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New Species of Ants (Hym., Formicidæ) from the Gold Coast, Borneo, Celebes, New Guinea and New Hebrides. By HORACE DONISTHORPE, F.Z.S., F.R.E.S., &c., Department of Entomology, British Museum (Natural History).

Subfamily *DORYLINÆ*.

Tribe ECITINI.

Ænictus (Ænictus) bidentatus, sp. n.

♂.—Reddish yellow, thorax darker, pedicel, gaster, antennæ and legs lighter, more yellow, smooth and shining, except epinotum, which is slightly rugosely

punctured; clothed with sparse yellow outstanding hairs.

Head slightly longer than broad, broadest a little before centre, sides rounded, narrowed in front and behind, posterior angles bluntly rounded, posterior border truncate; *mandibles* narrow, curved, when shut enclosing a considerable space between inner border and clypeus, very feebly longitudinally striate, masticatory border armed with two blunt teeth at apex (including the apical tooth) and a longer, more pointed tooth towards base; *clypeus* very narrow, anterior border margined and armed in centre with two small, short, sharp teeth; *frontal carinæ* narrow, curved round antennal foveæ, and fused together at base; *antennal foveæ* large, round, deep; *eyes* wanting; *antennæ* 10-jointed; *scape* only reaching slightly beyond centre of head, thickened to apex; *funiculus* with joints 4-8 transverse, last joint pointed, longer than the two preceding taken together. *Thorax* longer than broad, narrowed at *meso-epinotal* suture, which is distinctly impressed; *pro-mesonotal* suture wanting; *epinotum* with dorsal surface considerably longer than the declivity, epinotal angle very distinct, margined; *declivity* short, abrupt; *petiole* and *post-petiole* with nodes rounded above, of about equal breadth, the former longer than the latter, longer than broad, armed beneath with a blunt tooth or projection, pointing forwards, the latter about as broad as long, armed beneath anteriorly with a shorter, more pointed tooth; *gaster* oval, rather short; *sting* very narrow.

Long. 3 mm.

Described from seven workers. Gold Coast, E. P. Tafo, ix. 1940; ex cocoa. No. 1352. G. S. Cotterell.

Type in B.M. (N.H.).

Santschi has described three species of *Ænictus* based on male specimens:—*Æ. asperivalvus*, ♂, Rev. Zool. Afric. vii. p. 233 (1919); *Æ. foreli*, ♂ (*l. c.* p. 234), and *Æ. mutatus* Sants., subsp. *pubicus*, ♂ (*l. c.*), from the Ivory Coast. The above-described species may, of course, eventually prove to be the worker of one of these.

It is unfortunate that Shuckard based his genus *Ænictus* on a male ant (*Ann. & Mag. Nat. Hist.* v. p. 266 (1840)).

The first worker of this genus to be described was *læviceps*

Smith (Journ. Linn. Soc. Lond. ii. p. 279 (1857)), from Borneo. Smith, however, created the genus *Typhlatta* (*l. c.*) for its reception. This genus was sunk, as a synonym of *Ænictus*, but Wheeler (Journ. New York Ent. Soc. xxxviii. p. 198 (1930)) resuscitated it as a subgenus of *Ænictus* for the reception of those species with workers characterized by the pale coloration of the posterior corners of the head, and females like those of *læviceps* Smith and *martini* Forel. These extraordinary females he described for the first time in 1930 (*l. c.* pp. 200 & 203).

Subfamily *PONERINÆ*.

Tribe *ECTATOMMINI*.

Rhytidoponera (*Rhytidoponera*) *gagates* Donisthorpe,
subsp. *waigeuensis*, subsp. n.

♀.—This subspecies differs from the typical form from Japen Island in being a little smaller, more reddish in colour, the legs and antennæ being entirely red; the 10th-joint of the funiculus of the antennæ is not longer than the 9th, the striæ on the first two segments of the gaster are considerably more impressed and those on the post-petiole much more curved, and the tooth beneath the peduncle is a little longer and sharper.

Described from 19 workers taken by Miss L. E. Cheesman, Dutch New Guinea, Waigeu, Camp Nok, 2500 ft. One among dead leaves near river, March, 1938, Tube 15; one running about on foliage with other ants, April, 1938, and 12 by casual collecting, May, 1938, Tube 48.

Type in B.M. (N.H.).

Diacamma rugosum Le Guil, subsp. *waigeuensis*, subsp. n.

♀.—Very similar in appearance, colour, structure, out-standing hairs, etc., to the typical form.

The *head* is slightly broader and shorter, and less narrowed in front and behind. The sculpture of the *prothorax*, however, is quite different. The deep grooves are transverse at apex, becoming gradually more and more curved to base. The concave sides of the curved grooves being uppermost.

Long. 12.5 mm.

Described from two workers taken by Miss L. E. Cheesman, N. Dutch New Guinea, Waigeu, Camp Nok, 2500 ft., v. 1938. With other ants, on low herbage.

Type in B.M. (N.H.).

Tribe LEPTOGENYINI.

Leptogenys (Leptogenys) walkeri, sp. n.

♀.—Black, shining, clypeus, mandibles, legs and apex of gaster red, central portion of femora brownish red; clothed with sparse outstanding yellow hairs.

Head from apex of clypeus slightly longer than broad, broader in front than behind, posterior angles rounded, posterior border slightly excised and narrowly margined; sculpture coarse, rugose, consisting of large round shallow punctures, enclosed by narrow raised ridges forming striae in front; *mandibles* slightly longer than side of head, narrow, evenly curved, smooth and shining, masticatory border very narrow, armed with a long pointed tooth at apex and a very short blunt tooth at base, inner border furnished with a sharp ridge above; *clypeus* projecting anteriorly, angularly pointed at apex, sides parallel, with a sharp narrow carina in centre, continued between frontal carinæ; *frontal carinæ* short with well-developed lobes; *eyes* round-oval, large, prominent; *antennæ* long, 12-jointed; *scapes* extending beyond posterior angles of head by about $\frac{1}{3}$ of their length; *funiculus* with 2nd joint longer than 1st and 3rd joints, 4–10 subequal, last joint about as long as the two preceding taken together. *Thorax* longer than broad, narrowed in middle; *pronotum* narrowed at apex to form a neck, which is transversely striate, disc convex, rounded at sides, sculpture consisting of shallow round scattered punctures; *pro-mesonotal furrow* distinct; *mesonotum* small, round, slightly convex, with punctures similar to those of pronotum but more sparse; *meso-epinotal furrow* well marked, narrow, longitudinally striate; *epinotum* considerably longer than broad, much more coarsely punctured than the rest of thorax, considerably longer than declivity, gradually rounded to declivity, which is transversely striate. *Node of petiole* high, with similar puncturation to that of pronotum, narrowed in front, rounded at sides, posterior surface truncate,

smooth, in profile considerably higher than long; *gaster* oblong, oval, broader than thorax, first segment broader than those following, sparsely punctured, constriction between first and second segments well marked, second segment more sparsely punctured than first.

Long. 6 mm., with mandibles 6.5 mm.

Described from a single worker: "Port Vila, Efate Is., New Hebrides, August, 1900, J. J. W." "New Hebrides, J. J. Walker: 1904—168."

Type in B.M. (N.H.).

I have much pleasure in naming this ant in honour of my old friend the late Commander J. J. Walker, R.N.

This species appears to come nearest to *L. foreli* Mann, from the Solomons, but differs from it in colour and sculpture; also the head and thorax are not subopaque, but shining, etc. Emery, in the 'Genera Insectorum,' states that no species of *Leptogenys*, sens. str., occurs in Australia, but Forel described a large species, *L. sjöstedti*, from Queensland, in 1915, and Wheeler found another large species, *L. clarki* Wheeler, in Western Australia in 1931.

Species have been described from this part of the world from Engano Island, near Sumatra; Bismarck Archipelago, New Guinea; New Britain; the Solomons; and Hawaii.

Leptogenys (Lobopelta) violacea, sp. n.

♂.—Of a beautiful violet colour with coppery reflections, apex of clypeus, last ten joints of funiculus, last four joints of tarsi, articulations of antennæ and legs, trochanters, spurs, and sting reddish yellow. Body shining, clothed with a few outstanding yellow hairs which are longer towards apex of gaster.

Head finely longitudinally striate throughout, subquadrate, slightly broader in front, measuring from apex of clypeus to base of head about as long as broad, posterior angles rounded, posterior border truncate, narrowly margined; *mandibles* large, triangular, crossing at apex, no space in front of clypeus, armed with a strong pointed tooth at apex, masticatory border unarmed, finely striate, with a row of rather widely separated punctures along masticatory and inner borders; *clypeus* large, triangular, transverse, projecting in a blunt round point anteriorly;

frontal carinæ short, flat; *antennæ* 12-jointed; *scape* reaching beyond posterior border of head by about $\frac{1}{4}$ of its length; *funiculus* pubescent, gradually thickened to apex, second joint longer than first and third, joints 3-10 subequal, last joint pointed, about as long as the two preceding taken together; *eyes* round-oval, very slightly convex. *Thorax* longer than broad, contracted at mesonotum, broadest across disc of pronotum, the whole dorsal surface is practically smooth and shining; under a high power very fine longitudinally striæ may be seen and some small scattered punctures; the sides of the mesothorax are transversely striate anteriorly and very finely longitudinally striate posteriorly, those of the epinotum are strongly longitudinally striate anteriorly, smooth in centre, and transversely striate posteriorly. *pronotum* provided with a neck, the anterior portion of which is very finely and closely transversely striate, forming a small diamond pattern, the posterior portion deeply and widely transversely striate, disc convex, rounded at sides, with a shallow central furrow; *promesonotal suture* narrow, margined; *mesonotum* round, convex; *meso-epinotal suture* shallow but distinct, longitudinally striate; *epinotum* long, high and convex before declivity, dorsal surface about twice as long as the latter, epinotal angle rounded but distinct, declivity flat, transversely striate. *Node* of *petiole* high, rather thick, smooth and shining, with a few small scattered shallow punctures, rounded above, considerably higher than long or broad, anterior surface slightly convex, posterior surface slightly concave; *gaster* long-oval, considerably narrowed at apex, smooth and shining, with a very few larger and smaller scattered punctures, constriction between first and second segments well marked; *sting* long, curved, sharply pointed.

Long. 9.5 mm.

Described from eight workers taken by Miss L. E. Cheesman, Dutch New Guinea, Waigeu, Camp Nok, 2500 ft., May, 1938, Tubé 38. "Nest inside rotten stump in old beetle burrows, heaps of frass below each entrance."

Type in B.M. (N.H.).

This beautiful species comes nearest to *Leptogenys* (*Lobopelta*) *purpurea* Emery and *L. (L.) chalybæa* Emery,

from New Guinea and Borneo, respectively. The former is a smaller and less robust insect; the colour of the head and thorax being chiefly metallic blue, with violet reflections; the gaster black. The head is more strongly striate and the entire thorax is striate.

The latter is a larger insect (12 mm.), and the colour is dark metallic blue. The striæ of the head are much stronger and the whole thorax is striate.

Subfamily FORMICINÆ.

Tribe CAMPONOTINI.

Polyrhachis (Myrma) bryanti, sp. n.

♀.—Black, palpi yellow, tibiæ, base of femora, tip of antennæ, claws and spurs reddish; clothed with fine grey pubescence, and scattered, sparse, outstanding yellow hairs.

Head, seen from above, oval, longer than broad, posterior angles rounded, posterior border slightly sinuate on each side and projecting in middle; finely longitudinally striate, cheeks and temples somewhat rugose; *mandibles* triangular, smooth and shining with some rather deep punctures towards apex, masticatory border armed with three rather strong pointed teeth; *clypeus* large, transverse, convex, carinate in middle, anterior border very slightly sinuate in centre; *frontal carinæ* with sharp raised edges, parallel behind, space between narrow; *eyes* large, round-oval, prominent; *antennæ* long; *scape* extending beyond posterior angles of head by about half its length; *funiculus* with all joints longer than broad, slightly thickened to apex, last joint pointed, not quite as long as the two preceding taken together. *Thorax* longer than broad, narrowed to base, dorsal surface slightly convex, margined at sides, very finely and faintly longitudinally striate; *pronotum* armed with two moderate, sharply-pointed spines, directed forwards and slightly outwards; *pro-mesonotal suture* narrow but distinct, deeply excised at sides; *mesonotum* transverse, anterior angles bluntly rounded, sides rounded to base, where the thorax is again somewhat deeply excised; *meso-epinotal suture* entirely wanting; *epinotum* transverse, not as broad as mesonotum, narrowed to base, angle between dorsal surface and declivity marked by a

finely-raised ridge, slightly sinuate on each side, terminating in a small bluntly-pointed denticle, *declivity* slightly concave, about as long as dorsal surface. *Scale of pedicel* thick, anterior surface convex, rounded, posterior surface less convex, superior margin narrowed to a sharp edge, arched, somewhat sharply pointed or dentate at sides; *gaster* short-oval, first segment very long, hollowed out in front for reception of scale.

Long. 6 mm.

Described from two workers taken by G. E. Bryant, Borneo: Mt. Matang, W. Sarawak, l. xi. 1914. B.M. 1919—147.

Type in B.M. (N.H.).

This species comes nearest to *P. (M.) inermis* Smith, but the pronotal spines are a little shorter, and not so pointed outwards, the ridge on the epinotum is less marked and the denticles less sharp, the scale is thicker and less wide, and the side teeth blunter.

Polyrhachis (Myrma) hosei, sp. n.

♀.—The general description of *P. (M.) bryani* would do equally well for this species; the colour, sculpture, pubescence, etc., being the same. *P. (M.) hosei*, however, is a larger and more robust insect; the *clypeus* is not carinate; the *pronotal spines* are longer; the dorsal surface of the *epinotum* is longer, the angle between the dorsal surface and declivity is much less marked, and the finely-raised ridge between the same is wanting, only the small denticles at the sides being present. The *scale* has a somewhat wider arch.

Long. 7 mm.

Described from four workers, Borneo, "Santubong, Jan. 07. J. H." [J. Hose]. "This *Polyrhachis* has its nest at the base of an epiphyte, the walls of the nest being made of the intertwining roots of the plant, the interspaces being choked up with earth and humus."

Type in B.M. (N.H.).

Polyrhachis (Myrma) inermis Smith (Cat. Hym. Brit. Mus. vi. p. 68, pl. iv. figs. 25, 26 (1858)), Celebes; *P. (M.) orsyllus* Smith (Journ. Proc. Linn. Soc. Lond., Zool. vi. p. 39, pl. i. figs. 6 & 7 (1861)), Celebes, Ceram, Sumatra; *P. (M.) carbonarius* Smith (Journ. Proc. Linn. Soc. Lond., Zool. ii. p. 60 (1857)), Malacca; *P. (M.) bryanti*, sp. n., Borneo;

and *P. (M.) hosei*, sp. n., Borneo, form a small group in the subgenus *Myrma* Billberg in which the scale is not armed with spines, but is formed as in the subgenus *Aulacomyrma* Emery.

The longitudinal striæ on the head and thorax are considerably more strongly marked in *orsyllus* and *carbonarius* than in the other species. I am indebted to my friend Professor G. D. Hale Carpenter for kindly lending me the types of the two last-mentioned insects.

Some myrmecologists would possibly treat all these ants as subspecies of one of the older species; it seems to me, however, best to call them all species.

Emery (Gen. Ins. clxxxiii, p. 209 (1925)) places *carbonarius* under "Espèce Douteuse." It is, however, quite a good and distinct species of *Myrma*; not *Aulacomyrma*, as incorrectly given in Ann. & Mag. Nat. Hist. (S. 10) x. p. 445 (1932).

Echinopla striata Smith, Journ. Proc. Linn. Soc. Lond. ii. p. 80 (1857), ♀, Malacca, Sumatra, Borneo, Celebes, Ceram.

Type-locality: Malacca. Female not described.

♀.—Very similar to the ♀ in appearance, colour sculpture, and hairs. Black, with long outstanding black hairs. The posterior border of the *head* is broader and more distinctly margined, the posterior angles less rounded, and the striæ more distinct; *mandibles* more massive, more strongly toothed and more striate; *frontal carinæ* not so strongly raised at edges, space between wider and flatter; *eyes* larger; *ocelli* present. *Thorax* broader; *pronotum* with anterior border not so serrate, anterior angles more rounded, posterior portion of disc at centre transversely striate; *mesonotum* considerably more convex, a narrow, straight, smooth, flat space projects from the anterior border for a short distance towards the disc; *epinotum* flatter, transverse, broader; *petiole* with shorter spines at sides of node; *gaster* larger, longer, less globose.

Long. 8 mm.

Described from a dealated female. Celebes, ex. coll. Smith. Presented by Mrs. Farren White, 99.303.

Female type in B.M. (N.H.).