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The Genus Lioponera Mayr (Formicidæ, Cerapachyinae), with Descriptions of Two new Species and an Ergatandromorph. By HORACE DONISTHORPE, F.R.E.S., F.Z.S., etc., Department of Entomology, British Museum (Natural History).

Lioponera Mayr, Verk. Zool. Bot. Ges. Wien; xxviii. p. 666 (1878).

Cerapachys Smith, subgen. *Lioponera* Forel in Grandidier, Hist. Nat. Phys. Madagascar, xx. pt. 2, p. 244 (1892).

Lioponera Bingham, Fauna Brit. Ind. ii. p. 26 (1903).

Lioponera Emery, Gen. Insectorum, cxviii. pp. 11-12 (1911).

The genus *Lioponera* † was created by Mayr in 1878 for the reception of a species which he described as *L. longitarsus*, sp. n.

He considered it to belong to the Ponerines, placing it between *Lobopelta* Mayr and *Amblyopopone* Erichson. In 1893 ‡ Forel created a tribe Cerapachysii in the

† Mayr (*loc. cit.*).

‡ Forel, Ann. Soc. Ent. Belg. xxxvii. p. 162 (1893).

Ponerinæ for this and some allied genera. In 1895 Emery * placed the genus in the subfamily Dorylinæ. In 1900 Forel † pointed out that it should be considered a Ponerine genus and placed it in a tribe Cerapachii. This tribe was treated as a subfamily—Cerapachyinae—by Wheeler ‡ in 1902.

In the Gen. Ins. Emery §, in 1911, returned *Lioponera* to the Ponerinæ in a section Prodorylinæ, and a tribe Cerapachyini. In 1920 Wheeler || further elaborated the position of the Cerapachyinae, firmly establishing them as a subfamily.

CHARACTERS OF THE GENUS.

♀ and ♀. Antennæ 12-jointed, funiculus thickened to a club with the 8th joint distinctly longer than 7th, forming with the following ones a 4-jointed club, last joint not longer than the preceding one. Eyes large. Petiole with a blunt lateral border and pointed anterior angles. ♀ winged.

♂. Structure of head somewhat similar to that of ♀.

Antennæ 13-jointed, scape almost reaching the posterior border of the eye, funiculus thickening insensibly towards the apex. Mesonotum without Mayrian furrows. Petiole rounded; post-petiole strongly constricted behind. Subgenital lamina terminating in two short points. Wings with a large pterostigma, and a variable, and not always distinct, venation.

The ♂♂ in the different species are superficially very like each other, and they do not possess sufficiently salient characters to separate them from those of the genus *Cerapachys* Smith.

Type of the Genus.—*Lioponera longitarsus* Mayr.

Distribution.—India; Australia; Africa, north-east and west; Philippines; Sumatra.

Habits.—The ♀♀ are subterranean in their habits, and the ♂♂ fly to light. As far as I am aware there are eleven species known up to date. These are:—

1. *Lioponera longitarsus* Mayr [Zool. Bot. Ges. Wien, xxviii. p. 667 (1878)].

* Emery, Zool. Jahrb. Syst. viii. p. 764 (1895).

† Forel, Journ. Bombay Nat. Hist. Soc. xiii. p. 328 (1900).

‡ Wheeler, Biol. Bull. iii. p. 181 (1902).

§ Emery (*loc. cit.*).

|| Wheeler, 'Psyche,' xxvii. pp. 46-55 (1920).

Mayr described this species from 2 ♀♀ and 1 ♀ taken by Rothney at Calcutta.

Long. ♀ 4; ♀ 4; ♂ 3.5 mm.

Emery [Ann. Mus. Stor. Nat. Genoa, xxv. p. 444 (1887)] described a ♂, which he doubtfully attributed to this species from Sumatra

Long. 3.25 mm.

Forel [Journ. Bombay Nat. Hist. Soc. xiii. p. 329 (1900)] describes the ♀ and ♂ from Calcutta (*Rothney*) and Poona (*Wroughton*).

Bingham [Fauna Brit. Ind. ii. p. 29 (1903)] gives the habitat as Bengal (*Rothney*); Western India, Poona to Travancore (*Wroughton*).

Lioponera longitarsus Mayr var. *australis* For. [Ann. Soc. Ent. Belg. xxxix. p. 422 (1895)].

Forel described a ♀ taken by Turner, Mackay, Queensland, as a var. of *longitarsus*. It is smaller than the typical form, etc. I should think it were much more likely to be a good species.

Long. 3.4 mm.

2. *Lioponera parva* For. [Journ. Bombay Nat. Hist. Soc. xiii. p. 330 (1900)].

Forel described the ♀ and ♂ as a subspecies of *longitarsus* Mayr (now regarded as a good species), and gives the localities: Calcutta (*Rothney*); Orissa (*Taylor*); Burrakpore, Madras (*Rothney*); Dehra Dun (*Smythies*); Poona and Belgaum (*Wroughton*).

Long. ♀, 2.5 mm.; ♂, 2.5-3 mm.

3. *Lioponera noctambula* Sants. [Bull. Soc. Hist. Nat. Afrique Nord, i. p. 70 (1910)].

Santschi describes the ♂ from Kairouan, Tunis. He says the ♂♂ often fly to light on calm nights in the summer months.

Long. 3.2-3.5 mm.

4. *Lioponera decorsei* Sants. Ann. Soc. Ent. Belg. lvi. p. 150 (1912).

Santschi describes a ♂ from Darbunda méridional, Kébédjé, Mission Charri Tchad. (*Dr. Decorse*) (Muséum de Paris).

Long. 3 mm.

5. *Lioponera nigra* Sants. [Voyage 'Alluaud,' p. 46 (1914)].

Santschi described a ♂ from British East Africa. Molo in the Maü escarpment Dec. 1911. Altitude 2420 metres.

Long. 3·5 mm.

6. *Lioponera luzuriaga* Wheel & Chap. [Phil. Journ. Sci. xxviii. p. 53 (1925)].

Wheeler and Chapman described this species from 16 ♀♀ and 1 ♀ taken at Negros, Oriental Negros Province, Luzuriaga, Horns of Negros, Philippine Islands. Altitude 450 metres (*Chapman*).

Long. ♀ 3·5 mm. ; ♂ 3·5 mm.

7. *Lioponera bicolor* Wheel. & Chap. [Phil. Journ. Sci. xxviii. p. 53 (1925)].

Described from several ♀♀, ♀♀, and ♂♂. Luzon, Laguna Province, Los Baños (*Williams*).

Long. ♀ 2·7 mm., ♀ 3·5 mm., ♂ 3·5 mm.

8. *Lioponera bakeri* Wheel. & Chap. [Phil. Journ. Sci. xxviii. p. 55 (1925)].

Described from 1 ♀ taken by Baker at Basilau.

Long. 4 mm.

9. *Lioponera similis* Sants. [Bull. Ann. Soc. Ent. Belg. lxx. p. 51 (1930)].

Described from 8 ♂♂ taken on the wing. Ivory Coast, Dimbroko (*Le Moutt*). Santschi figures the head, antenna, median leg and wing of *L. noctambula* Sants., ♂; the head and wing of *L. similis* Sants., ♂; the antenna and wing of *L. parva* For.; and the wing of *L. decorsei* Sants., ♂. He says that some of the African ♂♂ he has described as *Lioponera* sp. may belong to the genus *Cerapachys* Smith, and that it is very desirable to get ♂♂, ♀♀, and ♀♀ from the same nest, when possible.

Long. 2·8–3 mm.

10. *Lioponera cooperi*, sp. n.

♂. Yellowish brown, head, post-petiole, and gaster blackish, the sculpture and pubescence the same as in *longitarsus* Mayr.

Compared with the latter, to which species it appears to come nearest:—*eyes* slightly larger, but not quite so

convex; *ocelli* larger, the distance between the median ocellus and the lateral one slightly less; *antennæ* as long and as thick; *scape* slightly longer; joints 3 and 4 of the *funiculus* slightly longer. *Thorax* as robust, and *petiole* and *post-petiole* about the same. *Metatarsus* in intermediate, and posterior leg, equal in length to the *tibia*. *Wings*, venation distinct; *pterostigma* large, light brown, one *discoidal* and one *cubital cell* distinct, *radial cell* open.

Long. 3.5–3.8 mm.

Described from 2 ♂♂. Egypt: Siwa, 30. vi. 35; Marayi, 26. viii. 35 (*J. Omer Cooper*).

Type in Coll. Brit. Mus.

11. *Lioponera alfieri*, sp. n.

♂. Dirty testaceous, head, post-petiole, and gaster darker, middle of scapes, femora, and tibiæ infuscate. Compared with *L. cooperi*:—slightly more slender, puncturation the same, but pubescence considerably less. *Eyes* slightly less convex, *ocelli* smaller, and the distance between the median and the lateral greater; *antennæ* longer and more slender, *scape* slightly longer, joints 3 and 4 of *funiculus* slightly shorter. *Petiole* and *post-petiole* slightly shorter and lower. *Metatarsus* in posterior pairs of legs equal to the *tibiæ* in length.

Wings: *venation* very indistinct; *pterostigma* large, light brown; no cells visible.

Long. 3.2 mm.

Egypt: Wada Digla, 23. viii. 25. Coll. Alfieri, 1 ♂.

Type in Brit. Mus. Coll.

These two species differ from *L. noctambula* Sants. in the length of joints 3 and 4 of funiculus, the post-petiole and the metatarsus, etc., and from *L. decorsei* Sants. in colour, structure, size, etc.

ERGATANDROMORPH.

Dirty testaceous, head, post-petiole, and gaster darker.

Head slightly more rounded than in typical ♀, *eyes* more convex, *ocelli* small, but distinct; *antennæ* 13-jointed, but not as long as in usual ♂, joints 3 and 4 of *funiculus* as broad as long, 8th joint longer than 7th; left antenna slightly shorter than right, as is also the *scape*;

the last joint is slightly curved inwards. *Thorax*, *petiole*, *post-petiole*, and *gaster* ♀.

♂. Genitalia present.

Long. 2.9 mm.

Egypt : Ghizeh, Dec. 1901, in rough grass (*F. Morey*).

It is difficult to say to which species this *Ergatandromorph* belongs. It brings the total of described *gynandromorphous* ants up to 64.

The *F. Morey* in question is the Frank Morey of Newport, Isle of Wight, who edited the well-known 'A Guide to the Natural History of the Isle of Wight' (1909).