

NEW AUSTRALIAN ANTS.

By John Clark, Entomologist, National Museum.

(Plates II and III.)

Several interesting species are described in the following pages. Amongst these may be mentioned the remarkable species referred to as *Bothriomyrmex wilsoni* n. sp. which appears to be a parasitic form. Although described as a worker it is probable that this is really a female. Three examples were obtained in a nest of *Crematogaster laeviceps* Smith. This is the second Australian species of the genus to be taken actually in nests of other ants. Females of *Bothriomyrmex scissor* Crawley were found in nests of *Iridomyrmex innocens* Forel, but all the examples taken are well developed winged females with normal gaster.

The genus *Myrmecorhynchus*, until now represented by a single species, appears to be well represented in Australia. In addition to the previously unknown male and female other four species have been added to the genus. The habits of this group are not fully known; the typical form *M. emeryi* Andre is generally found under stones or logs; *M. nitidus* n. sp. has been taken in trees, seventy feet from the ground.

The genera *Ectomomyrmex* and *Lordomyrma* are each represented in Australia by one species, a second is here included in each. The remaining species belong to genera which are well represented in Australia.

Thanks are due to the authorities of the British Museum, South Australian Museum, Australian Museum and Queensland Museum for the loan of material for examination and descriptions.

Except where otherwise mentioned the types are in the National Museum of Victoria.

Family **FORMICIDAE** Latreille 1810.

Subfamily **Dorylinae** Leach 1850.

Genus **AENICTUS** Shuckard 1840.

Aenictus exiguus, sp. nov.

(Pl. II, Fig. 1.)

Worker.—Length, 1.7 mm.

Ochraceous, antennae and legs paler yellow. Smooth and shining, with scattered, shallow, piligerous punctures.

Hair yellow, short and suberect, more abundant on antennae and legs than elsewhere.

Head a little longer than broad, broader in front than behind, sides and occipital border convex. Mandibles narrow, terminal border short, furnished with two large teeth; the second forms the angle between the borders, the first situated midway between second and apex which is long and pointed. Clypeus short and transverse. Frontal carinae very short. Scapes extending slightly beyond middle of head; gradually thickened to apex; first segment of funiculus slightly longer than broad, second to eighth as broad as long, apical twice as long as broad, and longer than the four preceding together. No trace of eyes. Thorax two and one-half times longer than broad, without traces of sutures, constricted at mesonotal region; in profile pronotum and mesonotum form a slight convexity, a feeble depression at meso-epinotal suture, more clearly shown on sides, epinotum feebly convex, almost straight, declivity short, fully half the length of dorsum. Node slightly longer than broad, almost parallel, sides feebly convex; in profile as high as long, anterior face and dorsum united in an even curve, a short broad projection below directed forward. Postpetiole as broad as long, broadest behind, sides convex; in profile as high as long, dorsum convex, a short sharp projection in front below, directed forward. First segment of gaster one-third longer than broad, almost three times broader behind than in front, sides strongly convex. Legs robust, femora and tibia thickened toward apex.

Habitat.—N. Queensland, Cairns District (A. M. Lea). Type in South Australian Museum.

The smallest species of the genus so far recorded from Australia.

Subfamily *Cerapachyinae* Forel 1893.

Genus *PHYRACACES* Emery 1901.

Phyracaces grandis, sp. nov.

(Pl. II, fig. 2.)

Worker.—Length, 9.8 mm.

Yellowish red; scapes and legs red; funiculus darker; eyes, lateral margins of head, thorax and nodes black.

Smooth and shining throughout, except pygidium which is finely and densely punctate.

Hair reddish, long and suberect, rather sparse except on apical segments of gaster, short but abundant on antennae and legs. Pubescence not apparent.

Head as broad as long, broadest behind, sides convex, occipital border straight, angles rounded. Mandibles short, triangular, furnished with eight small teeth. Clypeus short and truncate. Frontal carinae erect, parallel, confluent behind. Carinae of cheeks prominent, barely as long as frontal carinae. Eyes large and convex, placed at middle of sides. Ocelli prominent, yellowish. A strong lateral carina extends from the posterior inferior angle to near the posterior margin of eye. Antennae short and robust. Scapes extending to posterior ocellus, greatly thickened to apex; first segment of funiculus half as long as second, the others gradually increasing in length to

apical which is twice as long as the preceding. Thorax one and three-quarters times longer than broad, as broad in front as behind, strongly constricted at mesonotal region; anterior border of pronotum convex and feebly margined, sides strongly convex and margined. Mesonotal sutures very feebly indicated, the sides not margined. Epinotum strongly convex and margined. In profile the thorax convex longitudinally, the declivity short and steep, flat, the sides margined. Node broader than long, anterior border straight, submarginate, the sides strongly convex and margined, posterior border one-third shorter than anterior, deeply concave, terminating in teeth-like angles behind, raised slightly upward; in profile slightly longer than high, the dorsum flat, or very feebly convex, anterior face vertical; the ventral surface with a short, broad, bifid projection directed backward. Postpetiole one-third broader than long, broader behind than in front. Pygidium feebly concave, sides submarginate, carrying a row of short, sharp, brown bristles. Legs robust; posterior coxae with a broad translucent lamina on top behind.

Habitat.—South Australia. Type in British Museum (F. Smith collection).

Near *P. heros* Wheeler, from Queensland. Readily distinguished by the shape of the head, thorax, node and postpetiole, as well as by the colour.

It is interesting to note that of the forty species contained in this genus the workers of three are provided with ocelli. In the present work other four of this ocellied group are added, making a total of seven. With the exception of *P. greavesi* n. sp. all are large and appear to form a distinct group. The sexes, however, cannot be separated from those of the non-ocellied group.

Phyracaces pictus, sp. nov.

(Pl. II, fig. 3.)

Worker.—Length, 8.8 mm.

Mandibles, thorax and node red; head brown; antennae, legs and postpetiole blackish brown; eyes, margins of head, thorax, nodes and whole of gaster black.

Smooth and shining, with scattered, shallow piligerous punctures. Mandibles strongly punctate, front of face finely reticulate.

Hair reddish yellow, long, suberect, abundant throughout, particularly at apex of gaster, rather long and erect on antennae, shorter and adpressed on legs. Pubescence whitish, very fine and adpressed, apparent only on antennae and legs.

Head as long as broad, broadest behind, sides and occipital border convex, angles strongly rounded. Mandibles edentate. Clypeus very short and abrupt. Frontal carinae short, erect and rounded, truncate behind. Carinae of cheeks prominent. Eyes large and convex, slightly in front of middle of sides. Ocelli prominent, anterior largest. A strong carina extends from the inferior-posterior angle to posterior margin of eye. Scapes extending beyond posterior border of eyes by their thickness at apex; first to sixth segment of funiculus longer than broad, seventh to tenth as broad as long, apical barely as long as two preceding together. Thorax barely one and three-quarters times longer than

broad, as broad behind as in front; anterior angles bluntly rounded. Sides of mesonotum constricted, submarginate, the sutures very feebly indicated. Sides of epinotum convex and strongly marginate, ending in a sharp tooth-like angle, posterior not marginate. In profile thorax convex longitudinally, declivity short and flat, marginate on sides. Node one-third broader than long, almost one and one-half times broader in front than behind, anterior border concave, submarginate, sides feebly convex, anterior angles rounded, posterior border strongly concave, the angles produced as sharp teeth directed upward; in profile as high as long, dorsum flat, anterior face at a right angle; a broad blunt tooth in front below. Postpetiole one-fifth broader than long, parallel, anterior border and sides marginate and straight, angles rounded. First segment of gaster almost one-third broader than long, broadest behind. Legs short and robust.

Habitat.—Victoria: Western District.

The colour of this species is almost identical with that of *P. rotula* Forel.

Phyracaces princeps, sp. nov.

(Pl. II, fig. 4.)

Worker.—Length, 9–10 mm.

Bright ferruginous; eyes, ocelli, margins of thorax, node and postpetiole black.

Smooth and shining. Microscopically reticulate throughout.

Hair reddish, erect, long and abundant. Pubescence not apparent.

Head as broad as long, occipital border short and straight, sides strongly convex, as broad in front as behind. Mandibles with a sharp cutting edge, edentate. Clypeus short and abrupt, broadly rounded. Frontal carinae erect, truncate and converging behind. Scapes gradually thickened to their apex, extending backward to about middle of eyes; first segment of funiculus one-fifth shorter than second, as long as broad, second longer than broad, third to tenth broader than long, apical as long as the two preceding together. Frontal carinae extending to anterior border of eyes. Eyes large and convex, situated at middle of sides. Ocelli large and prominent. Thorax barely twice as long as broad, sutures very feeble. Pronotum almost twice as long as broad, strongly convex and margined on the sides. Mesonotum greatly constricted laterally, one-fifth broader than long, sides not margined. Epinotum slightly broader than pronotum, strongly margined on sides and posterior border, the latter straight. In profile convex longitudinally, declivity short, almost straight, sides margined. Node one-fourth broader than long, broader behind than in front, broadest at middle, strongly margined on sides, terminated behind by a long, moderately broad process, directed outward and curved inward; in profile longer than high, the anterior face short and vertical, sides margined, dorsum convex, the angles behind almost horizontal, no tooth-like process below on ventral surface. Postpetiole almost one-fourth broader than long, broadest behind, sides convex, margined on the anterior third, anterior border straight, margined, the angles bluntly produced laterally. A deep and wide constriction between postpetiole and first segment of gaster, the latter almost one-third broader than long and one-fourth broader behind than in front. Pygidium feebly concave, submarginate. Legs robust, posterior coxae with a rather pointed, translucent laminae on top behind.

Habitat.—Minnie Downs, N.E. corner of S. Australia (L. Reese).

Type in South Australian Museum.

Phyracaces greavesi, sp. nov.

(Pl. II, fig. 5.)

Worker.—Length, 5.5 mm.

Bright castaneous; margins of thorax and node black; antennae and legs more yellowish.

Smooth and shining. Microscopically reticulate. Mandibles punctate.

Hair yellow, long and erect, moderately abundant. Pubescence not apparent.

Head very slightly longer than broad, sides convex, occipital border straight, or very feebly convex. Mandibles triangular, terminal border denticulate. Clypeus short, broadly rounded in front. Frontal carinae truncate and confluent behind. Carinae of cheeks strong, extending to the anterior fourth of eyes, a small branch, about midway, directed inward to antennal fovea. Scapes slightly exceeding the posterior margin of the eyes; first segment of funiculus as long as second, longer than broad, third to ninth broader than long, tenth as long as broad, apical fully twice as long as broad and longer than the two preceding together. Eyes large, convex, situated at the middle of sides. Ocelli large and prominent. Thorax one and three-quarters times longer than broad, constricted at the middle, sutures not indicated; sides strongly and continuously marginate; anterior border submarginate in the middle, stronger near angles which are sharp but hardly projecting; posterior border straight, slightly indented at the middle, strongly marginate, angles sharp. In profile convex longitudinally, declivity short, concave, marginate on sides, superior border slightly reflexed. Node one-third broader than long, broadest at middle, sides convex, strongly marginate, anterior border concave, feebly marginate, angles sharp, posterior border straight, the angles produced behind as short blunt teeth, directed upward; in profile as high as long, anterior face feebly convex, angle blunt, dorsum feebly convex, posterior face vertical, as high as anterior face; ventral surface convex with a feeble tooth in front. Postpetiole about one-fourth broader than long, sides convex, anterior border straight, angles rounded, border marginate, extending round to the anterior third of sides. Constriction between postpetiole and gaster wide. First segment almost one-third broader than long. Pygidium flat, submarginate and furnished with a row of strong sharp bristles. Legs robust. Posterior coxae without a lamina.

Habitat.—Western Australia: Bungulla (T. Greaves).

Similar to *P. newmani* Clark in size and colour but readily separated by the ocelli.

Phyracaces aberrans, sp. nov.

(Pl. II, fig. 6.)

Worker.—Length, 6 mm.

Black; mandibles, scapes, apex of funiculus, tarsi and pygidium red; middle of funiculus, tibia and femora, brown.

Smooth and shining, with moderately large, piligerous punctures, abundant throughout.

Hair white, long, suberect, most abundant on apical segments of gaster. Pubescence white, fine, sparse throughout.

Head as long as broad, sides and occipital border feebly convex, angles rounded. Mandibles broad, edentate. Clypeus very short. Frontal carinae converging behind. Scapes extending to near posterior margin of eyes; first segment of funiculus as long as broad, second to tenth broader than long, apical barely twice as long as broad and fully as long as the two preceding together. Eyes large, circular, rather flat, situated at middle of sides. No ocelli. Thorax one and three-quarters times longer than broad, without traces of sutures, feebly compressed at the mesonotal region, borders bluntly rounded; in profile feebly convex longitudinally, the declivity short, at an oblique angle, rounded into dorsum above. Node one-fourth broader than long, broader behind than in front, sides convex and feebly marginate, anterior border concave, angles sharp, posterior angles produced as short, broad teeth; in profile longer than high, anterior face vertical, dorsum strongly convex, strong sharp hook-shaped tooth in front below, directed backward. Postpetiole very slightly broader than node, slightly broader than long, sides convex; a deep, but not wide, constriction between the postpetiole and first segment of gaster, the latter one-fourth broader than long. Pygidium concave, sides submarginate and bearing a row of short sharp bristles. Legs robust.

Habitat.—N. Queensland: Kuranda (F. P. Dodd).

Type in South Australian Museum.

Readily distinguished from all the known species by the lack of margins to thorax.

Phyracaces pygmaeus, sp. nov.

(Pl. II, fig. 7.)

Worker.—Length, 2.8–3 mm.

Head brown, gaster black; pronotum and node ferruginous; mesoepinotum and postpetiole castaneous; antennae and legs ochraceous.

Smooth and shining, with large, scattered, shallow piligerous punctures, abundant throughout.

Hair yellow, long and suberect, abundant throughout. Pubescence hardly apparent, very fine and adpressed.

Head slightly longer than broad, sides feebly convex, occipital border almost straight. Mandibles edentate, with sharp cutting borders. Frontal carinae narrow and parallel, truncate and approximate behind; carinae of cheeks strong, extending to anterior third of eyes. Scapes extending slightly beyond posterior margin of eyes, gradually thickened to apex; first segment of funiculus barely as long as broad, second to seventh almost twice as broad as long, eighth one and a half times broader than long, ninth and tenth slightly broader than long, apical twice as long as broad and as long as the three preceding together. Eyes large and rather flat, almost one-third the length of sides, situated in front of the middle. No ocelli. Thorax one and three-quarters times longer than broad, sutures faintly indicated, feebly constricted at the mesonotal region. Anterior border of pronotum convex and marginate, angles rounded, posterior border of epinotum straight and marginate, angles sharp; sides of thorax rounded, not marginate. In profile evenly arched longitudinally, declivity flat, at an oblique angle, sides submarginate. Node

one and three-quarters times broader than long, broader behind, sides convex, strongly marginate, anterior and posterior borders concave, former marginate, all four angles sharp. In profile higher than long, anterior face vertical, the sides marginate, superior angle sharp, dorsum convex; the ventral surface in front ending in a tooth-like projection. Postpetiole one and three-quarters broader than long, sides strongly convex, anterior border almost straight. A deep and wide constriction between postpetiole and gaster, first segment one-fourth broader than long. Pygidium flat. Legs slender, posterior coxae with a small translucent lamina on top behind.

Habitat.—N. Queensland: Kuranda (F. P. Dodd).

Nearest to *P. elegans* Wheeler but readily separated by the formation of the thorax and nodes.

Subfamily **Ponerinae** Lepeletier 1836.

Genus **AMBLYOPONE** Erichson 1842.

Subgenus **FULAKORA** Mann 1919.

Dr. Wheeler in dealing with the genus *Amblyopone* (Proc. Amer. Acad. Arts and Sci., 62 (1), pp. 1, 2, 1927) noted that *Stigmatomma*, *Fulakora* and *Xymmer* were probably attachable to *Amblyopone*. The additional material which has been secured since that time warrants the adoption of Wheeler's suggestion. All three are here regarded as subgenera of *Amblyopone*. To the subgenus *Fulakora* is referred the additional species *A. exigua* Clark, and *A. wilsoni* Clark.

Amblyopone (Fulakora) lucida, sp. nov.

(Pl. II, fig. 8.)

Worker.—Length, 4–4.5 mm.

Russet; legs testaceous.

Head reticulate-punctate; mandibles longitudinally and finely striate; thorax, node and gaster finely punctate, smooth and shining.

Hair yellow, short and erect, sparse except on antennae, legs and apical segments of gaster. Pubescence yellow, fine and adpressed, abundant throughout.

Head slightly longer than broad, slightly broader in front than behind, sides feebly convex, occipital border straight, angles strongly rounded. Mandibles long and narrow, external border feebly concave, inner border feebly convex, furnished with eight strong sharp teeth, the apex long and sharp. Clypeus convex in front the border furnished with ten sharp teeth, almost as strong on those on mandibles. Frontal carinae approximate, erect, short, truncate and slightly diverging behind, overhanging but not quite hiding the antennal insertions. Scapes short, extending a little beyond middle of head; first segment of funiculus as long as the three following, apical segment as long as the two preceding together. Eyes minute, composed of from one to three facets, situated at the posterior third of head. Ocelli absent. Thorax almost two and one-quarter times longer than broad. Pro-mesonotal suture deeply impressed; meso-epinotal suture indicated. Pronotum as broad as

long, strongly convex on sides and in front. Mesonotum one-third broader than long. Epinotum as broad as long, slightly broader behind than in front. In profile dorsum straight, declivity abrupt, its superior edge rounded into dorsum. Node one-fifth broader than long, strongly convex in front and on sides, separated by a wide constriction from the postpetiole; in profile longer than high, the anterior face vertical, rounded into dorsum which is slightly convex; there is a broad plate-like projection below in front, half the length of ventral surface, much longer than high. Postpetiole broader than long and broader behind than in front, sides convex; a deep constriction between it and first segment of gaster, the latter slender, hardly wider than postpetiole. Legs moderately robust.

Habitat.—Federal Capital Territory; Corrie Creek (G. F. Hill, 20-7-30).

Amblyopone (Fulakora) punctulata, sp. nov.

(Pl. II, fig. 9-10.)

Worker.—Length, 3-3.5 mm.

Castaneous; mandibles, antennae and legs more yellowish.

Head finely reticulate, mandibles finely striate longitudinally. Thorax and node densely and finely punctate.

Hair yellow, short and erect, moderately abundant, not shorter on antennae and legs. Pubescence yellow, very fine and short; adpressed, moderately abundant throughout.

Head one-sixth longer than broad, broader in front than behind, sides very feebly convex, occipital border straight or feebly concave, angles rounded. Mandibles broad at middle, furnished with six to seven stout, laterally bifid teeth. Clypeus strongly convex in front, furnished with eight short sharp teeth. Frontal carinae erect, approximate, short. Scapes extend to middle of head, first segment of funiculus longer than two following together, others broader than long to apical which is as long as the three preceding together. Eyes minute, three or four facets, placed at posterior third of head. Thorax twice as long as broad. Pronotum as long as broad, front and sides strongly convex, dorsum feebly convex. Mesonotum twice as broad as long, oval, sutures deeply impressed. Epinotum as broad as long, sides convex. In profile pronotum truncate and convex in front, feebly convex behind. Mesonotum and epinotum straight, declivity straight, at an oblique angle, rounded into dorsum. Node as broad as long, front and sides strongly convex; in profile as high as long, anterior face straight, forming a right angle with dorsum into which it is rounded; a long broad projection in front below directed backward, somewhat hook-shaped. Postpetiole one-fourth broader than long, sides strongly convex. Gaster slender. Legs short.

Female.—Length, 3.5-4.3 mm. (Ergatoid).

Colour, sculpture and pilosity as in the worker.

Head longer than broad, sides almost parallel, feebly convex, occipital border straight or feebly concave, the angles strongly rounded. Mandibles rather broad at the middle, external border convex at base and apex, straight at middle: inner border strongly convex, furnished with seven broad laterally bifid teeth. Clypeus convex in front, the anterior border furnished with eight short sharp teeth, the central pair joined at the base. Frontal carinae approximate, short, truncate and diverging behind. Scapes extending to posterior

margin of the eyes; first segment of funiculus longer than two following together, apical as long as three preceding together, Eyes circular, small, flat, placed at the posterior third of head. Ocelli minute. Thorax fully twice as long as broad. Pronotum as broad as long, strongly convex on the sides and in front. Mesonotum broader than long, the sutures well impressed. Epinotum as broad as long, sides parallel. In profile feebly convex longitudinally, the declivity almost as long as dorsum of epinotum, the boundary between them bluntly rounded. Node almost one-fourth broader than long, broader behind than in front, strongly convex in front and on sides; in profile as high as long, the anterior face vertical, bluntly rounded into dorsum, the latter slightly convex; a long, broad, projection in front below, with the anterior corner broadly rounded. Postpetiole almost one-third broader than long. A deep constriction between it and first segment of gaster, the latter broader than long. Legs short and stout.

Habitat.—Tasmania: Trevallyn (V. V. Hickman).

The female has been described in detail owing to the remarkable resemblance to the worker. It can only be distinguished by the slightly larger size, and possessing larger eyes and ocelli. All the known females of *Amblyopone* and *Fulakora* are winged. It is possible that the form described is not the true female, but with the exception of the thoracic segments it corresponds well with known females in the group.

Genus DISCOTHYREA Roger 1863.

Discothyrea leae, sp. nov.

(Pl. II, fig. 11.)

Female.—Length, 2.6 mm. approximately.

Castaneous throughout. Pilosity yellowish, short and suberect, rather abundant, particularly on gaster. Pubescence very fine, short and adpressed.

Head, thorax, and node subopaque, finely and densely punctate, the epinotal declivity shining and finely punctate. Gaster shining, densely punctate, the punctures larger and more scattered than on thorax. Antennae and legs finely and densely punctate.

Head very slightly longer than broad, almost circular, the sides and occipital border strongly convex. Mandibles triangular, furnished with strong sharp teeth, the apex long and pointed. Clypeus short and truncate. Front of head projecting, overhanging the clypeus and mandibles. Frontal carinae short and erect, extending from front of frontal projection to near middle of eyes, swerving outward at middle then inward and approximate behind. Scapes short, greatly thickened to apex, their insertions exposed, extending a trifle beyond the posterior margin of eyes; first segment of funiculus as long as the two following, apical twice as long as broad and as long as the six preceding together, these are broader than long. Eyes large, moderately convex, circular, placed at middle of sides. Ocelli large and convex. Thorax one and a half times longer than broad. Pronotum truncate in front, just visible from above. Mesonotum as long as broad behind, parapsidal furrows faintly indicated. Scutellum broader than long, convex behind. Epinotum

short and broad, strongly concave at the middle. In profile dorsum of mesonotum and scutellum flat, latter truncate behind, metanotum level with posterior of scutellum, declivity vertical, posterior corner projecting slightly giving a concave appearance. Node twice as broad as long, the anterior and posterior faces straight, broader behind than in front; in profile twice as high as long, anterior face convex and rounded into dorsum, posterior face flat or feebly concave, superior border sharp. Postpetiole one-fifth broader than long, no constriction between it and gaster, the latter turned down with the terminal segments underneath. Legs robust.

Habitat.—S. Australia: Mt. Lofty (A. M. Lea.)

Type in South Australian Museum.

Genus EUPONERA Forel 1891.

Subgenus BRACHYPONERA Emery 1901.

Euponera (Brachyponera) rufonigra, sp. nov.

(Pl. II, fig. 12–13.)

Worker.—Length, 5 mm.

Black; mandibles, frontal carinae, antennae, legs and apex of gaster ferruginous; in some examples the scapes and femora darker.

Subopaque. Mandibles coarsely punctate. Head and thorax finely and densely punctate, some examples almost finely reticulate; gaster also densely punctate but more widely spread. Antennae and legs very finely and densely punctate.

Hair yellow, fine, suberect, abundant but short throughout except on apical segments of gaster. Pubescence greyish, rather long, adpressed, abundant throughout but not hiding the sculpture.

Head very slightly longer than broad, slightly broader behind than in front, sides convex, occipital border straight, angles rounded. Mandibles almost half as long as head, triangular, with ten to twelve strong sharp teeth. Clypeus very short, produced and convex in front, strongly carinate above, apex produced tooth-like on anterior border. Frontal carinae lobe-like, approximate, longer than broad. Scapes extending beyond occipital border by their thickness; first segment of funiculus twice as long as broad, second to sixth slightly longer than broad, seventh to tenth as broad as long, apical twice as long as broad, as long as the two preceding together. Eyes small, flat, placed at twice their diameter from anterior border. Thorax one and two-thirds longer than broad; pro-mesonotal suture sharply impressed; mesoepinotal suture indistinct. Pronotum one-third broader than long, strongly convex. Mesonotum almost one-fourth broader than long, convex. Epinotum one-third longer than broad. In profile feebly convex longitudinally, pronotum descending abruptly in front; declivity abrupt, rounded into dorsum, one-fourth longer than latter. Node almost three times longer than broad, strongly convex in front, flat behind, dorsum convex laterally; in profile almost twice as high as long at base, anterior face straight, vertical, posterior slightly convex, inclined forward; a long broad process in front below, with a sharp tooth directed behind. Postpetiole one-fourth broader than long, front and sides

convex, a feeble constriction between it and first segment of gaster, latter one-fourth broader than long, strongly convex on sides. Legs slender.

Female.—Length, 6.5 mm.

Colour, sculpture and pilosity as in the worker, differing only in the following details.

Head as broad as long, occipital border feebly concave. Eyes much larger. Ocelli large. Pronotum two and one-fourth times broader than long. Mesonotum broader than long, feebly convex above, parapsidal furrows sharply impressed. Scutellum twice as long as broad, oval. Node similar to worker but more slender. Wings missing.

Habitat.—W. Australia: Perth, Armadale, Mundaring, Busselton, Albany.

Genus ECTOMOMYRMEX Mayr 1867.

Ectomomyrmex ruficornis, sp. nov.

(Pl. II, fig. 14.)

Worker.—Length, 5.5 mm.

Black; mandibles, antennae, tibia, tarsi, anterior half of frontal carinae and apex of gaster castaneous; femora and coxae brownish.

Opaque, mandibles shining, somewhat coarsely punctate, striate longitudinally. Head and thorax densely and coarsely reticulate, in parts almost punctate. Epinotal declivity strongly and sharply striate transversely, continued longitudinally on sides of epinotum. Node transversely arched striate-rugose on top. Antennae, legs and gaster finely and densely punctate. Coxae feebly reticulate transversely.

Hair yellow, fine, long and suberect, moderately abundant throughout, more so at apex of gaster. Pubescence yellow, fine and adpressed, abundant, but by no means hiding the sculpture.

Head slightly longer than broad, broader behind than in front, sides feebly convex, occipital border truncate, straight, or feebly concave in middle. Mandibles subtriangular, apex long and sharp, furnished with four large sharp teeth, with a small one between each. Clypeus short, produced and bluntly pointed in front, with a fine sharp carina which extends from apex to between frontal carinae. Frontal carinae approximate, as long as broad, lobe-like in front but not hiding the antennal insertions, a weak frontal groove between them extending back to middle of head. Scapes barely reaching occipital border; funiculus thickened towards apex, first segment as long as two following together, second to tenth broader than long, apical bluntly pointed, as long as the three preceding together. Eyes small, flat, with about seven facets, placed twice their diameter from the front edge. Thorax fully one and three-quarter times longer than broad, almost twice as broad through pronotum as through epinotum. Pronotum one-third broader than long, strongly convex, pro-mesonotal suture sharply, meso-epinotal suture weakly, defined, dorsum of meso-epinotum convex laterally, posterior border concave, sharply margined. In profile the pronotum feebly convex, meso-epinotum straight, declivity at an oblique angle, straight or feebly convex, edges sharply margined, inferior edges of pronotum and prosternum sharply margined. Node two and a half times

broader than long, sides and anterior face united in a hemi-circle, posterior border concave, in profile higher than long, anterior face straight, posterior face strongly convex, rounded into dorsum. Postpetiole one-fourth broader than long, anterior face straight, truncate, sides feebly convex. First segment of gaster one-fourth broader than long, as broad as behind, feebly convex. Legs short and robust.

Habitat.—N. Queensland : Cairns (Dr. W. M. Wheeler, 13-10-14).

Apparently near *E. astuta* Smith, the only other species in this genus recorded from Australia, but smaller and differently sculptured. Described from a specimen received from Dr. Wheeler.

Genus EUBOTHROPONERA Clark 1930.

Eubothronera tasmaniensis (Forel).

(Pl. II, fig. 15.)

Pachycondyla (*Bothroponera*) *tasmaniensis* Forel, Bull. Soc. Vaud. Sc. Nat. xlix, p. 176, 1913, ♀.

Bothroponera tasmaniensis, Clark, Proc. Roy. Soc. Vic. xliii (i), p. 11, 1930, ♀.

Worker.—Length, 5.6 mm.

Head, dorsum of thorax and gaster brownish black; mandibles, sides of thorax and node ferruginous; antennae and legs castaneous.

Opaque. Mandibles, antennae and legs very finely and densely punctate. Head, thorax and gaster finely and densely reticulate, node more coarsely so and more shining.

Hair yellow, short and suberect, moderately abundant throughout except on antennae and legs. Pubescence yellowish, fine and rather dense throughout but by no means hiding the sculpture.

Head almost one-fourth longer than broad, slightly broader behind than in front, sides feebly convex, occipital border straight. Mandibles triangular, edentate, apex long and slender. Clypeus broadly rounded in front, raised abruptly level with top of frontal carinae; latter flattened, lobe-like, overhanging but not hiding the antennal insertions, not as long as wide in front. Frontal groove short. Scapes extending beyond occipital border by fully their thickness; first segment of funiculus longer than second and third, fourth to tenth as long as broad, apical twice as long as broad. Eyes convex, placed at middle of sides. Thorax one and three-quarters times longer than broad. Pronotum one-third broader than long, sides and front convex, suture sharply defined. Meso-epinotal suture weakly defined. Posterior margin of epinotum feebly concave. In profile convex longitudinally, declivity abrupt and straight, sides feebly margined. Node almost one and one-half times broader than long, sides and anterior border convex, posterior border straight, dorsum flat with a strong central longitudinal carina; in profile one and one-fourth times higher than long, anterior and posterior faces straight, ventral surface convex, with a short blunt tooth behind directed backward. Postpetiole one and two-thirds broader than long, strongly convex in front and

on sides ; a slight constriction between postpetiole and first segment of gaster, the latter broader than long, as broad in front as behind, sides strongly convex. Legs long and slender.

Habitat.—Tasmania : Hobart (A. M. Lea).

Redescribed from a single example, one of the type series, recently received from Dr. W. M. Wheeler.

This species should be regarded as the genotype in place of *E. dentinodis* Clark.

Eubothroponera reticulata, sp. nov.

(Pl. II, fig. 16.)

Worker.—Length, 4.8 mm.

Head and thorax chocolate brown ; base of gaster black ; apex and node ferruginous ; mandibles, antennae and legs castaneous.

Opaque. Mandibles finely and densely punctate. Head and thorax finely and densely reticulate and with numerous large, shallow punctures. Node more coarsely punctate-reticulate. Gaster finely and densely punctate. Antennae and legs microscopically punctate.

Hairs yellow, short and erect, moderately abundant throughout. Pubescence yellow, very fine and adpressed, abundant throughout.

Head one-fifth longer than broad, sides convex, occipital border straight or feebly convex. Mandibles triangular, edentate, apex sharp. Clypeus produced and convex in front, short and abruptly raised to level of frontal carinae, the latter lobe-like, slightly raised outwardly, almost hiding the antennal insertions. Scapes extending beyond occipital border by fully their thickness : first segment of funiculus longer than second, second and third longer than broad, fourth to tenth as broad as long, apical barely twice as long as broad. Eyes large and convex, placed at middle of sides. Thorax barely twice as long as broad ; pro-mesonotal suture sharply defined, mesoepinotal suture not indicated. Pronotum barely one-third broader longer than broad, sides feebly convex. Posterior border of epinotum concave and feebly margined ; in profile strongly convex longitudinally, pro-mesonotal suture strongly indented, declivity straight, sides sharply margined. Node one-third broader than long, broader behind than in front, sides and anterior border straight or feebly convex, angles rounded, posterior border straight with a short broad sharp tooth in middle projecting backward, dorsum feebly convex, with faint indications of a central carina ; in profile one-fourth higher than long, anterior face straight and rounded into dorsum which is higher behind, posterior face straight, ventral surface convex with a short blunt tooth behind directed backward. Postpetiole one and one-half times broader than long, sides and anterior border feebly convex. A strong constriction between gaster and postpetiole. First segment of gaster as long as broad, sides convex. Legs long and slender.

Habitat.—N.S. Wales : Sutherland (Dr. W. M. Wheeler, Sept. 16, 1914).

Near *E. dentinodis* Clark.

Eubothroponera septentrionalis, sp. nov.

(Pl. II, fig. 17.)

Worker.—Length, 5.6 mm.

Chocolate brown; gaster black; node blood red; antennae and legs reddish yellow, darker towards apex of scapes, femora, and tibiae.

Head, thorax and postpetiole densely and finely rugose, node more coarsely so, gaster finely and densely punctate.

Hairs reddish, short and erect, moderately abundant throughout. Pubescence very short, fine and adpressed.

Head one-seventh longer than broad, as broad in front as behind, broadest at eyes, sides and occipital border convex. Mandibles triangular, external border almost straight, terminal border concave, indistinctly dentate, apex long and sharp, angle between the terminal and inner borders rounded. Clypeus broadly rounded in front, rising abruptly level with top of frontal carinae, the latter flat above, rather broad, hardly continued beyond the lobes, these overhanging the antennal insertions. Scapes extend beyond occipital border by one and a half times their thickness: first segment of funiculus barely as long as second, the others subequal to apical which is as long as the two preceding together. Eyes large and convex, their posterior margin at middle of head. Thorax barely twice as long as broad. Pronotum one and a half times broader than long, suture deeply impressed. Mesonotum and epinotum united without traces of a suture; in profile feebly convex longitudinally, the declivity short, rounded into dorsum, sides and top feebly margined. Node one-third broader than long, anterior face and sides strongly convex, posterior face concave, the superior edge sharply marginate with a sharp tooth-like projection in the middle, this tooth being the terminal of an obsolete carina on dorsum. In profile higher than long, the anterior face vertical, feebly convex, rounded into dorsum, latter feebly convex; a short sharp tooth behind, at posterior fourth, directed backward. Postpetiole one-third broader than long, convex in front and on sides. A strong constriction between postpetiole and gaster, the latter slightly broader than long, sides strongly convex. Legs long and slender.

Habitat.—Queensland: Townsville (F. P. Dodd, 15-11-02).

Type in the Queensland Museum.

Near *E. dentinodis* Clark but readily separated by the colour, sculpture and shape of head.

Genus LEPTOGENYS Roger 1861.

Subgenus LOBOPELTA Mayr 1862.

Leptogenys (Lobopelta) angustinoda, sp. nov.

(Pl. II, fig. 18-19.)

Worker.—Length, 8 mm.

Black; mandibles, funiculus, tibiae and tarsi castaneous, scapes and femora darker.

Shining. Head and body with sparse, scattered, shallow piligerous punctures. Antennae and legs with finer and more abundant punctures.

Hair yellow, fine and suberect, very sparse throughout. Pubescence yellowish, very fine and adpressed, apparent only on antennae and legs.

Head one-fourth longer than broad, sides feebly convex, almost parallel, occipital border straight, angles strongly rounded. Mandibles almost half as long as head, narrow, gradually widening to the apex, terminal border short, furnished with two large sharp teeth and four or five more or less obsolete teeth, the first large one midway between apex of mandible and the second, the latter almost at centre of border; an obsolete tooth between these large ones. Clypeus greatly produced and bluntly rounded in front, a strong carina on top extending on to frontal carinae, this carina in part grooved longitudinally. Frontal carinae narrow, extending back to middle of eyes. Scapes extending beyond occipital border by twice their thickness; first segment of funiculus very slightly longer than second, the latter one and a half times longer than third, fourth longer than broad, the remainder as broad as long to the apical which is as long as the two preceding together. Eyes large, rather flat, placed at middle of sides. Thorax fully twice as long as broad. Pronotum almost one-fourth broader than long, sides and front convex. Mesonotum transverse, four times broader than long, both sutures feebly impressed. Epinotum narrow and convex laterally. In profile convex longitudinally, the declivity and dorsum of epinotum merged and convex. Node almost twice as long as broad behind, and twice as broad behind as in front, sides straight or feebly concave; in profile slightly longer than high, one-third higher behind than in front, anterior face short and vertical, dorsum strongly convex, posterior face vertical, superior border rounded. Postpetiole bell-shaped, one-fourth broader than long, strongly convex; a wide constriction between it and first segment of gaster, the latter almost twice as broad as long. Legs long and slender.

Female.—Length, 8.5 mm.

Colour, sculpture and pilosity as in the worker. Sides and occipital border more convex. Eyes slightly larger. Ocelli well developed. Mesonotum much larger. Scutellum and metanotum present but small. Node shorter and broader. Gaster much larger.

Habitat.—N.S. Wales: Armidale (C. F. Deuquet).

Leptogenys (Lobopelta) hackeri, sp. nov.

(Pl. II, fig. 20.)

Worker.—Length, 10 mm.

Head, thorax and node blue; gaster black with a brownish tinge; mandibles, clypeus, antennae and legs castaneous.

Mandibles shining, finely striate longitudinally and with scattered shallow punctures. Head and thorax finely rugose. Node finely and irregularly striate-rugose. Gaster smooth and shining with scattered piligerous punctures.

Hair yellow, moderately long, suberect, abundant throughout, shorter and more adpressed on antennae and legs. Pubescence yellow, very short and adpressed on antennae and legs, not apparent on body.

Head one-third longer than broad, broader in front than behind, sides convex, occipital border straight, sharply margined, angles bluntly rounded.

Mandibles fully half the length of head, broader near apex than at base, terminal border short, edentate. Clypeus greatly produced and bluntly pointed in front, a strong central carina above extending from apex to between frontal carinae, the latter approximate, parallel, not hiding the antennal insertions in front. Scapes extending beyond occipital border by fully one-third of their length; second segment of funiculus one-third longer than first, the others subequal to apical which is as long as second. Eyes large, moderately convex, placed at middle of sides. No ocelli. Thorax fully two and a half times longer than broad, strongly convex in front and on the sides. Pronotum one-fourth broader than long. Mesonotum almost twice as broad as long, sutures well defined. Epinotum longer than broad, narrow above, almost ridged in front. In profile convex longitudinally, the meso-epinotal suture deep and wide, declivity short and abrupt, rounded into dorsum. Node fully one-third longer than broad and twice as broad behind as in front, sides straight, anterior and posterior borders convex: in profile as high as long, higher behind than in front, the anterior and posterior faces vertical for half their height, then broadly rounded into dorsum, giving a somewhat dome-shaped appearance; a long sharp tooth-like process in front below directed backward. Postpetiole bell-shaped, slightly longer than broad, strongly convex; a deep constriction between it and first segment of gaster, the latter broader than long. Legs long and slender.

Habitat.—N.S.Wales: Cascade (F. E. Wilson). Queensland: National Park (H. Hacker, Dec., 1919).

Subfamily **Myrmicinae** Lepelletier 1836.

Genus **PODOMYRMA** Smith 1858.

Podomyrma tricolor, sp. nov.

(Pl. II, fig. 1.)

Worker.—Length, 11–13 mm.

Head ferruginous; antennae, thorax, nodes, legs, apex of first and the whole of three apical segments of gaster chocolate brown; first segment of gaster yellow; teeth of mandibles black.

Mandibles finely striate, head, including clypeus, strongly and somewhat coarsely striate longitudinally. Pronotum transversely striate, mesonotum, epinotum, sides of thorax, and postpetiole longitudinally striate, coarser than on head, declivity and top of node smooth and shining, sides of node longitudinally striate. Gaster smooth and shining, with fine short longitudinal striae at base, not reaching to anterior fourth of segment.

Hair yellowish, long and erect, moderately abundant, shorter on antennae and legs. Pubescence confined to apex of antennae.

Head slightly longer than broad, very slightly broader behind than in front, sides straight, occipital border convex, angles rounded. Mandibles furnished with seven strong sharp teeth. Clypeus short. Anterior border straight or feebly concave. Frontal area large, triangular. Frontal carinae rather flat, slightly longer than broad in front. Scapes not reaching the occipital border by one-third their length; first to seventh segments of

funiculus longer than broad, eighth and ninth as broad as long, apical as long as the two preceding together. Eyes convex, projecting slightly from sides, placed behind middle. Thorax one and three-fourths times longer than broad, sutures not impressed. Pronotum two and two-thirds times broader than long, strongly convex and margined in front, angles produced as long broad spines directed outward laterally and very slightly forward, longer than their width at base, sides convex, not margined. Mesonotum slightly longer than broad, bluntly pointed in front, convex behind, a short, broad, sharp tubercle at centre of anterior border, vertical, hardly noticed from above; this tubercle is the termination of the three central carinae. A deep and wide constriction between epinotum and mesonotum but without margins on either. Epinotum twice as long as broad on top, spiracles prominent and tubercle-like almost on dorsum near middle of sides. Posterior border convex, furnished with two short sharp spines, slightly longer than the distance apart at their base, directed slightly outward and backward. In profile pronotum and mesonotum strongly convex, anterior border sharp and projecting. Anterior spines directed forward, tubercle on dorsum short and sharp. Meso-epinotal constriction deep and wide, concave. Epinotum feebly convex, one-fourth longer than declivity, latter oblique, feebly convex, spines on superior angles erect, directed very slightly backward. Node one and one-half times longer than broad, sides almost parallel, produced to a blunt point above; in profile longer than high, convex from the anterior fourth, a short sharp spine near middle, ventral surface concave, a long blunt parallel tooth in front directed forward. Post-petiole broader than long, oval; in profile higher behind than in front. Gaster almost one-third longer than broad, first segment covering three-fourths of the area. Legs long and robust, femora greatly thickened.

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

The large size, peculiar colour and sculpture readily distinguish this from all previously described forms.

Genus DACRYON Forel 1895.

Dacryon ferruginea, sp. nov.

(Pl. III, fig. 2.)

Worker.—Length, 4–5 mm.

Ferruginous; legs and gaster a little more yellowish.

Mandibles shining, coarsely striate, with large scattered punctures. Head, thorax and nodes coarsely striate longitudinally, very finely and densely punctate between striae; on occipital border the head is more rugose. Antennae and legs much more finely punctate. Some very fine longitudinal striae on anterior fourth of gaster.

Hair yellow, erect, rather thick, moderately abundant throughout, shorter on antennae, none on legs. Pubescence very fine and short, conspicuous only on antennae and legs.

Head slightly longer than broad, sides feebly convex, occipital border straight or feebly concave, angles rounded. Mandibles furnished with four strong sharp teeth behind apex. Clypeus convex in front with a slight concave excision at centre. Frontal area triangular. Frontal carinae extending

almost to occipital border, giving the appearance of antennal grooves at each side of head. Scapes not extending to occipital border by fully their thickness; first segment of funiculus longer than the two following together, second to seventh at least as broad as long, eighth and ninth longer than broad, apical longer than two preceding together. Eyes large, convex, projecting slightly at sides. Thorax almost twice as long as broad, sutures feebly indicated. Pronotum convex, bluntly produced, in front, marginate, the margin continued on sides, anterior angles sharply produced, but not spined; dorsum almost flat, feebly convex. Mesonotum broader than long with a short stumpy tubercle at each side; strongly constricted laterally and on dorsum, between mesonotum and epinotum. Epinotum one one-fourth longer than broad, sides convex and submarginate, posterior border with two long spines directed outward and backward, almost as long as the distance apart at base. In profile pronotum truncate in front, anterior angle sharp, marginate, inferior angle sharp. Mesonotum forming a single convexity with pronotum. Epinotum convex, almost twice as long as declivity, latter convex, spines rather thick, directed backward and upward. Node about one-fourth longer than broad dorsum produced in front and sides to sharp angles which each bear a sharp spine directed upward; in profile longer than high, anterior face almost vertical, convex, terminating above in a short sharp spine, dorsum straight, dropping behind, the lateral spine longer and stronger than anterior spine, placed at middle of side; ventral surface concave, with a long broad tooth in front directed forward. Postpetiole one and one-half times broader than long, oval; in profile convex above. Gaster about one and one-half times longer than broad. Legs short and robust, femora towards base.

Habitat.—N.S. Wales: Bombala (W. W. Froggatt). Federal Capital Territory: Canberra (T. Greaves).

Genus LORDOMYRMA Emery 1897.

Lordomyrma rugosa, sp. nov.

(Pl. III, fig. 3-4.)

Worker.—Length, 3.5 mm.

Castaneous; legs and gaster yellow.

Mandibles smooth and shining, with large scattered shallow punctures. Head, thorax and nodes longitudinally striate-rugose, the interstices smooth and shining; legs and gaster smooth and shining.

Hair yellow, long and erect, abundant, shorter on antennae and legs. Pubescence very fine and adpressed, apparent only on antennae and legs.

Head slightly longer than broad, sides convex, occipital border almost straight, feebly convex, angles rounded. Mandibles furnished with four strong sharp teeth behind apex. Clypeus short, bicarinate, space between carinae concave. Frontal area triangular, feebly impressed. Frontal carinae extending almost to occipital border, forming inner boundary of antennal foveae. Scapes abruptly bent at base, not extending to occipital border by their thickness; first segment of funiculus longer than two following together, second to seventh broader than long, eighth and ninth as broad as long, apical longer than the two preceding together. Eyes convex, projecting slightly at sides, placed slightly in front of middle. Thorax one and two-thirds times

broader than long. Sides and anterior border of pronotum convex, anterior angles bluntly rounded, a short sharp tooth at each side of mesonotum, directed outward. In profile anterior edge and sides of pronotum submarginate, angles blunt and submarginate downward midway to inferior angle, latter bluntly rounded. Mesonotal spine short, directed upward. Epinotum convex, rounded into declivity, spines long and sharp, directed upward and backward. Node almost twice as long as petiole, as long as broad, with a long sharp spine on each side in front, and indication of a spine at centre of front; in profile the anterior face at an oblique angle, convex, with a sharp spine at each side, longer than thick at base, directed backward, dorsum inclined backward, straight; ventral surface concave, with indications of a tubercle in front. Postpetiole broader than long, oval, in profile evenly convex above. Gaster slightly longer than broad, oval. Legs robust, femora thickened near middle.

Female.—Length, 4.5 mm.

Colour, sculpture and pilosity similar to worker. Eyes larger. Ocelli prominent but placed in small pits. From above the pronotum broadly convex in front and sides, no trace of anterior angles. Mesonotum as long as broad. Scutellum as long as broad, circular. Spines on epinotum similar but further apart. In profile pronotum submarginate in front, concave below, convex above. Anterior superior angle feebly denoted, inferior angle bluntly rounded. Mesonotum convex above, without trace of spines. Scutellum convex above, overhanging metanotum and base of epinotum. Metanotum convex, narrow. Epinotum and declivity combined, convex, almost vertical, concave below, spines stout and sharp, as long as broad at base. Nodes, gaster and legs similar. Wings missing.

Habitat.—Victoria: Ferntree Gully (C. Barrett and J. Clark).

Readily separated from *L. punctiventris* Wheeler, the only other Australian species in the genus, by the colour as well as by the shape of the nodes.

Subfamily **Dolichoderinae** Forel 1878.

Genus **BOTHRIOMYRMEX** Emery 1865.

Bothriomyrmex wilsoni, sp. nov.

(Pl. III, fig. 5.)

Worker.—Length, 3.5 mm.

Brownish yellow; mandibles, clypeus, antennae and legs lighter.

Shining, microscopically punctate throughout, larger on head than elsewhere. Clypeus smooth, mandibles very finely striate.

Hair yellow, short and erect, confined to mandibles, clypeus and apex of gaster. Pubescence yellow, very fine and adpressed.

Head slightly longer than broad, sides convex, occipital borders straight, angles rounded. Mandibles furnished with four strong sharp teeth, apex long and sharply pointed. Clypeus convex above, produced and convex in front. Frontal area elongate triangular. Frontal carinae diverging behind. Scapes

extending beyond occipital border by almost one-fourth their length; first segment of funiculus twice as long as second, third shortest, fourth to ninth almost twice as long as broad, apical longer than the two preceding together. Eyes large, circular, placed just behind middle of sides. Ocelli prominent. Thorax one-fifth longer than broad. Pronotum three times broader than long, sides and front strongly convex. Mesonotum one-third broader than long, much broader in front than behind, a slight excision on posterior border, a deep and wide depression between mesonotum and epinotum, spiracles placed on top at each side. Epinotum almost twice as broad as long, broader behind than in front, a short blunt tubercle at posterior angles. In profile pronotum strong convex. Mesonotum feebly convex, sutures well impressed. Epinotum dropping behind, declivity at an oblique angle, longer than dorsum, with a strong tubercle at superior angle. Node thin, scale-like hidden in a recess at front of gaster. The gaster very large, almost four times as long as thorax and fully one and one-third times longer than broad. Legs short and robust.

Habitat.—South Australia: Port Lincoln (F. E. Wilson, Oct. 1928.)

Three specimens taken in a nest of *Crematogaster laeviceps* Smith. This is not near any of the previously described Australian species. The voluminous gaster at once distinguishes it from all others.

It is with some doubt that this form is described as a worker, the large eyes and ocelli suggesting a female. The thorax however has no trace of wing sclerites, and is that of a worker.

Genus DOLICHODERUS Lund 1831.

Subgenus HYPOCLINEA Mayr 1855.

Dolichoderus (Hypoclinea) doriae Emery.

(Pl. III, fig. 6.)

Ann. Mus. Civ. Stor. Genova, 24, p. 252, ♀.

Gen. Insects, 137, p. 12, 1912, ♀.

Clark: Aust. Zool. vi, pt. iii, p. 254, 1920, ♀.

Female.—Length, 9.5 mm. (Ergatoid).

Black; mandibles, mesonotum and spines of epinotum chocolate brown; legs brownish red.

Mandibles finely striate near base, with scattered shallow punctures. Clypeus longitudinally striate at sides, smooth in middle. Head coarsely reticulate. Pronotum more coarsely and irregularly rugose; mesonotum coarsely reticulate-punctate. Epinotum smooth and shining, with coarse scattered punctures. Node finely rugose.

Hair yellowish, short and erect, sparse throughout. Pubescence yellow, confined to gaster, forming a dense covering but not hiding the sculpture.

Head as long as broad, almost circular. Mandibles furnished with twelve small teeth. Clypeus broad, convex above with a slight longitudinal depression extending to anterior border, latter strongly convex, with a slight concave indentation at the middle. Frontal carinae diverging strongly behind, not covering the antennal insertions. Scapes extending beyond occipital border by one-fourth their length; first segment of funiculus one-third longer than second, second to fifth longer than broad, sixth to eleventh at least as broad as long, apical pointed, one-fourth longer than broad. Eyes small, circular, placed at middle of sides. The anterior ocellus only is present. Thorax one and three-fourths times long as broad. Pronotum twice as broad as long, broader in front than behind, the anterior angles produced forward as broad, short, blunt spines, as long as their width at base, dorsum convex laterally behind. Mesonotum circular, as long as broad, separated from epinotum by a deep and wide constriction, spiracles placed almost on dorsum. Posterior border with two long broad spines directed laterally, almost at right angles, their posterior margins slightly concave. In profile pronotum strongly convex, the spines short and blunt, directed forward. Suture deeply impressed. Mesonotum strongly convex. Meso-epinotal suture deep and wide. Epinotum feebly concave at the middle, rounded into declivity, both about same length, spines short and thick, directed very slight backward. Node three times broader than long, concave in front, convex behind and on sides; in profile very low, equal to half the height of epinotal declivity. Gaster large, longer than broad. Legs short and robust.

Habitat.—N.S. Wales: Mt. Victoria (F. E. Wilson, Oct. 1930).

Taken in the nest with workers. The specimen has no traces of either scutellum or wing sclerites.

Subfamily **Formicinae** Lepeletier 1836.

Genus MYRMECORHYNCHUS Andre 1896.

Myrmecorhynchus emeryi Andre.

(Pl. III, fig. 7-8-9.)

Andre, Rev. d'Ent. xv, p. 254, 1896, ♀.

Emery, Rend. Accad. Sc. Bologna, N.S. 2, p. 237, figs. 9-10, 1898, ♀.

Wheeler, Trans. Roy. Soc. S. Aust. xli, p. 16, pl. 1, figs. 1-4, 1917, ♀, 4.

Female.—Length, 6-6.5 mm. (not previously described).

Head yellowish red; mandibles darker; thorax, node, gaster and femora brownish; scapes, coxae, trochanters, and tibia yellow; funiculus and tarsi darker.

Mandibles very finely and densely striate, with large scattered punctures. Clypeus coarsely and irregularly striate. Head finely and densely reticulate. Pronotum and mesonotum more superficially reticulate. Scutellum smooth and shining. Epinotum finely transversely striate-reticulate. Node finely reticulate.

Hair yellow, long and erect, abundant throughout, shorter and oblique on antennae and legs. Pubescence not apparent except on funiculus.

Head as broad as long, broadest behind, sides convex, occipital border straight or feebly convex, angles broadly rounded. Mandibles triangular, dorsum strongly convex, furnished with seven strong teeth behind apex. Clypeus broadly produced in front, anterior border concave in middle, angles rounded. Frontal area large, transverse. Frontal carinae diverging behind, one-fourth broader in front than long. Scapes not extending to occipital border by fully their thickness; first segment of funiculus as long as the two following together, second to tenth as broad as long, apical as long as two preceding together. Eyes large and convex, placed at middle of sides. Ocelli prominent. Thorax fully one and one-half times longer than broad. Pronotum hardly visible from above. Mesonotum one-third broader than long, strongly convex in front, concave behind, parapsidal furrows sharply impressed. Mesonotum one-fourth broader than long, convex in front and behind. Metanotum shows as a narrow band. Epinotum two and one-half times broader than long. In profile pronotum short and vertical. Mesonotum strongly convex from apex to base. Scutellum very slightly higher than mesonotum. Metanotum raised and projecting behind. Epinotum convex, rounded into, and shorter than, declivity. Node three times broader than long, oval, convex above; in profile twice as high as long, almost parallel, dorsum convex. Gaster longer than broad. Legs robust. Wings hyaline, discoidal cell small.

Male.—Length, 6.5–7 mm.

Head and gaster reddish yellow; mandibles, antennae, thorax and legs yellow.

Mandibles smooth and shining, with scattered shallow punctures. Head finely and densely reticulate, somewhat coarser in front. Pronotum, mesonotum and scutellum superficially reticulate, epinotum irregularly reticulate. Node and gaster smooth and shining.

Hair yellow, short and erect, sparse throughout, oblique on antennae and gaster. Pubescence confined to antennae and legs, very fine and adpressed.

Head slightly broader than long, sides strongly convex, occipital border straight or very feebly convex. Mandibles almost half as long as head, edentate, terminal border concave, twice as long as basal border, the angle strongly produced, sharp. Clypeus feebly convex above, produced in front, broadly convex, strongly indented at middle. Frontal area triangular. Frontal carinae not margined. Base of scapes exposed. Scapes thickened at apex, extending beyond occipital border by one-fourth their length; first segment of funiculus one-fourth longer than second, the others longer than broad, fifth to twelfth thickened to apex, apical pointed, twice as long as broad. Eyes large, very convex, slightly in front of middle of sides. Ocelli large and prominent, transparent. Thorax one and three-fourths longer than broad. Pronotum, seen from above, short and crescent-like. Mesonotum one-third broader than long, convex in front, concave behind, parapsidal furrows very strongly impressed. Scutellum broader than long, oval. Epinotum twice as broad as long. In profile pronotum vertical, convex near top. Mesonotum high, strongly convex from apex to base. Scutellum broader than long, oval. Epinotum twice as broad as long. In profile pronotum vertical, convex near top. Mesonotum high, strongly convex from apex to base. Scutellum convex, slightly higher than mesonotum, metanotum not projecting behind. Epinotum flat on top, declivity oblique, feebly convex, longer than dorsum, into which it is rounded. Node twice as broad as long, oval, convex on top; in profile one and three-fourths higher than long, anterior and posterior faces feebly convex, dorsum strongly convex. Gaster one-fourth longer than broad.

Genital exerted. Valves slender. Legs long and robust. Wings with a small discoidal cell.

Habitat.—Queensland: National Park, Macpherson Range (A. Musgrave, 19-12-26).

Types in the Australian Museum, Sydney.

Myrmecorhynchus musgravei, sp. nov.

(Pl. III, fig. 10.)

Male.—Length, 4.5-5 mm.

Testaceous; gaster slightly darker on some examples; mandibles, antennae and legs yellow.

Mandibles and clypeus smooth and shining, with scattered shallow punctures. Head shining, irregularly and finely reticulate, front of mesonotum more coarsely so, with numerous large punctures. Epinotum finely irregularly reticulate. Scutellum, node and gaster smooth and shining.

Head one-sixth longer than broad, strongly convex behind eyes. Mandibles half the length of head, edentate, terminal border concave. Clypeus feebly convex above, anterior border produced, broadly convex, feebly concave in the middle. Frontal carinae not margined. Base of scapes exposed. Scares thickened at apex, extending beyond occipital border by fully one-fourth their length; first segment of funiculus one-third longer than second, others longer than broad to twelfth, apical fully twice as long as broad. Eyes very large and convex, placed just in front of the sides. Ocelli large and prominent, a fine groove extending from anterior ocellus to front of frontal carinae. Thorax one and two-thirds longer than broad. Pronotum just visible from above, strongly convex. Mesonotum one-fifth longer than broad, strongly convex in front, straight behind, parapsidal furrows sharply impressed. Scutellum one-third broader than long, convex. Epinotum twice as broad as long, broadest in front. In profile pronotum erect, feebly convex. Mesonotum strongly convex in front, flattened behind. Scutellum convex, highest in front. Metanotum raised, inclined backward. Epinotum convex from base to bottom of declivity. Node twice as broad as long, oval, convex on top; in profile one-third higher than long, anterior face convex, rounded into dorsum, posterior face short and vertical. Gaster one-fourth larger than broad. Genitalia exerted, long and slender. Wings hyaline, discoidal cell large.

Habitat.—Queensland: National Park (A. Musgrave, 19-12-26).

Type in Australian Museum, Sydney.

Myrmecorhynchus carteri, sp. nov.

(Pl. III, fig. 11-12.)

Worker major.—Length, 4.3-4.7 mm.

Black; mandibles and antennae ochraceous; apical half of mandibles, anterior edge of pronotum, knees, tibia and tarsi ferruginous; node and gaster chocolate brown.

Shining. Mandibles very finely striate longitudinally. Head and thorax finely reticulate, having a circular direction, on pronotum and mesonotum. Node and gaster smooth.

Hair yellow, long, erect, very sparse throughout. Pubescence very fine and adpressed, abundant on antennae, sparse on legs, hardly apparent on body.

Head a fraction longer than broad, much broader behind than in front, sides and occipital border convex, angles broadly rounded. Mandibles triangular, furnished with eight strong, sharp teeth. Clypeus produced, the anterior border straight in middle. Frontal area transversely triangular. Frontal carinae one-fourth broader than long. Scapes extending beyond occipital border by one-fifth their length; first segment of funiculus as long as the three following together, second to ninth as broad as long, tenth slightly longer than broad, apical as long as the two preceding together. Eyes large, convex, placed about three-quarters of their length from anterior angle. Ocelli large. Thorax one and three-quarters times longer than broad. Pronotum one and two-thirds times broader than long, strongly convex, suture strongly impressed. Mesonotum almost circular, slightly broader than long. Constriction between meso- and epinotum wide and deep, the spiracles placed on top at sides of the depression. Epinotum slightly broader than long, strongly convex, posterior border almost straight. In profile pronotum and mesonotum convex, suture hardly indicated. Spiracles prominent in meso-epinotal depression. Epinotum strongly convex, rounded into declivity, the latter longer than dorsum. Node oval, fully twice as broad as long, convex laterally; in profile almost twice as high as long, anterior and posterior faces feebly convex, almost parallel, rounded into dorsum; a short blunt tooth in front below. Gaster one and two-third times longer than broad. Legs slender.

Worker minor.—Length, 3–3.3 mm.

Colour, sculpture and pilosity as in major from which it differs as follows:

Head one-seventh longer than broad, sides and occipital border strongly convex. Mandibles slightly longer and narrower. Scapes extending beyond occipital border by one-fourth their length. Dorsum of thorax similar, but in profile the epinotum higher and more convex. The node a little more slender, more pointed above.

Habitat.—N.S. Wales: Barrington Tops (H. J. Carter). Victoria: Kinglake (T. Greaves).

Myrmecorhynchus nitidus, sp. nov.

(Pl. III, fig. 13–16.)

Worker major.—Length, 5.5 mm.

Black. Mandibles and clypeus yellow, the latter with a blackish patch on the middle behind; antennae, trochanters, tibiae and tarsi reddish-yellow. Many examples have the apex of mandibles darker.

Smooth and shining, microscopically reticulate throughout.

Hair yellow, very sparse, short and erect. Pubescence absent except on funiculus where it is short and depressed.

Head very slightly longer than broad, broader behind than in front, sides convex, posterior border feebly convex, almost straight. Mandibles almost

half as long as head, terminal border furnished with seven large sharp teeth with a small one between them. Clypeus projecting and broadly convex in front. Frontal area small, triangular. Frontal carinae broad and flat, short, one and a half times broader than long, a feeble groove between them, extending to the anterior ocellus. Scapes extending beyond occipital border by almost twice their thickness; first segment of funiculus twice as long as broad, barely as long as the two following together, second to ninth slightly longer than broad, tenth as long as broad, apical twice as long as broad, as long as the two preceding together. Eyes very large and convex, in front of middle of sides. Ocelli small but prominent. Thorax fully twice as long as broad, strongly constricted at the mesonotum. Pronotum one-fifth broader than long, strongly convex in all directions. Mesonotum one and a half times broader than long. A deep and wide constriction between mesonotum and epinotum, the spiracles prominent at the sides on top. Epinotum one-fourth broader than long, strongly convex in all directions. In profile the pronotum and mesonotum forming a single convexity, the suture feebly indicated. Mesonotum much lower, flat on top, rounded into declivity, the latter oblique, almost as long as dorsum. Node twice as broad as long, oval; in profile as long as high, cone-shaped; a faint indication of a tooth on the ventral surface in front. Gaster one and a half times longer than broad. Legs long and slender.

Worker minor.—Length, 4.5 mm.

Colour, sculpture and pilosity as in the major.

Head one-fourth longer than broad, sides and occipital border strongly convex, broader behind than in front. Mandibles fully one-third as long as head, furnished with seven large teeth as in the major worker. Clypeus feebly carinate on the basal two-thirds. Frontal carinae slightly more raised at sides. Antennae similar. Eyes and ocelli smaller, the ocelli very small, hardly perceptible. Thorax somewhat similar but epinotum shorter and more convex. Node more slender and sharper above.

Female.—Length, 7.5 mm.

Colour, sculpture and pilosity as in worker major from which it differs as follows: Head almost parallel; occipital border feebly convex, angles rounded. Teeth on mandibles longer and stronger. Clypeus subcarinate on basal half. Eyes and ocelli larger. Pronotum short and convex. Mesonotum large, flat; parapsidal furrows deeply impressed. Scutellum highly polished. Epinotum very short and broad, declivity flat. Node similar. Gaster larger. Legs slender. Wings hyaline. Discoidal cell small.

Male.—Length, 6 mm.

Colour, sculpture and pilosity as in the worker.

Head one-sixth longer than broad, much broader behind than in front, sides and occipital border strongly convex. Mandibles fully half as long as head, somewhat sickle-shaped, inner and terminal borders concave, edentate. Clypeus produced, broadly convex in front. Frontal area large. Scapes slender, extending beyond occipital border by one-fifth their length; first segment of funiculus fully twice as long as broad, second to eleventh about one and three-quarter times longer than broad, apical two and a third times longer than broad. Eyes large, convex, placed in front of the middle of sides. Ocelli large and convex. Thorax twice as long as broad. Pronotum fully twice as broad as long, parapsidal furrows, and a short median furrow in front, deeply impressed, truncate and convex in front, tegulae yellow, projecting at sides. Scutellum one and one-half times broader than long, strongly convex

above. Metanotum appearing as a narrow deep impression. Epinotum one and two-thirds broader than long. In profile pronotum short and truncate in front, convex, separated from mesonotum by a strong excision. Mesonotum truncate and convex in front, dorsum flat, slightly raised at sides behind. Scutellum convex, lower behind. Epinotum rounded into declivity. Node almost twice as broad as long, oval, with a feeble longitudinal groove above; in profile one and one-half times higher than long, dome-shaped. Gaster one and one-half times longer than broad. Genitalia exerted, slender (fig. 15b). Legs long and slender. Wings hyaline; discoidal cell small.

Habitat.—Victoria: Cheltenham (L. B. Thorn), ♀ ♀ ♂, in dead branch of tree. Federal Capital Territory: Canberra (T. Greaves), ♀ ♂, in limb of tree.

Mr. Greaves informs me that the examples collected by him were in a branch seventy feet from the ground. Two species collected by the late Mr. Thorn were also obtained in trees, but apparently at no great height as Mr. Thorn secured examples whilst searching for *Lycaenid* larvae.

Myrmecorhynchus rufithorax, sp. nov.

(Pl. III, fig. 17–18.)

Worker major.—Length, 4.5 mm.

Head and gaster chocolate brown; mandibles yellow, apex darker, antennae, thorax, node and legs ferruginous.

Shining. Mandibles with a few scattered punctures. Clypeus finely striate longitudinally. Head very finely reticulate in front, superficially so behind. Dorsum of thorax superficially reticulate, with some shallow scattered punctures; sides of pronotum more strongly punctured, sides of mesonotum more coarsely and almost longitudinally striate-reticulate, sides of epinotum longitudinally striate. Node and gaster smooth.

Hair yellow, long and slender, abundant throughout, shorter and more bristle-like on antennae and legs. Pubescence yellow, sparse except on funiculus and coxae.

Head as long as broad, broadest just behind eyes, sides strongly convex; occipital border straight, angles rounded. Mandibles almost half the length of head, furnished with nine strong sharp teeth. Clypeus rather weakly convex, anterior border produced, broadly convex, almost straight at middle. Frontal area large, transversely triangular. Frontal carinae one-third broader than long, sharply margined on sides. Scapes extending beyond occipital border by one-fifth their length; first segment of funiculus longer than the two following together, second to eighth longer than broad, ninth and tenth as broad as long, apical pointed, twice as long as broad. Eyes circular, convex, placed at middle of sides. Ocelli small. Thorax one and three-fourths longer than broad. Pronotum one-fourth broader than long, strongly convex in all directions. Mesonotum half as broad as pronotum, as long as broad, circular. Meso-epinotal excision wide and deep, spiracles large, placed on top, at each side of dorsum. Epinotum broader than long, sides convex. In profile pronotum strongly convex, high in front. Mesonotum continuous with pro-

NEW AUSTRALIAN ANTS.

notum, suture hardly visible. Spiracles high and tubercle-like. Epinotum strongly convex, rounded into declivity, latter short, concave at bottom. Node twice as broad as long, dorsum convex; in profile twice as high as long, almost parallel, dorsum strongly convex. Gaster longer than broad. Legs robust.

Worker minor.—Length, 3.5 mm.

Colour, sculpture and pilosity as in worker major.

Head slightly longer than broad, broadest just behind eyes, sides and occipital border convex. Ocelli feebly indicated. Scapes extend beyond occipital border by one-fourth their length. Thorax as in major, but more slender. Node thinner. In all other respects as in the worker major.

Habitat.—Victoria: Warburton (L. B. Thorn).

Near *M. emeryi* Andre.

Plate II.

Fig.

1. *Aenictus exiguus*, sp. nov.; worker.
2. *Phyracaces grandis*, sp. nov.; worker.
3. *P. pictus*, sp. nov.; worker.
4. *P. princeps*, sp. nov.; worker.
5. *P. greavesi*, sp. nov.; worker.
6. *P. aberrans*, sp. nov.; worker.
7. *P. pygmaeus*, sp. nov.; worker.
8. *Amblyopone (Fulakora) lucida*, sp. nov.; worker.
- 9, 10. *A. (F.) punctulata*, sp. nov.; worker (9); female (10).
11. *Discothyrea leae*, sp. nov.; female.
- 12, 13. *Euponera (Brachyponera) rufonigra*, sp. nov.; worker (12); female (13).
14. *Ectomomyrmex ruficornis*, sp. nov.; worker.
15. *Eubothroponera tasmaniensis* Forel; worker.
16. *E. reticulata*, sp. nov.; worker.
17. *E. septentrionalis*, sp. nov.; worker.
- 18, 19. *Leptogenys (Lobopelta) angustinoda*, sp. nov.; worker (18); female (19).
20. *L. (L.) hackeri*, sp. nov.; worker.

Plate III.

Fig.

1. *Podomyrma tricolor*, sp. nov.; worker.
2. *Dacryon ferruginea*, sp. nov.; worker.
3. *Lordomyrma rugosa*, sp. nov.; worker.
4. *L. rugosa*, sp. nov.; female.
5. *Bothriomyrmex wilsoni*, sp. nov.; worker.
6. *Dolichoderus (Hypoclinea) doriae* Emery; female.
7. *Myrmecorhynchus emeryi* Andre; female.
- 8, 9. *M. emeryi* Andre; male (8); wings of female (9).
10. *M. musgravi*, sp. nov.; male.
- 11, 12. *M. carteri*, sp. nov.; worker major (11); worker minor (12).
- 13, 14. *M. nitidus*, sp. nov.; worker major (13); worker minor (14).
- 15, 16. *M. nitidus*, sp. nov.; female (15); male, head and genitalia (16).
- 17, 18. *M. rufithorax*, sp. nov.; worker major (17); worker minor (18).



