IV. *Descriptions of new species of Indian Aculeate* Hymenoptera, *collected by* Mr. G. R. James Rothney, *Member of the Entomological Society.* By Frederick Smith.

[Read 15th March, 1875.]

Twenty-six new species of Indian *Hymenoptera* are described in this paper, and of four or five described species the sex, hitherto unknown, is added. Guérin-Méneville, in the Iconographie du Règne Animal, described an aberrant species of ant, belonging to the family *Cryptoceridæ*, naming it *Cryptocerus bicolor;* this was a worker, the male and female being at that time unknown. In 1853 I published, in the Transactions of this Society, a revision of the family, finding it necessary to establish two new genera; to one of these, *Meranoplus,* I transferred Guérin's species, which came from Pondicherry. Mr. Rothney found the insect in the Botanic Gardens at Calcutta. The nests he describes as difficult to find. Finding a few, however, he visited them almost daily for some months. They are made in the ground, at a depth of several inches. Not observing any other than workers at the mouths of the burrows, he determined to dig down and ascertain their contents. At the end of May, 1873, he succeeded in obtaining several males, but only one female. Whether more are to be found at any time remains undetermined. A second female was subsequently taken at Barrackpore. These are all that have rewarded a three seasons' industrious search. All the sexes are figured in the plate that illustrates this paper.

Another highly interesting insect, discovered by Mr. Rothney, is the female of *Pseudomyrma bicolor,* the winged female not having been previously discovered.

A new species of the genus *Methoca* is a valuable addition to the Indian *Mutillidæ.* Thirteen new species of fossorial *Hymenoptera* are here described—nine of *Andrenidæ,* and six of *Apidæ.* The most interesting insect among the species of *Andrenidæ* is one having capitate antennæ; it is closely allied to the genus *Nomia,* but is distinct, having only two submarginal cells in the anterior

wings; the tongue is conformable to that of the species belonging to the genus *Nomia*, and the posterior legs of the males are swollen and curved as in that genus. We are now acquainted with five species of bees, the males of which have capitate antennæ: they are *Nomia Kirbii*, Sm.; *Nomia antennata*, Sm.; *Thaumatosoma Duboulaii*, Sm.; *Tetralonia mirabilis*, Sm.; and *Cyathocera nodicornis*.

A * is prefixed to the species of which the types are in the National Collection.

CRYPTOCERIDÆ.

Genus MERANOPLUS, Smith.

Meranoplus bicolor, Smith, Trans. Ent. Soc. Lond. 2nd ser. ii. 224, 1, ☿ (1853); Cat. Hym. Ins. pt. vi. Formicidæ, 193.

Cryptocerus bicolor, Guér. Icon. Règ. Anim. 425, ☿ (1844). (Pl. I., figs. 1♂, 2♀, 3☿, 1*a*♂, 2*a*♀.)

Female.—Length 3½ lines. The head, antennæ, thorax and nodes of the petiole of the abdomen ferruginous. Head rugulose, with confluent punctures, which run into longitudinal reticulation; the scape of the antennæ slightly fuscous above. The thorax with confluent punctures; a fuscous spot on the mesothorax anteriorly; also a similar lateral spot near the tegulæ; wings flavo-hyaline; the nervures testaceous; the stigma fuscous; the legs rufo-piceous; the tibiæ and femora darkest. Abdomen thinly covered with short pale pubescence, and having a few longer hairs intermixed, particularly towards the apex.

Male.—Length 2 lines. Head and abdomen nigro-piceous; the thorax rufo-piceous; the region of the scutellum more or less fuscous; the ocelli large, prominent, and of a pale glassy brightness; the antennæ and legs pale testaceous; wings flavo-hyaline; nervures and stigma pale testaceous; the abdomen with a very sparing, scattered, pale pubescence.

Hab.—Eden Gardens, Calcutta.

To Mr. Rothney science is indebted for the discovery of the male and female sexes of *Meranoplus bicolor*. With great care and labour they were dug out of the nest in the solid ground, but only one of each sex was secured.

Pseudomyrma bicolor. (Pl. I., fig. 4.)

Pseudomyrma bicolor, Guér. Icon. Règ. Anim. 427, ♀; Smith, Cat. Hym. Ins. pt. 6, Formicidæ, 153; Trans. Ent. Soc. Lond. new ser. iii., 157, ♀.

Sima rufo-niger, Roger, Berl. Ent. Zeitschr. vii. 1864.

Female.—Length 5 lines. The head, femora, intermediate and posterior tibiæ and the abdomen black; the antennæ, mandibles, tarsi, anterior tibiæ and base of the two following pairs pale ferruginous; the thorax and two nodes of the abdomen ferruginous; the anterior wings fusco-hyaline; the posterior pair clear hyaline; the nervures of the anterior pair fuscous, palest at the base of the wings; the stigma dark fuscous. For the neuration, see the figure in plate.

Roger separated this insect from the genus *Pseudomyrma,* creating the genus *Sima* for its reception; but, in my opinion, on insufficient generic characters. Finding on comparison with six species of *Pseudomyrma,* some of which are retained in that genus by Roger, that the neuration of the wings in *P. bicolor* is identical with the others, I do not adopt the proposed generic name. The male of this species is unknown to me.

MUTILLIDÆ.

Methoca orientalis.

Male.—Length 3⅓ lines. Black and shining; wings hyaline; the nervures and stigma black. Antennæ as long as the head and thorax, thickened in the middle; the face closely punctured, the vertex more sparingly so; the mandibles rufo-piceous; the palpi pale testaceous; the entire insect with a thin, scattered, griseous pubescence, particularly the head and thorax. Thorax: the pro- and meso-thorax anteriorly with fine, rather distant punctures; the posterior portion of the mesothorax with transverse, somewhat coarse striæ; the metathorax rugose; the tarsi obscurely testaceous. Abdomen very smooth and shining; the margins of the segments constricted.

This insect closely resembles the *Methoca ichneumonoides* of Europe; but its antennæ are thicker, and the transverse striation of the mesothorax distinguishes it. It is the first species of the genus I have any knowledge of from India.