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A NEW SPECIES OF THE GENUS *PARATOPULA* WHEELER (HYMENOPTERA : FORMICIDAE) FROM INDIA

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Key words : New species, *Paratopula intermedia*

ABSTRACT

A new species *Paratopula intermedia* is described from Kerala and its affinities to its close relative are discussed.

INTRODUCTION

The rare genus *Paratopula* was erected by Wheeler in 1919, based on the type-species *Paratopula ceylonica* which was first described by Emery (1901) under the genus *Atopomyrmex* as *A. ceylonicus* from Sri Lanka. So far, 9 species of this genus have been reported from the Oriental region. The only species reported from India is *P. ceylonica* Emery, which was originally described by Forel (1902) under *Leptothorax* as *L. taylori* from Orissa. Bolton (1988) synonymised it with *ceylnica* Emery.

During the present investigation on the Formicid fauna of Kerala (Sheela, 1996; Sheela & Narendran, 1977), an inter-

esting specimen from the thick forest of Muthanga was found which belongs to one of the hot spot areas of biodiversity of Western Ghats. It was found in a lethargic condition on a Termitarium. The specimen shows close affinity to the Malaysian species *P. demeta* Bolton and to the Indian species *P. ceylonica* Emery.

MATERIAL AND METHODS

The specimen was collected from the Termitarium using a 'O' tip brush and a vial containing alcohol. It was gently tucked into the vial, dried in the laboratory, mounted on a rectangular card and labelled. Observations were done using stereozoom microscope. The specimen is kept in the Department of Zoology, University of Calicut (DZUC).

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RESULTS AND DISCUSSION

Paratopula intermedia sp. nov. (Figs. 1-4)

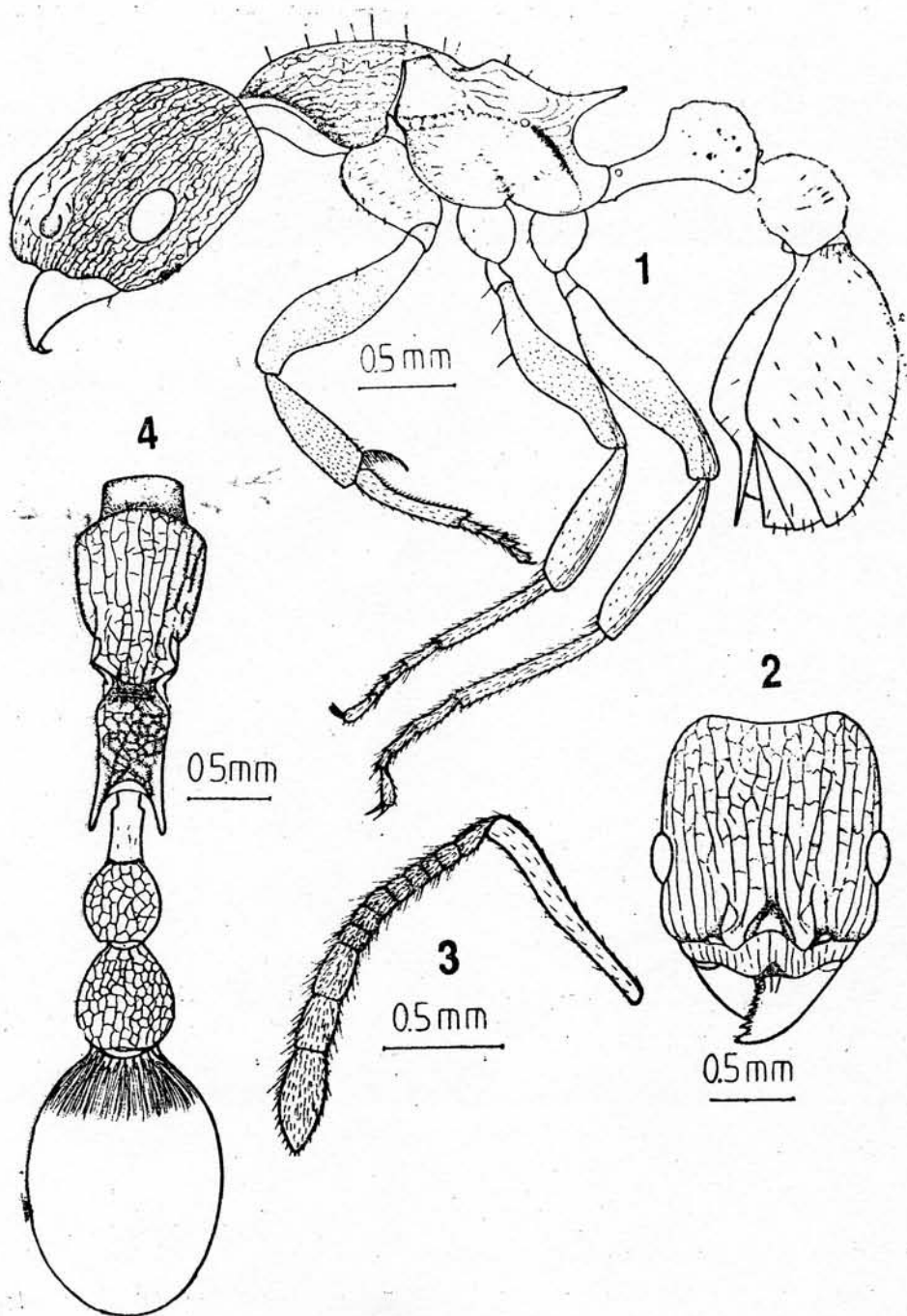
Holotype Worker : Total length - 6.8 mm; Head length - 1.48 mm; Head width - 1.2 mm; Cephalic index - 81; Scape length - 1.02 mm; Scape index - 85; Eye diameter - 0.80 mm; pronotal width - 0.86 mm; Alitrunk length - 2.1 mm.

Colour uniformly brownish yellow; masticatory margin of mandible and anterior margin of mesosternum black; gaster testaceous, more brown; legs except tarsi pale yellow, tarsi brownish red; clypeus lighter in colour than surrounding region. Head, thorax, pedicel and gaster with short yellow, scattered hairs, tip of which not pointed; mandibles, clypeus, legs, scape of antennae, lateral and ventral side of gaster (dorsally visible only in certain reflections of light) with small appressed white pubescence, flagellum of antennae fully covered with short, appressed pubescence, in addition to a few short setae; outer margin of mandible with long incurved setae ventrally; head ventrally densely pubescent (mostly anteriorly) and moderately pilose; anteroventral side of thorax, coxae, trochanter, ventral side of pedicel, tip of gaster ventrally with a few long setae, setae nearer to sting longest; base of femur with two or three setae. Head thorax and pedicel rugoso-reticulate, spaces between sculpture superficially finely punctate, more clearly visible on sides of thorax, where reticulations weak, forecoxa transversely rugose, outer surface of tibiae

with longitudinal striations, mandibles, gaster and legs except fore coxae, tibiae and apex of femora smooth; clypeus with longitudinal weak striations.

Head : Posteriorly widely emarginate, posterolateral corners rounded, sides almost straight upto level of posterior portions of antennal scapes; mandibles broad, large, minutely shagreened with hair pits, masticatory margin with 9 teeth; anterior margin of clypeus slightly indented medially and depressed at this part; clypeus broad, posterior margin arched, frontal area narrow triangular, smooth, frontal lobes short, wide apart, frontal carina not distinct from adjacent carinae. Antennae slender, club not thick, 3-jointed, scape extending beyond level of eye by 2.4 x its own length. Relative measurements of length and breadth of antennal segments - scape - 43:5.2; F1—9:4; F2—4:4; F3—3.2:4; F4—4:4; F5—4:4; F6—4:4.6; F7—4:4.6; F8—4:5.3; F9—10:6.4; F10—10.6:6.6; F11—18.6:8.

Thorax : Deeply emarginate at meso-metanotal suture, pronotum excluding neck slightly broader than long (18:17), thorax narrow behind pronotum; anterolateral corners of pronotum not angular, pronotum slightly depressed at its centre; propodeum projecting at an angle just behind the suture (Fig. 1), mesepimeron separated from mesepisternum by deep perforated groove; propodeal spiracles situated at mid length of propodeum; propodeal spines blunt at apex, short, its length 2.4 x its basal width,



Paratopula intermedia sp. nov. Worker : Body profile (1), head, front view (2), antenna (3), and thorax & abdomen, dorsal view (4).

1.7 x distance between its bases, metapleural lobes flat, shaped as in Fig. 1, straight above and rounded below.

Abdomen: Peduncle of petiole 1.1 x length of propodeal spine; petiole node 1.4 x length of peduncle; anterior face vertical, presence of two small tubercles on dorsal surface. on either side of median line forming a sharp angle at antero-dorsal junction in profile; dorsal side convex, smoothly joining with posterior face, in dorsal view posteriorly broad, postpetiole breadth 1.3 x breadth of petiole in dorsal view, anteriorly narrow. Gaster highly convex below, slightly convex above basal 1/4 longitudinally striate, first tergite covering almost entire dorsum, sting strong, anterior attachment of gaster dorsoventrally with ridges.

Holotype : Worker, India; Kerala, Muthanga, Sheela S, 7 x. 1995 (DZCU).

This species comes very close to the Malaysian species *P. demeta* Bolton in the following characters : (1) hairs on first gastral tergite short and parallel sided, not acute at apex, (2) ground sculpture on body everywhere punctate, (3) femora at base near one or two standing hairs, and (4) measurements of body part also almost same as that of *P. demeta*. But it differs from *P. demeta* in : (1) pronotal humeri almost rounded, not angular in dorsal view (in *demeta* pronotal humeri angular in dorsal view), (2) pronotum broader than long in dorsal view (pronotum as long as broad in *demeta*), and (3) metapleural lobe tending to be hook-like (metapleural lobe

not tending to be hook-like in *demeta*, but their sides vertically directed). This new species shows little affinity to the species *P. ceylonica*. They are : (1) pronotal humeri rounded, (2) pronotum broader than long in dorsal view, and (3) shape of the metapleural lobe almost like that of *ceylonica*. But it differs from *ceylonica* in the following characters : (1) hairs on first gastral tergite truncated (in *ceylonica* hairs on first gastral tergite truncated apically), and (2) post-petiole longer than broad (post petiole broader than long in *ceylonica*).

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