front, and anterior two-thirds of the sides. Legs long and slender.

Habitat.—Central Australia: Burt Plains (C. Barrett).

POLYRHACHIS (CAMPOMYRMA) FLAVIBASIS, n. sp.

(Text-fig. 1, Nos. 13, 13a.)

*Worker*.—Length, 7—7.5 mm.

Head, thorax and node black. Anterior border of the mandibles, funiculus, knees, tarsi and gaster brown. Femora, tibia, base of the first segment and posterior margin of the other segments of the gaster yellow. Posterior coxae more or less splashed with yellow.

Shining. Head and thorax very finely, densely and irregularly, reticulate, slightly coarser on the thorax, reticulate-punctate on the sides. Declivity smooth and shining. Anterior and posterior faces of the node superficially reticulate. Gaster microscopically punctate.

Hair yellow, erect, very sparse, confined to the front of the head and apical segments of the gaster. Pubescence yellow, very sparse on the gaster and antennae, not apparent elsewhere.

Head longer than broad, convex behind and on the sides. Frontal carinae short. Clypeus convex, with a faint carina in the middle in front, the anterior border produced and almost straight. Eyes large and convex, placed at the posterior third of the sides. Scapes extending beyond the occipital border by barely half their length; first segment of the funiculus one-third longer than the second. Mandibles armed with five strong, sharp teeth. Thorax one and three-quarters times longer than broad, the sutures strongly impressed. Pronotum as long as broad, strongly convex in front and on the sides, the latter submarginate, feebly convex above. Mesonotum broader than long, broader in front than behind, submarginate on the sides. Epinotum square, as long as broad, the sides submarginate, the posterior border sharply marginate. Declivity face steep, concave near the bottom, longer than the dorsum, the sides rounded. Node almost twice as broad as long, the lateral angles sharp, the top edge high and narrow, furnished with two broad, triangular teeth. Gaster longer than broad, the anterior border feebly concave below. Legs short and robust.

*Female*.—Length, 9 mm.

Larger and more robust than the worker. Sculpture a little coarser, more reticulate-punctate. Parapsidal furrows well im-

pressed. Mayrian furrows not defined. Colour identical. Wings hyaline with a brownish tinge.

Habitat.—New South Wales: Brooklana and Dorrigo (W. W. Froggatt).

### Notes on the Ants of the Horn Expedition.

The collection, here re-examined, was dealt with by Mr. W. F. Kirby, Results of the Horn Expedition, Part I, Supplement, pp. 203-207, 1896. In each case the number and name given by Kirby are stated first, notes and corrections follow.

1. *Camponotus schencki* Mayr. Paisley Bluff. One specimen.

This species cannot now be traced in the collection.

2. *Camponotus impavidus* Forel. MacDonnell Range, several specimens.

This is not *impavidus*, but a species subsequently described by Wheeler as *Calomyrmex purpureus* Mayr var. *eremophilus* (*Trans. Roy. Soc. S. Aust.*, xxxix, p. 820, 1915). The material consists of workers, females and males. As Wheeler described only the worker I give here descriptions of the sexes:—

*Female*.—Length, 8·8-5 mm.

Head and thorax bright metallic green. Mandibles, antennae, legs and gaster black. Wings hyaline, with a slight brownish tinge. Sculpture and pilosity identical with that of the worker. Ocelli prominent. Thorax without mayrian furrows. Parapsidal furrows prominent. There is a short median, longitudinal groove on the front of the mesonotum. The anterior angles of the pronotum are subbordered; on the middle of the base of the pronotum there is a distinct raised tubercle.

*Male*.—Length, 6·5-7 mm.

Greenish-black throughout. Sculpture somewhat coarser than in the worker. Hair reddish, very long and abundant throughout.

Head as long as broad, broader behind than in front, the occipital border and sides strongly convex. Frontal carinae short, twice as wide behind as in front; there is a distinct longitudinal carina between them. Clypeus broad and convex. Eyes large and convex, placed at the middle of the sides. Ocelli prominent. Scapes extending beyond the occipital border by half their length; first segment of the funiculus longer than the second. Mandibles edentate. Mesonotum one third broader than long, strongly convex in front and on the sides, the anterior face steep and convex, not quite hiding the pronotum from above. Mayrian furrows not impressed, parapsidal and median furrows as in the female. Scutellum as broad as long, broader in front than behind. Epinotum broader than long. Node twice as broad as long, convex in front and behind; in profile higher than long, the anterior and posterior faces and dorsum convex. Gaster much longer than broad. Cerci



moderately long and thick. Outer genital processes slender; legs long and slender. Wings hyaline with a slight brownish tinge.

Many examples from MacDonnell Range.

3. *Camponotus arcuatus* Mayr. Hugh Creek; MacDonnell Range. Two specimens apparently belonging to this rare species.

This species cannot be traced in the collection.

4. *Camponotus reticulatus* Kirby. Paisley Bluff, burrow-nest under stones, many specimens; also Palm Creek and Finke Gorge.

This appears to be a valid species, but Kirby's name having been preoccupied by Roger, 1863 (*Berl. Ent. Zeitschr.*, vii, p. 139), I have substituted the name of the late Sir Baldwin Spencer, leader of the expedition, for the species. The major and minor workers are here more fully described as *Camponotus (Tanacmyrmex) spenceri*, nom. nov.

*Worker Major*.—Length, 8.5-9 mm.

Reddish brown. Mandibles red. Funiculus, tarsi and apical margin of the segments of the gaster testaceous.

Subopaque. Mandibles shining, very sparsely punctate. Head, thorax, node and first segment of the gaster finely and densely punctate-reticulate, the rest of the gaster microscopically punctate.

Hair reddish, long and erect, moderately abundant throughout.

Head very slightly longer than broad, much broader behind than in front, the occipital border straight, the sides convex. Frontal carinae diverging slightly behind, one fourth longer than their width at the middle; there is a strong carina between them. Clypeus convex above, strongly projecting at the middle in front, this portion of the clypeus as long as broad, strongly carinate, the anterior border concave. Eyes convex, placed at the posterior third of the sides. Scapes extending beyond the occipital border by one-fourth of their length; segments one to four of the funiculus almost equal in length, the others subequal. Mandibles large and triangular, armed with six strong sharp teeth. Thorax almost two and a half times longer than broad. Pronotum one-third broader than long, strongly convex in front, on the sides and above. Mesonotum circular, convex above. Epinotum narrow above, fully twice as long as broad. Node scale-like, convex in front, concave behind; in profile inclined forward, the anterior face strongly convex, posterior flat, bluntly pointed above. Gaster longer than broad. Legs long and slender.

*Worker Minor*.—Length, 6.7-3 mm.

Colour, sculpture and pilosity similar to the worker major. Head longer than broad, as broad in front as behind, the occipital border strongly, the sides feebly, convex. Scapes extending beyond the occipital border by half their length. The rest as in the major, but much more slender.

*Habitat*.—Paisley Bluff, Palm Creek, Finke Gorge.

5. *Camponotus novae-hollandiae* Mayr. MacDonnell Range; Palm Creek; Paisley Bluff.

Three species are included under this name. The specimens from Paisley Bluff are correctly placed. This is *Camponotus (Tanaemyrmex) novae-hollandiae* Mayr. The examples from MacDonnell Range are all referred to *Camponotus (Tanaemyrmex) discors* Forel, var. *laetus* Forel (*Rev. Suisse Zool.*, xviii, p. 70, 1910), subsequently described from the same locality. The specimens from Palm Creek are dealated females of the genus *Iridomyrmex*, not in condition to be described.

6. *Camponotus denticulatus* Kirby. MacDonnell Range; Paisley Bluff.

The specimen from Paisley Bluff is a dealated female of the genus *Iridomyrmex*, apparently identical with those placed under the preceding species, and not in condition to be named. The species from the MacDonnell Range appears to be valid, and is here redescribed as *Camponotus (Tanaemyrmex) denticulatus* Kirby.

*Worker Minor*.—Length, 8.5-9 mm.

Brownish red. Posterior half of the head, top of the pronotum and mesonotum, whole of the node and gaster black. Apical margin of the segments of the gaster yellowish.

Opaque. Densely and finely punctate throughout.

Hair yellowish, long and erect, very sparse throughout. Pubescence greyish, fine, very abundant throughout, but not hiding the sculpture. There is a row of bristles on the underside of the tibia.

Head longer than broad, as broad in front as behind, the occipital border strongly, the sides feebly, convex. Frontal carinae diverging behind, with a feeble but distinct carina between them. Clypeus broad and convex, feebly carinate, the anterior border broadly produced, convex and feebly crenulate. Eyes large and convex, placed at the posterior angles. Scapes extending beyond the occipital border by half their length; first and third segments of the funiculus of equal length, second slightly shorter. Mandibles large, armed with six large sharp teeth. Thorax two and a-quarter times longer than broad. Pronotum one-third broader than long, convex on the sides and above. Mesonotum slightly broader than long, convex above. Epinotum three times longer than broad on top, almost parallel, the declivity very short, hardly apparent. Node twice as broad as long, all four sides convex; in profile twice as high as long, parallel, the anterior and posterior faces straight, the dorsum convex. Gaster oval, longer than broad. Legs long and slender.

*Worker Major*.—Length, 10-10.5 mm.

Colour and sculpture as in the worker minor, but a little more shining. Pubescence not so abundant.

Head one-fourth broader than long, much broader behind than in front, the occipital border straight, the sides convex. Scapes extending beyond the occipital border by fully one-third of their

length. Eyes large and rather flat, placed about half their diameter from the occipital border. Ocelli represented by three small depressions, the anterior largest. Thorax similar but larger. Node three times broader than long, straight in front and behind, sides convex; in profile scale-like, the anterior face strongly convex, the posterior straight. Legs robust.

Habitat.—MacDonnell Range.

7. *Camponotus horni* Kirby. Palm Creek, burrow nest under stone.

Kirby says: "The peculiar structure of this species will probably ultimately necessitate its removal to another genus, but the rufous body and purple abdomen will render it easily recognizable." In this statement he is correct, for the worker is *Iridomyrmex detectus* Smith, the most common and widely distributed ant in Australia. The female appears to be a valid species, and is here redescribed as *Camponotus (Tanaemyrmex) horni* Kirby.

*Female*.—Length, 13 mm.

Black. Inner edge of the mandibles, front of the face, antennae and pronotum ferruginous. Legs testaceous. Tarsi and knees darker. Wings hyaline with a brownish tinge.

Shining. Head, pronotum and epinotum finely and densely reticulate-punctate. Mesonotum, scutellum and gaster superficially so.

Hair reddish, long and erect, rather sparse throughout. Pubescence reddish, short and sparse.

Head longer than broad, broader behind than in front, the occipital border feebly convex, the sides nearly straight. Frontal carinae diverging widely behind, with a longitudinal median groove between them. Clypeus feebly carinate, the anterior border produced, straight, or feebly concave. Eyes large, rather flat, their distance from the occipital border somewhat less than their diameter. Ocelli large. Scapes passing the occipital border by one-fourth of their length. Thorax almost twice as long as broad. Pronotum small, hardly visible from above. Mesonotum broader than long, strongly convex in front and on the sides, flattened, or feebly convex, above. Parapsidal furrows impressed. Scutellum broader than long, broader in front than behind. Epinotum twice as broad as long, the declivity steep, but without a defined boundary on the dorsum. Node scale-like, fully three times broader than long, convex in front, straight behind; in profile strongly convex in front, the top edge sharp. Gaster longer than broad. Legs long and slender.

Habitat.—Palm Creek.

8. *Hoplomyrmex micans* Mayr. Storm Creek, four specimens.

This has no connection with Mayr's species, but is identical with that subsequently described by Wheeler as *Polyrhachis (Camponomyrma) macropus* (*Trans. Roy. Soc. S. Aust.*, xxxix, p. 821, 1915). It is widely distributed throughout Central Australia.

9. *Hypoclinea flavipes* Kirby. Tempe Downs. Ants from Porcupine grass (*Triodia pungens*).

This very distinct species is an *Iridomyrmex*, and identical with that subsequently described by Forel as *Iridomyrmex rostrinotus* (*Rev. Suisse Zool.*, xviii, p. 53, 1910, ♂ ♀ ♂). The descriptions of all three forms by Forel are very complete, and it is unfortunate that his name must give way to *Iridomyrmex flavipes* Kirby. It is known as the Spinifex Ant, being so named from its habit of collecting the gum from the leaves of this grass to construct its nest. It is widely distributed, being found wherever the spinifex grows.

10. *Bothroponera denticulata* Kirby. Blood Creek; several specimens.

This distinct species is near *B. regularis* Forel, subsequently described from Western Australia. It is widely distributed throughout the interior. The worker is here re-described:—

*Worker*.—Length, 12 mm.

Black, or blackish brown. Inner half of the mandibles, antennae and legs ferruginous.

Opaque. Head coarsely reticulate. Thorax more coarsely and irregularly reticulate, with a more or less longitudinal direction. Node, first and second segment of the gaster longitudinally striate. Posterior face of the node smooth and shining.

Hair brown, suberect, long and abundant throughout, but longer and more numerous on the apical segments of the gaster. Pubescence very fine and adpressed.

Head as long as broad, as broad in front as behind, the occipital border straight, the sides feebly convex. Frontal carinae raised and lobe-like, as broad in front as long; between them is a long double carina with a median longitudinal groove. Clypeus short, convex, the anterior border bluntly produced in the middle in front. Eyes large, placed fully their diameter from the anterior border. Scapes passing the occipital border by fully their thickness; second segment of the funiculus slightly longer than the first, the apical as long as the two preceding together. Mandibles broad, armed with eight to ten irregular teeth, the apical five long and sharp, the others decreasing in size to the base. Thorax barely twice as long as broad. Pronotum almost twice as broad as long, strongly convex in front and on the sides. Pro-mesonotal suture sharply defined. In profile the thorax is evenly convex longitudinally, the declivity at an obtuse angle, rather flat, the boundary between the two faces feebly defined. Node almost twice as broad as long, the anterior face and sides strongly convex. posterior face straight, furnished with numerous long sharp teeth; these are a continuation of the dorsal striae; in profile fully twice as high as long, subparallel, the anterior face and dorsum united in a convexity, posterior face straight to near the top, then abruptly curved backward; there is a long, broad concave projection on the ventral surface. Postpetiole one third broader than

long, strongly convex in front and on the sides, slightly narrower than the following segment, which is broader than long. Legs robust.

Habitat.—Blood Creek.

11. *Myrmecia nigriceps* Mayr. Reedy Hole; Bagot Creek and Alice Springs, one specimen from each; Ayers Rock and Illamurta, several specimens from each.

This has been so determined by various entomologists until it was recognised by Wheeler, who described the worker as *Myrmecia vindex* Smith var. *desertorum* (*Trans. Roy. Soc. S. Aust.*, xxxix, p. 805, 1915). On examining large series, including the sexes, from various parts of Central and Western Australia, I raised it to the rank of species, *Myrmecia desertorum* Wheeler (*Clark, Vic. Naturalist*, xlii, p. 143, 1925, ♂ ♀ ♂).

12. *Pheidole longiceps*, Mayr. Paisley Bluff, in burrow nest under stone.

Wrongly identified by Kirby and subsequently described by Forel as *Pheidole deserticola* (*Rev. Suisse Zool.*, xviii, p. 34, 1910, 4 ♂ ♂).

The following species were described by Froggatt, Horn Exped. Zool., Part 2, 1896. As there are some doubts concerning the two species, I append a few notes, having examined the types in the National Museum.

- (1) *Camponotus cowlei* Frogg., l.c., p. 387, pl. xxvii, figs. 1-5.

Examples compared with Lubbock's type of *Melophorus bagoti*, by my friend, Mr. W. C. Crawley, are identical with the types in the National Museum. This species is widely distributed throughout Central and Western Australia, and is known as the yellow honey-ant. The synonymy of this species is as follows:—

MELOPHORUS BAGOTI Lubbock.

Journ. Linn. Soc. Lond. Zool., xvii, p. 51, 1883.

*Camponotus cowlei* Frogg.

*Melophorus cowlei* Wheeler, Bull. Amer. Mus. Nat. Hist., xxiv, p. 388, 1908.

*Camponotus* (*Myrmophyma*) *cowlei* Emery, Gen. Insect., Fasc. 183, p. 110, 1925.

- (2) *Camponotus midas* Froggatt, l.c., p. 390, pl. xxvii, figs. 6-9.

This species was wrongly placed in the subgenus *Myrmophyma* by Emery (*Gen. Insect.*, Fasc. 183, p. 111, 1925). It is placed in the sub-genus *Myrmosaulus*, near *C.(M.) aurocincta* Smith. The workers and female are redescribed below.

CAMPONOTUS (MYRMOSAULUS) MIDAS Froggatt.

*Worker Major*.—Length, 14-15 mm.

Dark brown, almost black. Head, epinotum, node and femora

brown, or reddish brown. Posterior half of the first segment of the gaster, and the whole of the others bright golden yellow.

Opaque. Densely and finely reticulate-punctate throughout. Mandibles coarsely striate.

Hair reddish, long and erect, sparse throughout. Pubescence very fine and adpressed. Tibia with two rows of slender bristles. Tarsi with stronger and more numerous bristles.

Head large, one-third broader than long, almost twice as broad behind as in front, the occipital border concave, the sides strongly convex. Frontal carinae short, diverging behind, with a faint longitudinal groove between them. Clypeus convex, finely crenulate. Eyes small and flat, placed at the posterior third of the sides, the anterior ocellus small, situated in a pit, or cavity, the posterior ocelli hardly apparent. Scapes extending beyond the occipital border by barely their thickness; first segment of the funiculus as long as the third, second slightly shorter. Mandibles broad, armed with six large teeth, including the apex. Thorax one and a half times longer than broad. Pronotum four times broader than long, strongly convex in front and on the sides. Mesonotum large, three times longer than the pronotum, circular, or very slightly longer than broad. Epinotum short and broad, without traces of a boundary between the dorsum and declivity; in profile strongly convex longitudinally, highest at the middle of the dorsum, much lower than the mesonotum. Node fully one third broader than long, broader behind than in front, the anterior and posterior faces straight, sides convex; in profile one third higher than long, parallel, the dorsum convex. Gaster ovate, longer than broad. Legs robust.

*Worker media*.—Length, 11-12 mm.

Colour, sculpture and pilosity as in the major.

Head slightly longer than broad, slightly broader behind than in front, the occipital border and sides strongly convex. Clypeus more distinctly carinate. Eyes a little more convex. Mandibles armed with eight teeth, including the apex. Scapes extending beyond the occipital border by fully half their length. The epinotum is abruptly truncate in front, forming a deep and wide constriction; in profile strongly convex from the top of the truncature to the bottom of the declivity, the cavity between the mesonotum and epinotum almost as long as the dorsum of the latter. Node as long as broad, much broader behind than in front, the anterior border slightly concave, the posterior and sides convex; in profile as long as high, the anterior face straight, the dorsum and posterior face feebly convex. Gaster longer than broad. Legs long and robust.

*Worker Minor*.—Length, 9-10 mm.

Colour darker, except on the gaster. Sculpture and pilosity similar.

Head longer than broad, the occipital border strongly convex, the sides parallel, feebly convex. Clypeus feebly carinate. Eyes

large, at the posterior third of the sides. Thorax similar. Node one fourth longer than broad, broader behind than in front, the anterior border feebly concave, the posterior border and sides convex. Legs long and slender.

*Female*.—Length, 16.4 mm.

Colour, sculpture and pilosity similar to the major.

Head narrower. Clypeus feebly carinate. Mesonotum, with distinct parapsidal furrows, and a faint longitudinal groove in the middle, flattened above. Scutellum convex, high. Node as in the major. Wings hyaline, with a brownish tinge, particularly at the apex.

Habitat.—Illamurta, in the James Range.

This species is very near *C. aurocincta* Smith, from which it may be distinguished by the shape of the thorax and node, and the colour of the gaster. In *C. aurocincta* the posterior margin of the segments is narrowly yellow. In *midas* the whole of the segments, except the base of the first, are entirely bright golden yellow.

FIG. 1.

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| 1. <i>Eusphinctus</i> ( <i>Nothosphinctus</i> ) <i>brunnicornis</i> , n. sp. . . . . | Dorsal view of worker.                                     |
| 2. <i>Phyracaces</i> <i>clarus</i> , n. sp. . . . .                                  | Dorsal view of worker.                                     |
| 3. <i>Phyracaces</i> <i>flammeus</i> , n. sp. . . . .                                | Dorsal view of worker.                                     |
| 4. <i>Phyracaces</i> <i>flavescens</i> , n. sp. . . . .                              | Dorsal view of worker.                                     |
| 5. <i>Euponera</i> ( <i>Trachymesopus</i> ) <i>pachynoda</i> , n. sp. . . . .        | Dorsal view of worker.                                     |
| 6. <i>Eubothroponera</i> <i>dentinodis</i> , n. sp. . . . .                          | a, Lateral view of worker.<br>Dorsal view of worker.       |
| 7. <i>Eubothroponera</i> <i>micans</i> , n. sp. . . . .                              | a, Lateral view of worker.<br>Dorsal view of worker.       |
| 8. <i>Eubothroponera</i> <i>bicolor</i> , n. sp. . . . .                             | a, Lateral view of worker.<br>Dorsal view of worker.       |
| 9. <i>Polyrhachis</i> ( <i>Charomyrma</i> ) <i>opalescens</i> , n. sp. . . . .       | a, Lateral view of worker.<br>Dorsal view of worker.       |
| 10. <i>Polyrhachis</i> ( <i>Hedomyrma</i> ) <i>kershawi</i> , n. sp. . . . .         | a, Lateral view of worker.<br>Dorsal view of worker.       |
| 11. <i>Polyrhachis</i> ( <i>Myrmhopta</i> ) <i>glabrinotum</i> , n. sp. . . . .      | a, Lateral view of worker.<br>Dorsal view of worker.       |
| 12. <i>Polyrhachis</i> ( <i>Campomyrma</i> ) <i>gravis</i> , n. sp. . . . .          | a, Lateral view of worker.<br>Dorsal view of worker.       |
| 13. <i>Polyrhachis</i> ( <i>Campomyrma</i> ) <i>flavibasis</i> , n. sp. . . . .      | a, Lateral view of worker.<br>Dorsal view of worker.       |
| 14. <i>Camponotus</i> ( <i>Myrmosaulus</i> ) <i>midas</i> Froggatt . . . . .         | a, Lateral view of worker.<br>Dorsal view of worker major. |
| 15. <i>Camponotus</i> ( <i>Myrmosaulus</i> ) <i>midas</i> Froggatt . . . . .         | a, Lateral view of same.<br>Dorsal view of worker minor.   |

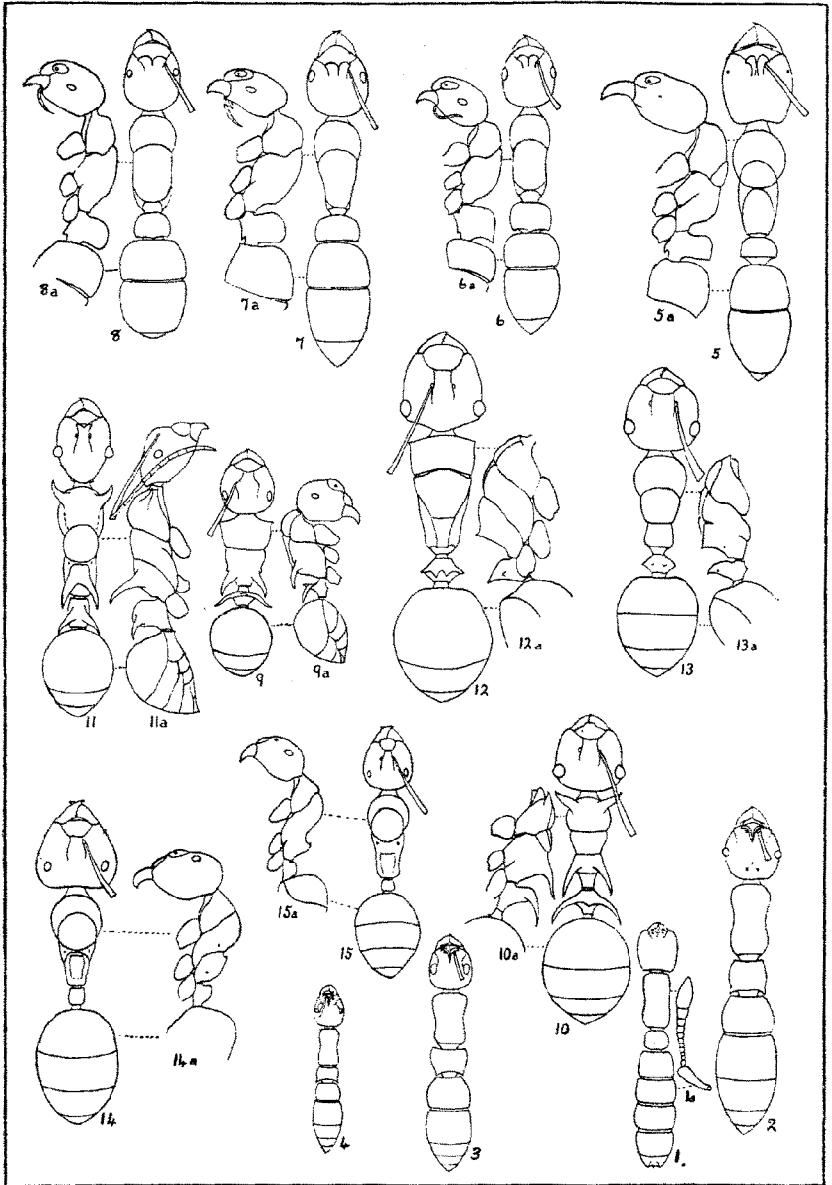


FIG. 1.