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ANTS FROM THE COLOMBO MUSEUM EXPEDITION TO SOUTHERN INDIA, SEPTEMBER-OCTOBER, 1938.

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Ants from the Colombo Museum Expedition to Southern India, September-October, 1938. By Horace Donisthorpe, F.Z.S., F.R.E.S., &c.

THE ants listed in this paper comprise supplementary material which was not available to me at the time when I wrote the original paper. They bring the total of forms recorded from thirty-eight up to fifty-three. Numbers below 39 in the list indicate species already enumerated under the same number in the previous list; the supplementary species are numbered 39–53.

Subfamily PONERINE.

1. Diacamma rugosum Le Guill., var jerdoni Forel, Rev. Suisse Zool. ii. p. 401 (1903); [sculptum Bingham, Fauna Brit. Ind., Hym. ii. p. 8 (1903)].

Eight $\xi\xi$ Tenmalai, 500–800 ft., Travancore, S. India, 11–17. x. 38.

Distribution.—Ceylon; widely distributed in India.

- 39. Euponera (Brachyponera) jerdoni Forel?, Journ Bombay Nat. Hist. Soc. xiii. pp. 324, 327 (1900)
- One 3. Tenmalai, 500-800 ft., Travancore, S. India, 11-17. x. 38.

Distribution.—Hindoustan, Assam.

- 40. Euponera (Brachyponera) luteipes Mayr, Verh. Zool. Bot. Ges. Wien, xii. p. 72 (1862).
- One 3. Tenmalai, 500-800 ft., Travancore, S. India, 11-17. x. 38.

Distribution.—Ceylon, Nicobar Isles; widely distributed in India, Burma to Malacca, Sumatra and the Philippines.

- 41. Cryptopone rufotestaceus, sp. n.
- Q. Reddish-testaceous, eyes black, clothed with yellow pubescence and short outstanding yellow hairs, both more abundant on the gaster, very finely punctured, opaque except mandibles and legs, which are shining.

Head oblong, slightly longer than broad, posterior angles rounded, posterior border slightly excised; mandibles massive, triangular, with a few shallow punctures and yellow outstanding hairs, masticatory border armed with seven teeth, the 2nd, 4th and 6th being small, apical tooth sharply pointed, larger than the rest, 3rd and 5th longer than 1st; clypeus triangular, anterior border straight, carinate in centre, the anterior end of the carina forming a small blunt tubercle; frontal carinæ with well-developed lobes, sinuate behind; frontal furrow long, narrow, reaching median ocellus; eyes large, only slightly convex, situated on each side of head, close to posterior border of clypeus; ocelli moderate; antennæ 12-jointed; scape not reaching posterior border of head, funiculus gradually increasing in breadth to apex, with no defined club, 1st joint slightly longer than 2nd, last joint about as long as the two preceding taken together. Thorax longer than broad, broader in front than behind; pronotum transverse, embracing mesonotum, anterior angles rounded; mesonotum large, flat, anterior border round posterior border considerably narrower than anterior border, slightly sinuate; scutellum small, transverse, flat; epinotum rounded, broader in front than behind, no marked angle between dorsal surface and declivity; node of petiole high, upper surface flat, rounded in front, anterior surface hollowed out, posterior surface flat; gaster oval, narrowed behind, strangulation between post-petiole and 2nd segment of gaster well marked. Legs long, a single pectinate spur to intermediate and posterior tibiæ. Wings pale yellow, pterostigma and veins yellow, two closed cubital cells, one discoidal and closed appendiculate radial cell present.

Long. 6.7 mm.

This species comes nearest to *C. testaceus* Mots., but it is a larger and more robust species. The colour is more red. The head is broader; the mandibles are more massive and the teeth less sharp. The antennæ are thicker. The termination of the carina on the clypeus is blunter; that of *testaceus* consists of a quite sharp point. The thorax is broader, and the node of the pedicel is more hollowed out in front.

Described from three winged females. Tenmalai, 500–800 ft., Travancore, S. India, 11–17. x. 38.

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

Note.—Wheeler in a paper on Cryptopone [Amer. Mus. Novit. no. 672, iii. (1933)] writes:—" Emery emphasized the distinctness of the 4-jointed antennal club, but this does not seem to be a good character. In most of the species that I have examined the club, owing to the greater width and length of the seventh funicular joint, might be more aptly described as indistinctly or even distinctly 5-jointed." This shows that the number of the joints of the club as a character is not to be relied upon. In specimens of C. testacea Mots., Q, in the B.M. Coll. from Ceylon the club is not 4-jointed but extremely indistinctly 5-jointed, and in rufo-testacea, as we have seen, there is no definite club. Motschulsky in the original description of testacea simply states "antennæ clavate," which might well only mean thickened at apex. The number of teeth to the mandibles is also variable. Emery in his original description of the genus Cryptopone gives 5-toothed, but in the 'Genera Insectorum' he says 4- or 5-toothed. Forel' describes C. nicobarensis with 6 teeth. In the female of rufo-testacea, and also in the specimens of testacea in the B.M. Coll., there are certainly 7 teeth, though three of them are very small. Motschulsky for testacea says "5 acute teeth"; this may well mean that he did not count the smallest teeth.

42. Leptogenys (Lobopelta) longiscapus, sp. n.

3. Black, shining, antennæ and legs brownish red, articulations of the antennæ, tarsi and spurs lighter, mouthparts yellow, clothed with long and shorter outstanding hairs, which are distinctly yellow and more abundant on the gaster.

Head narrowed in front and behind, broadest across the eyes, narrowest at base, posterior border with a sharp raised narrow margin; mandibles feeble, short, without teeth, not meeting at apex; clypeus large, triangular, considerably arched and carinate in centre, anterior border slightly projecting, with a short pointed tooth at apex; frontal area ill-defined; frontal carinæ short, rather broad, low, converging behind; antennæ long, scape long, equal in length to the first four joints of the funiculus; first joint of funiculus considerably shorter than the rest, smooth and shining, all the other joints pubescent, second joint considerably longer than all the others, last joint not as long as the two preceding taken together; eyes very large, convex, kidney-shaped; ocelli large. Thorax considerably longer than broad, narrowed in front and behind, broadest at insertion of wings; pronotum considerably narrowed in front, forming a neck, posterior border narrowly margined, embracing mesonotum; mesonotum broad oval, narrower in front than behind, rather flat, with scattered punctures, scutum of mesonotum with raised side margins, parapsis smooth and shining, parapsidal furrows distinct, mayrian furrows wanting; præscutellum with two square smooth hollows with narrow raised margins in centre; scutellum convex, prominent, bluntly pointed at base, finely striate longitudinally; suture between metanotum and scutellum rather deep: metanotum transverse, narrow, convex; epinotum longer than broad, angle between dorsal surface and declivity not marked, declivity shorter than dorsal surface, distinctly transversely striate; node of petiole longer than broad, narrower in front than behind, anterior border margined, upper surface rounded and highest just before apex, posterior surface slightly concave, under surface narrowly margined.

Gaster long oval, pointed at apex, post-petiole (first segment) rounded and narrowed in front, under side furnished with a blunt tooth anteriorly pointing downwards; strangulation between first and second segments well marked; cerci well developed, genitalia prominent. Legs long, spurs long, especially the inner one, claws pectinate. Wings yellowish iridescent, veins yellow, pterostigma brown, one discoidal, two cubital, and closed radial cell present.

Long. 7.8 mm.

Described from a single male. Tenmalai, 500–800 ft., Travancore, S. India, 11–17. x. 38.

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

It will be seen that the above species differs from Emery's definition of the male of the genus in that the scapes are long and the mayrian furrows are absent. Emery [Gen. Ins. cxviii. p. 98 (1911)] gives for the male:— "Scape court. Mésonotum avec des sillons de Mayr accusés."

Bingham [Fauna Brit. India, Hym. ii. p. 57 (1903) states that in the male of Lobopelta ocellifera Roger the mesonotum has a faintly marked Y-shaped furrow. They are so faint that I am unable to see them in our specimens. In some species, however, such as L. diminuta Smith, they are very well marked. It is evident that this is a very variable character, as is also the length of the scape. L. longiscapus may, of course, be the male of one of the numerous species described from India of which that sex is unknown. It seems better to describe and name it, if only to call attention to the long scape and the absence of the Mayrian furrows.

43. Leptogenys (Lobopelta) carinata, sp. n.

3. Black, shining, mandibles pale brown, funiculi, tarsi, articulations of the legs, and spurs yellowish red; clothed with sparse, outstanding, pale yellow hairs.

Head broad ovate, narrowed in front and behind, narrowed from base of eyes to posterior border of head, which is finely margined; mandibles very short, blunt; clypeus large, transverse, convex, carinate, anterior border produced into a point at apex; frontal area not sharply defined; frontal carinæ short, flat; eyes very large, kidneyshaped; ocelli moderate; antennæ fairly long, scape

moderate, not so long as in longiscapus, but considerably longer than in diminuta, shorter than second joint of funiculus, as long as third joint, funiculus filiform, first joint very short, second joint longer than all the others, penultimate joint as long as last joint. Thorax long, narrowed in front and behind, broadest before insertion of the wings; pronotum transverse, convex, rounded at sides and in front, embracing the mesonotum; mesonotum large, higher than pronotum, convex in front, mayrian furrows very distinct, deep, scutum rather flat, with some shallow punctures and striæ, parapsidal furrows very narrow but distinct, parapsis smooth and shining; præscutullem narrow, flat; scutellum globose, convex, smooth and shining on disc, with a row of short longitudinal striæ at apex behind præscutellum; sutures between scutellum and metanotum and metanotum and epinotum deep; metanotum thin, transverse, flat; epinotum long, dorsal surface convex, gradually rounded, anterior border margined, disc with some fine oblique striæ and a central carina which branches off on each side at base of declivity. declivity concave, widely transversely striate. Node of petiole long, narrow at base, with a margin to anterior border, thickened to apex, apex rounded above, highest before posterior border, posterior surface concave; gaster long, narrow, oval, post-petiole with a tooth beneath at base, strangulation between post-petiole and second segment well marked. Legs long, slender, intermediate spurs long, claws pectinate. Wings rather short, yellowish, pterostigma and veins light brown, one discoidal cell, two cubital cells, and closed radial cell present.

Long. 6 mm.

Described from a single male. Tenmalai, 500–800 ft., Travancore, S. India, 11–17. x. 38.

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

6. Leptogenys (Lobopelta) processionalis Jerdon, Madras Journ. Lit. Sci. xvii. p. 118 (1851).

Two Σ . Tenmalai, 500–800 ft., Travancore, S. India, 11–17. x. 38.

Subfamily PSEUDOMYRMINÆ.

8. Sima rufonigra Jerdon, Madras Journ. Lit. Sci. xii. p. 111 (1851).

One $\mbox{$\xspace}\mbox{$\xspace}$ and one del. $\mbox{$\xspace}\mbox{$\xspace}$. Muthikolam, S. India, 23–26. ix. 38. One $\mbox{$\xspace}\mbox{$\xspace}\mbox{$\xspace}$. Shencotta, S. India, 11. x. 38.

Distribution.—Continental India, Ceylon, Sumatra.

Subfamily MYRMICINE.

12. Crematogaster (Acrocælia) brunnea Smith, subsp. subnuda Mayr, Verh. Zool. Bot. Ges. Wien, xxviii. p. 682 (1878).

Two $\mbox{$\mb$

Distribution.—India, Assam, Burma.

44. Meranoplus flaviventris, sp. n.

\$\times\$. Head, thorax, pedicel, antennæ and legs black or blackish brown, gaster yellow, blackish towards apex; apex of spines, last joint of antennæ and tarsi yellowish; clothed with long, outstanding, pale yellow hairs.

Head subquadrate, slightly broader than long, narrowed in front, broadest before posterior angles, cheeks slightly narrowed to apex, posterior angles rounded, posterior border slightly and widely excavate; mandibles triangular, strongly longitudinally striate, masticatory border armed with four teeth, the two basal ones being blunt, the third and apical one sharp and pointed; clypeus triangular, transverse, disc raised, somewhat concave in centre, widely longitudinally striate, smooth and shining between the striæ; frontal area distinct, triangular, transverse, smooth and shining; cheeks longitudinally striate; frontal carinæ widely separated, bluntly founded at apex, divergent behind, narrowly margined and continued to apex of the wide rather deep, faintly longitudinally striate antennal grooves or scrobes; front of head with finely raised longitudinal ridges which are broken up into a network of raised ridges continued to posterior border of head; eyes moderate, oval, prominent, projecting; antennæ 9-jointed, scape curved, thickened to apex; funiculus considerably thickened to apex, with a 3-jointed club last joint pointed, about as long as the two preceding taken together.

Thorax transverse; pro-mesonotal shield transverse, convex, with similar sculpture to head posteriorly, but the spaces between the network of raised ridges somewhat

deeper, anterior angles armed with a rather blunt tooth or spine, sides in front slightly excavate after anterior angles and continued to a notch, after which two bluntly pointed spines, widely separated by a deep round excavation, occur at base, the posterior one being the longer and narrower; epinotum, slightly concave, margined at sides, armed at junction of dorsal surface and declivity with a long, thin, curved, sharply pointed spine on each side, dorsal surface widely longitudinally striate, smooth between the striæ, declivity continuous with the dorsal surface, smooth and shining. Node of petiole with anterior surface triangular, flat, smooth and shining, narrowed to upper surface, which is armed with a short sharp tooth on each side; post-petiole globose, rounded at sides and above, sculpture as in thorax; gaster heart-shaped, pointed at apex, covered with shallow round punctures, space between the punctures smooth and shining.

Long. 4.5 mm.

Described from two workers. Tenmalai, 500–800 ft.; Travancore, S. India, 11–17. x. 38.

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

This species does not agree with the description of any other in the genus.

Subfamily Formicinæ.

24. Camponotus (Tanæmyrmex) compressus F., Mant. Ins. i. p. 307 (1787).

Forty-four (\mathcal{Y} \mathcal{Y} and $\mathcal{Y}\mathcal{Y}$). Shencotta, S. India, 11. x. 38. Distribution.—India, Ceylon.

45. Camponotus (Tanæmyrmex) thraso Forel, Journ. Bombay Nat. Hist. Soc. vii. p. 432 (1893).

Four $\mbox{$\not \subseteq$}\mbox{$\not \subseteq$}$. Tenmalai, 500–800 ft., Travancore, S. India, 11–17. x. 38.

 $Distribution. {\bf --Ceylon}.$

46. Camponotus (Tanæmyrmex) similis Donisthorpe, Ann. Mag. Nat. Hist. (ser. 10) xi. p. 198 (1933)=badius Bingham (1903), nec Smith (1857).

Four abla
abla. Tenmalai, 500–800 ft., Travancore, S. India, 11–17. x. 38.

Distribution.—Burma, Ceylon.

47. Camponotus (Tanæmyrmex) sp. ?

Three winged QQ. Tenmalai, 500–800 ft., Travancore, S. India, 11–17. x. 38.

This is probably the female of a species, or variety, in the *irritans* Smith, *pallidus* Smith, *inconspicuus* Mayr group. It does not seem advisable to describe it without the $\mbox{$\not$}$ forms. It is smaller (7·3 mm.) than any of the females of those species, but in colour it is very similar to that of all three species. C. (T.) *inconspicuus* Mayr is a good species, and not a synonym of C. (T.) *irritans* Smith, as given by Emery in the 'Genera Insectorum.' We possess the types of both species in the B.M. (N.H.).

25. Camponotus (Mrymosericus) rufoglaucus Jerdon, Madras Journ. Lit. Sci. xvii. p. 124 (1851).

Eight $\xi \xi$. Tenmalai, 500–800 ft., Travancore, S. India, 11–17. x. 38.

 Camponotus (Myrmosericus) rufoglaucus Jerdon, subsp. paria Emery, Ann. Mus. Stor. Nat. Genova, xxvii. p. 513 (1889).

One \(\beta \). Muthikolam, 3,000 ft., Coimbatore District, S. India, 22-26. ix. 38. One \(\beta \), one \(\beta \). Tenmalai, 500-800 ft., Travancore, S. India, 11-17. x. 38.

48. Camponotus (Myrmentoma) varius, sp. n.

\(\begin{align*} \begin{align*} \text{\text{\$\geq}} \). Head, mandibles and thorax red, scale, first segment of gaster, antennæ and legs brownish red, last segments of gaster and posterior tibiæ blackish. The funiculus, the trochanters and apex of tarsi lighter. Clothed with fine yellow pubescence and sparse outstanding yellow hairs.

Sculpture finely corraceous.

Head slightly longer than broad, narrower in front than behind, broadest at base, cheeks almost straight, posterior angles rounded, posterior border slightly excised in centre and very finely margined; mandibles triangular, masticatory border armed with six teeth, decreasing in size to base; clypeus large, convex, anterior border rounded in middle, sinuate at sides, finely carinate in centre; frontal area ill-defined; frontal carinæ with sharp edges, convergent anteriorly, parallel at base; antennæ fairly long, scape extending beyond posterior border of head by more than half its length, funiculus filiform, all the joints longer than broad; eyes oval, convex, prominent, situated on

posterior third of head above sides. Thorax narrowed to base; pronotum ample, convex sides and anterior border rounded; mesonotum broad oval, convex, about as broad as long, narrower than pronotum; suture between mesonotum and epinotum deep; epinotum convex, prominent, angle between dorsal surface and declivity rounded, declivity longer than dorsal surface, slightly concave at base; scale of pedicel not high, rounded above and at sides, fairly thick, anterior surface convex, posterior surface slightly concave. Gaster short oval, pointed at apex. Legs fairly long.

Long. 6 mm.

Described from a single worker. Muthikolam, 3000 ft., Coimbatore District, S. India, 23–26. ix. 38.

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

This species comes in the C. (M.) confusci Forel group, but does not agree with the descriptions of any described Myrmentoma.

- 49. Camponotus (Colobopsis) phragmaticola, sp. n.
- ♀. Head brownish red, vertex blackish, thorax and petiole yellowish brown, gaster black (brown in some specimens) with apex of segments narrowly yellow, legs and antennæ reddish yellow, eyes black. Front part of head rather rugosely punctured, with some fine longitudinal striæ behind the circular margin; rest of head, thorax and gaster very finely and delicately shagreened with some very minute punctures, clothed with a few short outstanding yellow hairs on gaster and some very short fine decumbent ones.

Head longer than broad, cylindrical, obliquely truncate anteriorly, the truncate surface circular, very narrowly margined, comprising the frontal surface of the mandibles, the central parts of the cheeks and the greater part of the clypeus; mandibles flat, broadly triangular, masticatory border armed with four teeth at apex; clypeus narrow, longer than broad, continued on top of head beyond the circular margins, sides margined, centre with a raised ridge or carina; frontal carinæ widely separated, rather short, only slightly raised, divergent; a short shallow scrobe continues from beneath centre of frontal carinæ to a little beyond their base; eyes large, oval, flat; ocelli rather small; antennæ moderate, 12-jointed, inserted in the middle of the frontal carinæ, scape curved, rather flat at

apex, funiculus thickened to apex. Thorax long, narrow. narrowed anteriorly and posteriorly, broadest before insertion of wings; pronotum short, transverse, embracing sides of mesonotum; mesonotum considerably longer than broad, convex in front, rather flat towards base; præscutellum narrow, transverse, flat; scutellum broad oval, transverse, rather flat; sutures between præscutellum and mesonotum, mesonotum and metanotum, and metanotum and epinotum rather deep; metanotum narrow, transverse, flat; epinotum convex, rounded, no marked angle between dorsal surface and declivity. Petiole furnished with a short, rather low node, upper surface rounded, posterior surface longer than anterior surface; gaster long oval. rather flat above, narrowed to apex, first segment rounded in front. Legs moderate, femora compressed. moderate, rather narrow, iridiscent, pterostigma and veins pale yellow, typical Camponotus venation.

Long. 6.8-7 mm.

Described from four winged females. Tenmalai, 500–800 ft., Travancore, S. India, 11–17. x. 38.

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

This typical Colobopsis does not agree with the description of any known species for these regions.

C. (C.) phragmaticola is a typical Colobopsis, and, of course, the soldiers and females use their truncate heads to close the entrance to their burrows.

I have taken the name of this species from the word "phragmosis" (Greek $\phi \rho \alpha \gamma \mu \delta s$), invented by Wheeler to cover all the peculiar, sporadic, but convergent modifications of the ends of the body for closing tubular burrows.

I should have liked to have named it wheeleri, but as there is already a Camponotus wheeleri, this is not practical.

50. Polyrhachis (Myrmhopla) weberi, sp. n.

Head, scape of antennæ except apex of spines on thorax and petiole, extreme base of tibiæ, and teeth to mandibles black; mandibles, funiculi of antennæ, thorax, petiole and legs yellowish red; gaster yellowish brown; whole body shining, clothed with long, outstanding, pale yellow hairs, with some short decumbent greyish hairs on cheeks and sides of thorax.

Head smooth and shining, oval, longer than broad, narrowed in front and behind, broadest behind eyes,

posterior angles rounded, posterior border narrowly margined; mandibles smooth and shining, with a few small punctures anteriorly, masticatory border armed with five sharp teeth (blunter in some specimens); clypeus transverse, convex, anterior border rounded, not very strongly carinate in centre; frontal area indistinct; front flat and broad: frontal carinæ with sharp edges slightly raised. converging before lobe and slightly sinuate behind; antennæ long, scape long, punctured, extending beyond posterior border of head by more than half its length, funiculi pubescent, gradually thickened to apex. rounded, convex, sides not margined, longer than broad, broader anteriorly than posteriorly, covered with a network of raised ridges, the enclosed portions being shallow, smooth and shining; pronotum armed with two fairly long sharp spines, slightly curved inwards, no suture between pronotum and mesonotum; a rather broad shallow furrow occurs between mesonotum and epinotum; epinotum armed with two long sharply pointed spines, slightly curved downwards; declivity abrupt, rather flat, longer than dorsal surface; petiole armed with two long, strong, sharply pointed spines, curving inwards. Gaster short. round, globose. Legs long and slender.

Long. 4.5-5 mm.

Described from 19 workers. Tenmalai, 500–800 ft., Travancore, S. India, 11–17. x. 38.

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

I have described this species in honour of my friend Neal A. Weber, of the University of North Dakota, who is doing such excellent work on the biology of the fungus-

growing ants, etc.

P. (M.) weberi comes near to exasperatus Smith, from Celebes and furcatus Smith from Burma, being of about the same size and possessing a similar sculpturation. The colour is different and the sculpture is more rugged in both the last-named species; moreover, in exasperatus the head is also punctured. Smith calls this puncturation "coarsely rugose" and "very coarsely and closely punctured, producing a rugged surface." It consists, however, as we have seen, of raised ridges enclosing deeper and shallower smooth, shining pits.

In furcatus the spines on the petiole are longer and

terminate in hooks.

51. Polyrhachis (Myrmhopla) wroughtoni Forel, Journ. Bombay Nat. Hist. Soc. viii. p. 398 (1894); ix. p. 457 (1894).

Sixteen Σ . Tenmalai, 500–800 ft., Travancore, S. India, 11–17. x. 38.

Distribution.—Kanara.

52. Polyrhachis (Myrma) punctillata Roger, Berlin Ent. Zeit. vii. p. 152 (1863).

One $\mbeta.$ Muthikolam, 3000 ft., Coimbatore District, S. India, 23–26. x. 38.

Distribution.—Ceylon, Burma, Kanara.

35. Polyrhachis (Myrma) illaudata Walker, Ann. Mag. Nat. Hist. (ser. 3) iv. p. 373 (1859); Donisthorpe, Ann. Mag. Nat. Hist. (ser. 10) ix. p. 576 (1932)=mayri Roger, Verz. Formicid. p. 7 (1863).

Seven $\mbox{$\sc\sc}\mbox{$\sc\sc}\mbox{$\sc\sc}$. Muthikolam, 3000 ft., Coimbatore District, S. India, 23–26. x. 35.

Distribution.—S. India, Bengal, Ceylon, Indochina, Sonde Isle.

 Prenolepis navrojii Forel, Ann. Soc. Ent. Belg. xlvi. p. 290 1902).

Forty-three $\xi \xi$. Tenmalai, 500–800 ft. Travancore, S. India, 11–17. x. 38.

Distribution.—North-West Provinces, India, Assam.