No.223.

## REPRINTED FROM

## THE ENTOMOLOGIST

Vol. LXXIV, October, 1941

SUBSCRIPTION 128. PER ANNUM, POST FREE

PRINTED BY

ADLARD & SON, LIMITED

Bartholomew Press, Dorking

DESCRIPTION OF A NEW SPECIES OF CREMATOGASTER LUND, SUBGENUS PHYSOCREMA FOREL, WITH A LIST OF, AND A KEY TO, THE KNOWN SPECIES OF THE SUBGENUS.

By Horace Donisthorpe, F.Z.S., F.R.E.S., etc.

## Crematogaster (Physocrema) moorei sp. n.

♥. Blackish brown, mandibles, lateral projections of clypeus, insertions of antennae, epinotum, petiole, joints two to four, and base of fifth of tarsi yellow; teeth black; shining and clothed with fine sparse yellow pubescence.

Head subquadrate, slightly narrowed anteriorly; posterior angles rounded, posterior border considerably excised in middle, extremely finely coriaceous, and minutely punctured, very finely longitudinally striate at inner sides of frontal carinae; mandibles longitudinally striate, armed with 4 or 5 teeth; clypeus triangular, convex and round in centre of dorsal surface, anterior border almost straight, posterior border semicircular; frontal area and frontal furrow not defined; frontal carinae short, diverging posteriorly, not extending as far as anterior border of eye; antennae moderate, 11-jointed, club 3-jointed; scape short, not extending as far as posterior border of head by about \( \frac{1}{3} \) of its length; eyes moderate, not very convex, situated behind centre of sides of head. Thorax narrowed anteriorly, slightly more conspicuously coriaceous than head; pronotum forming a neck, suture between pronotum and mesonotum not defined, suture between mesonotum and epinotum extending into a wide shallow furrow in centre; epinotum longer than pro- and mesonotum taken together, and considerably broader, very considerably inflated and swollen, broadest at base, where it is about as broad as head; declivity abrupt, flat, shorter than dorsal surface; a very large circular hole is situated on each side, beneath and close to the epinotal stigmata, being considerably larger than the latter. Petiole longer than broad, narrow, flat above, narrowed in front and behind, broadest about middle; post petiole transverse, broader and higher, but considerably shorter than petiole, rounded above and at sides, posterior surface with a circular constriction, or furrow, before apex; gaster short, heart-shaped, broader than epinotum. Long. 4.8 mm.

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

Described from a single worker—Philippine Is., Luzon, Bagnio, 25.ii.1920. Dr. A. Moore, B.M. 1922, 101.

This insect does not agree with any description of any known species of *Physocrema*. It comes nearest to *inflatus* Smith in appearance, but the scapes are shorter, the petiole is longer and narrower, and the whole insect is smoother and more shining, etc.

The following is a list of the species known to date:

1. Crematogaster (Physocrema) inflatus Smith,  $\mbox{$\circlearrowleft$}$ . Journ. Proc.

Linn. Soc. Lond. Zool., 2:76, pl. 2, fig. 2 (1857). Singapore, Borneo (Sarawak), Indo-China.

2. Crematogaster (Physocrema) difformis\* Smith, ♥. Journ. Proc. Linn. Soc. Lond. Zool., 2:76 (1857). Singapore, Borneo (Sarawak), Indo-China, Sumatra, Java.

Crematogaster (Physocrema) difformis Smith subsp. physothorax Emery,  $\lozenge$ . Ann. Mus. Stor. Nat. Genova, 27:506 (1889). Burma, etc. Crematogaster (Physocrema) difformis Smith subsp. sewardi Forel.

Q. Mitt. Naturk. Mus. Hamburg, 18:64 (1901). Borneo.

Crematogaster (Physocrema) difformis Smith subsp. vacca Forel, &.

Bull. Soc. Vaud. Sci. Nat., 47: 284 (1911). Malacca.

- 3. Crematogaster (Physocrema) ampularis Smith, \(\varphi\). Journ. Proc. Linn. Soc. Lond. Zool., 6: 47 (1861). Celebes. This species is omitted in the Genera Insectorum.
- 4. Crematogaster (Physocrema) tumidula Emery, ♥. Ann. Mus. Stor. Nat. Genova, 40: 689, fig. (1901). Sumatra.
- 5. Crematogaster (Physocrema) mucronata Emery,  $\Im$ . Ann. Mus. Stor. Nat. Genova, 40: 690 (1901). Sumatra.
  - 6. Crematogaster (Physocrema) bakeri Menozzi, ♥. Philippines.
  - 7. Crematogaster (Physocrema) moorei sp. n.,  $\lozenge$ . Philippines.

I have omitted from this list, and also from the table, Crematogaster ("Plysocrema") onusta Stitz, \$\times\$ (Gesells. Naturf. Freunde, Berlin, 1923, 118, 1925). Physocrema spelt with an "l" instead of an "h" is, of course, a misprint, but I do not consider his species is a Physocrema. The club of the antennae is described as 4-jointed, the epinotum is given as of equal breadth to the rest of the thorax (not swollen in any way), and the insect is too small, etc. It is most probably a Paracrema Sants. The species have a 4-jointed club and the distribution is India and Malaysia.

## TABLE OF THE SPECIES. 1. Epinotum armed . 2.Epinotum unarmed 2. Spine longer and sharper, opening to gland smaller tumidula Emery. Spine shorter, less sharp, opening to gland larger mucronata Emery. 3. Thorax strongly constricted in middle 4. Thorax not strongly constricted in middle. 4. Scapes not extending beyond posterior border of head difformis Smith. Scapes extending beyond posterior border of head . . . 5. Petiole longer and more slender . . . bakeri Menozzi. ampularis Smith. Petiole shorter and broader 6. Scapes extending beyond posterior border of head inflatus Smith. Scapes not extending beyond posterior border of head

\* Emery (Gen. Ins., 174b: 139, 1922) gives it incorrectly as "deformis."

moorei sp. n.

Forel (Mem. Soc. Ent. Belg., 19, 220, 1912) established the subgenus Physocrema for the reception of the species of Crematogaster with the epinotum swollen, or inflated (renflé), and he mentions inflatus Smith, difformis Smith, and montezumia Smith as examples without, however, fixing a type. Wheeler (Ann. New York Acad. Sci., 23, 82, 1913) eited inflatus Smith as type. Emery (Gen. Ins., 174b, 139, 1922) limits the subgenus to the Indo-Malayan species, in which the club of the antennae is 3-jointed, excluding the American forms arcuata Forel and montezumia Smith (and subspecies) with a 2-jointed club. These are placed in the subgenus Orthocrema Santschi. The characters of Physocrema are:— $\mbox{$\checkmark$}$  and  $\mbox{$\bigcirc$}$ : frontal carinae developed; antennae 11-jointed, club 3-jointed; epinotum more or less swollen.  $\mbox{$\checkmark$}$ : Antennae 12-jointed. Thorax short and broad; epinotum not much swollen.

These very interesting insects play the part of "Honey-ants," the thorax, however, instead of the gaster being swollen, the swollen part of the thorax forming a pocket for the reception of a sweet secretion. The inflation of the epinotum is due to a pair of subcutaneous cavities with rigid walls filled with air. These cavities each consist of a chamber in which the cribellum of the metasternal glands opens. The external opening is situated in the epinotum, and there appears to be a continual flow from this aperture of a sweet fluid. Smith noticed that in dried specimens crystallized particles were apparent, not only within the orifice itself, but also scattered over the surface of the inflation. Bingham observed workers of these ants licking one another's thoraces vigorously. The opening is larger in some of the species (inflatus, moorei), not so large in difformis, and in mucronata and tumidulum, in which the epinotum is not so swollen, it is represented by a slit. The position of this orifice varies with the species; but in any case it is homologous to the regular opening of the metasternal glands in all ants, which is present in all the castes, and does not exist in any other members of the Hymenoptera.

Celastrina argiolus in the City.—As I was walking down King William Street, City of London, to-day (August 22) at 11 a.m. (B.S.T.), I saw flying towards me a blue butterfly which proved to be a female specimen of *C. argiolus* in fresh condition. Its flight appeared to be weak and the specimen showed signs of exhaustion as though it had travelled a long way, and its capture would have been an easy matter. It tried to settle on some sandbags. An unusual visitor to the heart of the "blitzed" city. In previous years I have seen *Pieris rapae*, *P. brassicae*, *P. napi*, *Aglais urticae*, *Vanessa atalanta*, *Nymphalis io*, *Gonepteryx rhamni* and *Polyommatus icarus* all flying in various thoroughfares of the City of London at different times.—A. E. Stafford; 83, Colborne Way, Worcester Park, Surrey.