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THE ANT GENUS LORDOMYRMA EMERY

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BY WILLIAM MORTON WHEELER.

Lordomyrma is one of the few ant genera, like *Leptomyrma* and *Opisthopsis*, which are confined to the Papuan and Australian regions. Although Emery established it as long ago as 1897 on *Podomyrma caledonica* Ern. André from New Caledonia and two species from German New Guinea, only a variety has since been added to the genus. It evidently comprises, however, two undescribed species in my collection, one taken by Mr. A. M. Lea of the Museum of South Australia on Lord Howe Island, off the coast of New South Wales and the other taken by myself in Queensland. Of the three species recognized by Emery only the worker is known. I have seen the male of the species from Lord Howe Island, but the females of all the forms still remain to be discovered. They are probably very similar to the female of *Podomyrma* and but slightly larger than the worker. I append descriptions of the genus and of the five known species, together with a table for their identification.

Lordomyrma Emery.

Emery, Természetr. Füzetek, 20, 1897, p. 591. ♂.

Worker. Small, monomorphic. Eyes small, elongate, rather flat, just in front of the middle of the head; ocelli absent. Mandibles triangular, with 3-4 apical and numerous small basal teeth. Clypeus well-developed, elevated in the middle behind, bicarinate, at least in most species, with entire anterior border, sinuate on the sides. Frontal area distinct, impressed; frontal groove absent. Frontal carinae prolonged backward nearly to the posterior corners of the head as diverging ridge-like internal borders for flattened antennal scrobes, which are differently sculptured from the remainder of the head and bordered externally by a longitudinal ruga or carinula. Antennae 12-jointed; funiculi with a distinct 3-jointed club as long as or longer than the remaining joints together. Thorax rather long and narrow, broadest through the pronotum, the humeri of which are dentate or sharply angular. There is no promesonotal suture, the dorsal surface of the two segments being rounded and convex. Mesoepinotal suture very

¹ Contributions from the Entomological Laboratory of the Bussey Institution, Harvard University. No. 158.

distinct, the mesonotum falling abruptly behind to the pronounced mesoëpinotal constriction, which is deep and narrow. Epinotum smaller and lower than the promesonotum, armed with acute teeth or spines both above and at the metasternal angles. Petiole and postpetiole much as in many *Leptothorax*, the petiole with a short peduncle and a high angular node, in one species produced into a spine, the postpetiole constricted behind, broader than the petiole. Gaster rather voluminous, broadly elliptical, somewhat compressed dorsoventrally, mostly formed by the first segment. Legs rather slender, the femora and tibiæ not conspicuously incrassated; middle and hind tibiæ without spurs.

Male. Smaller than the worker. Mandibles very small, vestigial, edentate. Cheeks short. Eyes moderately large; ocelli prominent, though small and rather far apart. Antennæ long, slender, filiform, 13-jointed; scapes long, nearly as long as the three basal joints of the funiculus, first funicular joint not swollen or enlarged. Thorax short; mesonotum with very feeble traces of Mayrian furrows; epinotum long, abrupt, somewhat concave, unarmed, without distinct base and declivity. Nodes of the petiole and postpetiole low. Genitalia small and retracted, the external valves simple, rounded at their tips. Wings hairy, with distinct pterostigma, a discoidal, a closed radial and a single large cubital cell.

Genotype: *Podomyrma caledonica* Ern. André.

This genus is very close to *Podomyrma*, but the species of the latter are larger ants, with 11-jointed antennæ in the workers and females, with more flattened, not bicarinate clypeus, with the epinotum unarmed or only feebly armed, the femora conspicuously incrassated and the petiole and postpetiole of a different shape.

Table of Species.

1. Apex of petiolar node produced into a spine above; epinotal spines very long, curved and diverging. Length 3.5 mm.
furcifera Emery
Apex of petiolar node angular, acuminate or acutely conical above; epinotal spines much shorter, nearly straight. 2
2. Antennal scrobe anteriorly divided by a short median longitudinal carinula into separate depressions for the scape and funiculus. Length 3 mm. *cryptocera* Emery
Antennal scrobe not thus divided. 3

3. Upper surface of head, except the cheeks and spaces between the eyes and frontal carinæ, smooth and shining. Length 4.5–5 mm. *caledonica* Ern. André
 Upper surface of head between the frontal carinæ rugose. Length 3–3.6 mm. 4
4. Epinotal spines rather short, metasternal spines long; antennal scrobes incomplete behind; gaster not coarsely punctate
lea sp. nov.
 Epinotal spines longer, metasternal spines short; antennal scrobes complete behind; gaster coarsely punctate
punctiventris sp. nov.

1. *Lordomyrma caledonica* Ern. André.

Lodomyrma caledonica Ern. André, Rev. d'Ent. 8, 1889, p. 225. ♀.

"*Worker*. Ferruginous, shining; mandibular teeth, anterior border of head, femora, tibiæ and the two posterior thirds of the gaster, sometimes also the upper surface of the head with the scapes, more or less brown. Mandibles nearly smooth and shining, with a few, very scattered punctures; their terminal border armed with three teeth anteriorly and indistinctly denticulate behind. Head (without the mandibles) nearly as long as broad, slightly narrowed in front, strongly rounded at the posterior angles. Cheeks in front of the eyes, together with the spaces between the eyes and the frontal carinæ, longitudinally rugose, the rugæ becoming semicircular around the articulations of the antennæ; the remainder of the head, with the clypeus and frontal area, smooth and very shining. Antennæ 12-jointed; funicular joints 2–7 transverse. Thorax with coarse rugæ, transverse above, longitudinal on the sides; the sculpture rather effaced on the disc of the pronotum and the declivity of the epinotum. Pronotum convex, unarmed above, its inferior border much raised above the articulation of the anterior coxæ and terminating in front in a blunt denticle. There is a deep constriction between the mesonotum and epinotum; the latter, very narrow above, terminates at the juncture of the basal and declivous surfaces in two strong, acute teeth, which are very divergent and directed upward. Petiole surmounted by an acute cone, inclined forward; postpetiole transverse, armed with a small dentiform tubercle at its anterior angles; the petiole is transversely rugose above, the postpetiole nearly smooth, except behind, where there are a few more or less effaced

rugæ. Gaster smooth and very shining. Coxæ very globular; femora only slightly swollen; four posterior tibiæ without spurs. Whole body, including the antennal scapes and legs bristling with long, yellowish, delicate and moderately abundant hairs. Length 4.5–5 mm.

“Nouméa (New Caledonia).”

2. *Lordomyrma furcifera* Emery.

(Fig. 1.)

Természetr. Füzetek 20, 1897, p. 591, Pl. 15, Figs. 32, 33. ♂.

“*Worker*. Fuscopiceous; mouth, antennæ, posterior half of thorax, femora, tarsi, petiole and ventral surface of gaster reddish ferruginous, very shining; smooth, sparsely covered with minute

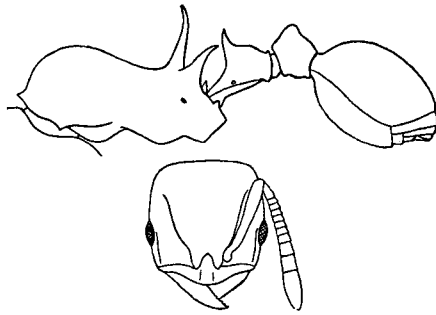


Figure 1. *Lordomyrma furcifera* Emery (after Emery) worker; a, thorax and abdomen in profile; b, head, dorsal view.

punctures bearing rather stout, fuscous hairs. Head oblong, with subparallel sides, broadly rounded behind. Eyes in front of the middle of the sides of the head. Cheeks striated. Frontal carinæ delicately prolonged backward, $\frac{3}{4}$ the length of the head, forming the inner borders of broad, shallow antennal scrobes which are open behind but bounded externally by a delicate carina. Clypeus bicarinate in the middle, its anterior border arcuately produced. Mandibles smooth, elongate triangular, with oblique apical margin, bidentate at the tip, irregularly denticulate basally. Antennal scapes reaching beyond the frontal carinæ but not to the posterior corners of the head; scape stout; club elongate, moderately thick, penultimate joint about half again as long as the antepenultimate; the last joint as long as the two preceding together

but scarcely thicker than the penultimate. Thorax with the promesonotum very convex, subglobose, acutely marginate in front, the margin ending on each side in a tooth; metaëpinotum subselliform, with two very long spines, approximated at their bases, strongly diverging, curved outward and very acute; metasternal spinules minute, acute. Petiole a little broader behind than in front, with a high subconical node, bearing a short acute, erect spine, behind transversely rugose; postpetiole subrotund, obtusely acuminate above, bearing a minute tubercle on each side. Gaster subrotund, almost entirely covered by the basal segment. Legs long, femora flexuous. Length 3.5 mm.

“From the Lemien Forest near Berlinhafen [German New Guinea]; a single specimen [L. Biró].”

3. *Lordomyrma cryptocera* Emery.

(Fig. 2.)

Természetr. Füzetek 20, 1897, p. 592, Pl. 15, Fig. 34. ♀.

“*Worker*. Piceous; mandibles, antennæ, tarsi and articulations of the legs ferruginous; very shining, covered with minute, scat-

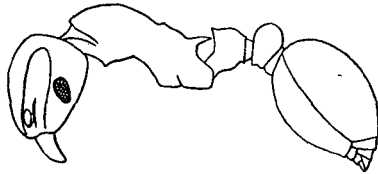


Figure 2. *Lordomyrma cryptocera* Emery, worker (after Emery), body in profile.

tered, piligerous punctures. Head longer than broad; its sides broadly arcuate, truncate behind, with rounded posterior corners, marginate on each side beneath. Eyes at the middle of the sides of the head. Frontal carinæ prolonged backward, forming the inner boundaries of a scrobe or fovea on each side and becoming arcuately confluent with a carinula that forms its lateral boundary. Cheeks, sides of head lateral to the scrobes and the lateral margin of the front anteriorly longitudinally striate. Clypeus anteriorly elevated and bicarinate, with rounded anterior margin. Mandibles smooth, with very oblique, denticulate apical margin. Antennal scape short, funiculus longer, slender at the base, but with joints 2-7 much thicker than long; club much elongated and only

slightly incrassate; the last joint subcylindrical. Whole antenna accommodated in the scrobe which at the base has a longitudinal carinula separating it into two grooves, one for the scape and one for the funiculus. The funicular groove is prolonged anteriorly (for the apex of the club) between the clypeus and the base of the mandible. Thorax with the promesonotum subhemispherical, narrowly marginate on each side anteriorly, above and on the side with several separated rugæ, between the mesonotum and epinotum with a deep transverse groove, which is longitudinally striate, behind the groove with a transverse carina. Epinotum with sharp, arcuate rugæ between the moderately long, oblique, curved spines; pleuræ obliquely rugose. Petiole pedunculate at base, behind with a subrotund node, anteriorly acuminate but unarmed above, irregularly, transversely rugose. Postpetiole broader than petiolar node, ovate, a little broader than long, somewhat smooth. Gaster ovate, almost entirely covered by the basal segment. Legs shorter than in the preceding species; femora flexuous, incrassated in the middle. Length 3 mm.

“Collected with the preceding in the Lemien Forest near Berlinhafen [German New Guinea]; a single specimen [L. Biró].”

3a. *Lordomyrma cryptocera* var. *acuminata* Stitz.

L. cryptocera var. *acuminata* [*sic!*] Stitz, Sitzb. Gesell. naturf. Freunde Berlin. 1912, p. 504. ♀.

Agreeing with the description of the type except as follows: “The head is smooth, except for a few longitudinal striæ below the eyes and a fine longitudinal striation between the anterior borders of the frontal carinæ and the adjacent portion of the clypeus. The epinotum behind the shallow mesoëpinotal impression, which is longitudinally striate, is transversely rugose on the base and declivity. The epinotal spines are more slender. The petiolar node seen in profile has the form of an equilateral triangle and bears above a small, pointed but distinct tooth, which is lacking in the type though indicated in Emery’s figure.

“Four workers. New Guinea (K. A. Fl. E. Bürgers).”

4. *Lordomyrma læ* sp. nov.

(Fig. 3.)

Worker. Length 3.4–3.6 mm.

Head longer than broad, as broad in front as behind, with feebly rounded sides, nearly straight posterior border and broadly rounded

posterior corners. Eyes in front of the middle of the head, small, elongate, rather flat and oblique. Mandibles rather convex, thin, with straight external borders; apical borders with three larger anterior and numerous minute basal teeth. Scrobes shallow, incomplete behind, about $\frac{1}{3}$ as long as the head. Antennal scapes extending to the posterior corners of the head; joints 2-7 of the funiculus narrow but broader than long; ninth and tenth joints distinctly longer than broad, together as long as the terminal joint. Clypeus high and convex in the middle, bluntly bicarinate, its anterior border broadly rounded and entire, feebly sinuate on the

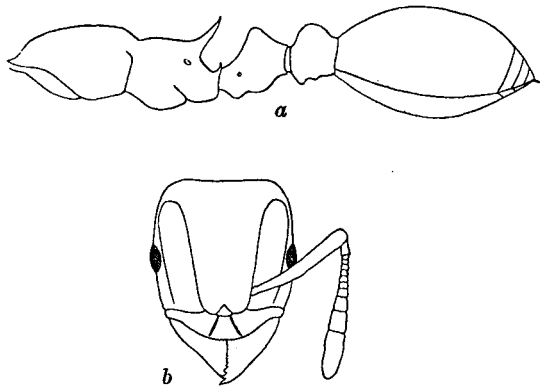


Figure 3. *Lordomyrma jecæ* sp. nov. worker; *a*, thorax and abdomen in profile; *b*, head, dorsal view.

sides. Promesonotum gradually narrowed behind, rather straight above in profile, decidedly longer than broad, the humeri subdentate, the mesonotum behind falling abruptly to the pronounced mesoëpinotal constriction. Epinotum slightly longer than broad, a little broader behind than in front, its spines short, broad at the base, very acute; metasternal spines slender, acute and like the superior spines directed upward. Base of epinotum in profile feebly convex, longer than the sloping, flattened declivity. Petiole longer than broad, broader behind than in front, its peduncle short, the node in profile angular, its anterior slope slightly concave, its posterior slope slightly convex. Postpetiole broader than long and broader than the petiole, rounded above and on the sides,

constricted behind, with a blunt, transverse anteroventral projection. Gaster rather larger, somewhat longer than the thorax. Legs not incrassated.

Shining, especially the mandibles, clypeus and gaster. Mandibles sparsely punctate, clypeus smooth, indistinctly rugulose on the sides. Head longitudinally rugose, the rugæ becoming coarsely reticulate on the occipital region. Scrobes and interrugal spaces indistinctly punctate-reticulate. Region of the frontal groove occupied by a smooth shining longitudinal streak. Thorax, petiole and postpetiole irregularly, their upper surfaces more transversely rugose. Declivity of epinotum smooth and shining. Gaster with sparse, piligerous punctures.

Hairs moderately long and abundant, erect or suberect, yellowish, bristly, covering all parts of the body, shorter and sparser on the legs and scapes, rather dense on the funiculi.

Dark piceous brown; thorax, petiole and postpetiole nearly black; mandibles, clypeus, cheeks, base and tip of gaster, legs, including the coxæ, first joint of funiculi and their clubs reddish brown.

Male. Length 3 mm.

Head as broad as long, broadly rounded behind, without posterior angles, somewhat flattened above, with very short cheeks. Clypeus much as in the worker. Pronotum visible from above, not overarched by the mesonotum which is as broad as long. Scutellum not very prominent. Epinotum sloping, simple, unarmed. Petiole fully twice as long as high and more than twice as long as broad, parallel-sided. Postpetiole from above broader, nearly square.

Head and thorax subopaque, rather finely and irregularly punctate-rugulose; mesopleuræ, a longitudinal streak on the front of the head, the petiole, postpetiole and gaster smooth and shining, the gaster with fine sparse piligerous punctures.

Hairs finer and more oblique than in the worker, very numerous on the antennæ and wings, which are unusually pubescent.

Dark piceous brown, nearly black; legs and antennæ paler; clypeus and mandibles yellowish. Wings opaque brownish, with brown veins and pterostigma.

Described from numerous workers and five males collected by Mr. A. M. Lea on Lord Howe Island.

5. *Lordomyrma punctiventris* sp. nov.

(Fig. 4.)

Worker. Length 3–3.2 mm.

Head subrectangular, a little longer than broad, with nearly straight posterior border and subparallel sides. Eyes small, elongate, placed obliquely a little in front of the middle of the sides. Mandibles like those of *leæ* but thicker, more deflected at the tips and with slightly concave external borders. Clypeus convex in the middle, with two strong carinæ, which do not reach the anterior border. The surface between them is concave. Antennal

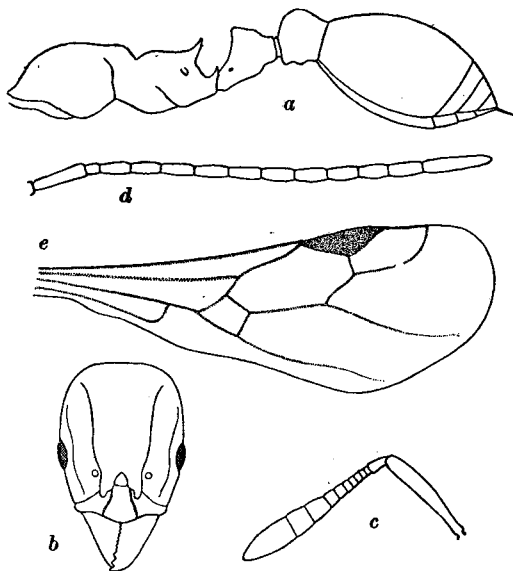


Figure 4. *Lordomyrma punctiventris* sp. nov.; a, thorax and abdomen of worker; b, head and c, antenna of same; d, antenna and e, wing of male.

scrobes more sharply defined and deeper than in *leæ*, complete behind, about $\frac{2}{3}$ as long as the head, the prolonged frontal carinæ more prominent. Antennal scapes stout, as long as head; funicular joints 2–7 very short and transverse, 9 and 10 together shorter than the terminal joint. Thorax more robust than in *leæ*, with dentate humeral angles, the pro- and mesonotum above rounded and slightly depressed, the latter falling less abruptly

behind than in *leæ* to the pronounced mesoëpinotal constriction. Epinotum as broad as long, its spines less erect, longer, nearly as long as the rather convex base; metasternal spines very short, erect, acute. Petiole from above about $1\frac{1}{2}$ times as long as broad, broader behind than in front; in profile as high as long, with angularly pointed node, its anterior slope concave, its posterior slope straight. Postpetiole broader than long, broader than the petiole and somewhat broader in front than behind, dentate anteriorly on the ventral side. Gaster and legs as in *leæ*.

Mandibles shining, finely and very sparsely punctate; head, thorax, petiole and postpetiole subopaque evenly reticulate-rugose, the head in front and on the sides longitudinally rugose, the scrobes shining and finely, transversely rugulose. Gaster shining, covered with rather strong, transverse piligerous punctures. Antennal scapes very finely rugulose; legs smooth, sparsely and finely punctate.

Hairs yellowish gray, appearing blackish in some lights, moderately abundant, especially on the gaster, erect or suberect on the body, shorter and more oblique on the legs, reduced to pubescence on the antennæ.

Head, thorax, petiole and postpetiole rich castaneous; mandibles, antennæ and gaster pale orange brown; legs more yellow.

Described from twenty-one specimens, comprising nearly an entire colony, taken from a small cavity in a rotten log in the dark tropical "scrub" at Kuranda, Queensland. In life these ants are sluggish and timid, like the species of *Podomyrma*. The latter, however, nest in the trunks and branches of living trees and move about in the sunlight.