

## A NEW GENUS AND TWO NEW SPECIES OF PTEROMALIDAE (HYMENOPTERA: CHALCIDOIDEA) FROM INDIA

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**ABSTRACT.** *Paraiemea*, gen. nov. (Chalcidoidea: Pteromalidae) with two new species, *P. vishnuae* and *P. convexa*, are described from India.

Key words: Pteromalidae, *Paraiemea*, new species, India.

### Introduction

In continuation of our studies on Indian Pteromalidae (Sureshan & Narendran, 1990, 1994 a,b, 1995 a,b, and 1996, Narendran, 1992, Narendran et al, 1992 a,b) we have found specimens of an interesting genus comprising two new species, collected from the forested tract of Southern Western Ghats. These specimens exhibit close affinity with members of the Australian genus *Aiemeia* Bouček, but on close examination they appear to belong to two species of a new genus which is described below.

The terminology used here generally follows that of Graham (1969). In addition, the antennal funicular segments are numbered F1 through F6 and the gastral tergites are numbered T1 to T6 beginning with the first after the petiole and the last before the epipygium. The following abbreviations are used: OOL - ocellar-ocular distance; POL - posterior ocellar distance; SMV - submarginal vein; MV - marginal vein; PMV - post marginal vein; and STV - stigmal vein.

### *Paraiemea*, gen. nov.

*Type species: Paraiemea vishnuae*, sp. nov.

*Description.* Body size moderate. Head in dorsal view strongly transverse, surface reticulate, pilosity sparse and inconspicuous; occiput barely excavated, without carina; vertex high; temples short; frons little convex. Eyes bare, large, almost elliptic. Scrobes shallow to moderately deep. Lower face convex; upper border of clypeus distinct; clypeus radically striated, lower margin with two moderate teeth. Mouth corner rather deep; adjacent gena slightly depressed and weakly carinate in lower part; malar sulcus distinct. Antennae inserted slightly below middle of face, slender, in female formula 1 1 3 5 3 and in male formula 1 1 2 6 3; scape reaching centre of median

ocellus; all funicular segments longer than broad; claval apex with a short strip of micropilosity

Thorax narrowed at both ends. Pronotum finely sculptured, collar weakly carinate in the middle; lateral panel with deep furrow. Mesoscutum reticulate, with slight shoulders; notauli groove-like, extending  $2/3$  mesoscutal length. Axillae wide apart, in outer corner a deep small pit. Scutellum reticulate, with frenal groove not traceable; frenal area sharply sloping, hind margin in middle very slightly produced. Dorsellum short. Propodeum  $3/4$  as long as scutellum without carina but sculpture in the middle line converging and appears to form a weak median carina; with a pair of shallow submedian longitudinal grooves posteriorly which converge to merge with the saddle-like constriction before nucha, this constriction connects laterally with deep supracoxal pit, as bottom of deep and moderately long post spiracular sulcus; spiracles oval, rather large; callus slightly convex with few long hairs, posterior corner rounded; pleural convexities with finely engraved reticulation, depressions deep with rounded edges and finely reticulate bottom. Prepectus rather large, anterior half depressed and granulated. Legs slender, with very short pilosity; hind tibia with single spur. Wings hyaline, bare at base except for few hairs on subcubital vein; basal hairline absent; MV longer than PMV and STV; stigma moderately capitate.

Gaster with petiole smooth, as long as broad in female and longer than broad and club shaped in male; apex of petiole in female with very short corners of the slightly extended first sternite; gastral body lanceolate, dorsally collapsing; tergites of normal arrangement with almost straight margins, except the first two with hind margin slightly rounded and notched in the middle; hypopygium reaching hind margin of T4.

*Remarks:* *Paraiemea* can be distinguished from all other pteromalid genera by the characters given under description especially by the nature of propodeum and gaster. The two genera which closely resemble *Paraiemea* are *Aiemea* Bouček and *Lyubana* Bouček. *Paraiemea* differs from *Aiemea* in not having fovea on lateral lobes of mesoscutum, in having scutellum with frenal groove not traceable and frenal area reticulate. It further differs from *Aiemea* in having gastral petiole as long as broad, without sublateral tubercles, fore wing without basal hairline and hairs on underside of costal cell, MV longer than PMV, which is almost 2.0x STV and clypeus with upper border distinct.

*Paraiemea* differs from *Lyubana* in the nature of propodeum with plicae indicated only anteriorly and not forming an arcuate costula before nucha, in having a longer prepectus, which is as long as tegulae and hind tibia with one spur. It also resembles *Delislea* Girault in having a similar antenna, clypeus and petiole but differs in having gaster dorsally collapsing, fore wing with MV distinctly longer than PMV, and without basal hairline and a different propodeum.

*Etymology:* The generic name is after *Aiemea* owing to its close affinity to that genus. The gender is feminine.

*Paraiemea* is known by two new species which may be differentiated from each other as follows:

- Gaster (Figs. 6 & 8) short, almost as long as head and thorax combined and 2.5x as long as hind femur, less collapsing; propodeum (Fig. 9) with median carina indicated; fore wing (Fig. 6) with stigma less capitate, PMV shorter, only 0.6x MV; scrobe moderately deep; head and thorax moderately reticulate; antennae uniformly testaceous; hind coxae dark bluish black except on tip. .... *convexa*, sp. nov.
- Gaster (Fig. 1) large, 1.2x as long as head and thorax combined and 3.0x as long as hind femur, more collapsing; propodeum (Fig. 4) with median carina hardly indicated; fore wing (Fig. 1) with stigma moderately capitate, PMV longer, 0.8x MV; scrobe shallow; head and thorax finely reticulate; antennae brown except scape and pedicel testaceous, hind coxae brown except on tip. .... *vishnuae*, sp. nov.

***Paraiemea vishnuae*, sp. nov. (Figs. 1-5)**

*Female:* Length 2.6-3.2 mm (Holotype 3.2 mm). Head and thorax dark bluish to almost black, more bluish on dorsal part of thorax; gaster with dorsal part blue, except hind part of tergites up to T5, remaining tergites completely, whole petiole and ventral part completely brown. Antennae with scape and pedicel testaceous, remainder brown. Eyes cupreous. Legs yellowish brown, darker on hind coxae. Tegulae brown; wings hyaline, veins brown.

*Head* (Figs. 1-3): With uniform engraved reticulation, finer on posterior part. In dorsal view head width 2.2x length; temples 0.3x eye length; POL little shorter than OOL; eye height 1.4x length (in profile). In front view head width 1.3x height; malar space half of eye height; clypeus striate, striae extending up to little below lower eye margins, with 2 blunt teeth separated by a median emargination. Antenna with scape length 0.8x eye height; pedicel equal to F3; anelli gradually becoming longer; F2 little shorter than F1, both longer than pedicel; F4 and F5 slightly shorter than F3 and equal; clava little longer than two preceding segments combined, second suture oblique.

*Thorax:* Pronotum weakly engraved reticulate; collar with a weak carina in the middle. Mesoscutum moderately reticulate, pubescence sparse. Scutellum similarly sculptured as on mesoscutum, width equal to length. Propodeum (Fig. 4) with median area engraved reticulate, width 2.6x median length; spiracles oval, rather large; callus slightly convex with few long hairs, posterior corner round; supracoxal flange with a slight spine. Prepectus rather large. Legs slender; relative lengths of hind coxa, femur and tibia as 9.5: 18.5: 20. Fore wing basally bare; costal cell with two rows of hairs on

upper half and few more on distal end; stigma moderately capitate; relative lengths of SMV, MV, PMV and STV as 28: 16.5:12: 6.5.

*Gaster*: Petiole smooth, as long as broad, slightly widening posteriorly; gastral body lanceolate, dorsally collapsing; hind margin of T1 and T2 slightly concave; epipygium only slightly longer than wide; gaster length 1.2x that of head plus thorax combined and 3.0x that of hind femur (in profile)

*Male* (Fig. 5): Length 2.3 mm. Generally resembles female but differs in having small and slender body, antennae with two ring segments and 6 funicular segments; flagellum covered with long hairs; gaster short, petiole longer than wide and club shaped; gaster uniformly brown with a subbasal yellow band complete and reaching beyond middle.

*Holotype*: ♀, INDIA: Kerala: Idukki Wild Life Sanctuary (Vellaikamali), 14.xi.1996, Coll. P. M. Sureshan. *Allotype*: ♂, Kerala: Silent Valley, 30.xii.1988, Coll. P. M. Sureshan. *Paratypes*: 2♀, Kerala: Peechi (Vellakarithadam), 5.ii.1989; 1♀, Kerala: Silent Valley, 30.xii.1988; 1♀, Kerala: Wynad (Puzhamudi), 23.ii.1988; 1♀, Kerala: Calicut University Campus, 2.xi.1986, all Coll. P. M. Sureshan). All specimens Deposited in Western Ghat Field Research Station, Zoological Survey of India, Calicut.

***Paraiemea convexa*, sp. nov. (Fig. 6-9)**

*Female*: Length 3.5mm. Head and thorax dark bluish, almost black; gaster with anterior halves and lateral parts of tergites bluish green, remainder brown; petiole black; eyes cupreous. Antennae uniformly testaceous. Legs testaceous except basal half of fore coxae brown and hind coxae concolorous with thorax; wings hyaline; tegulae and veins testaceous.

*Head* (Figs. 6 & 7): Uniformly and moderately reticulate, pubescence less distinct. In dorsal view width 2.2x length; temple length 0.4x eye length; POL slightly shorter than OOL; eye height 1.3x length (in profile). In front view head width 1.3x height; malar space 0.5x eye height. Antennal scrobe moderately deep. Antennae with scape 0.8x eye height; funicular segments gradually decreasing in length; clava little longer than two preceding segments combined.

*Thorax*: Reticulation coarser on mesoscutum and scutellum. Pronotal collar with anterior edge more raised. Scutellum highly convex. Propodeum (Fig. 9) with reticulation coarser on median area, indication of median carina more pronounced. Legs normal. Fore wing with stigma less capitate; relative lengths of SMV, MV, PMV and STV as 35.5: 20.5: 12.5: 6.8.

*Gaster* (Figs. 6 & 8): Almost as long as head and thorax combined and 2.5x hind femur (in profile); less collapsing, hard; hind margins of T1 and T2 slightly rounded, that of T2 slightly notched in the middle; hind margins of other tergites normal; epipygium as long as broad.

*Male*: Unknown.

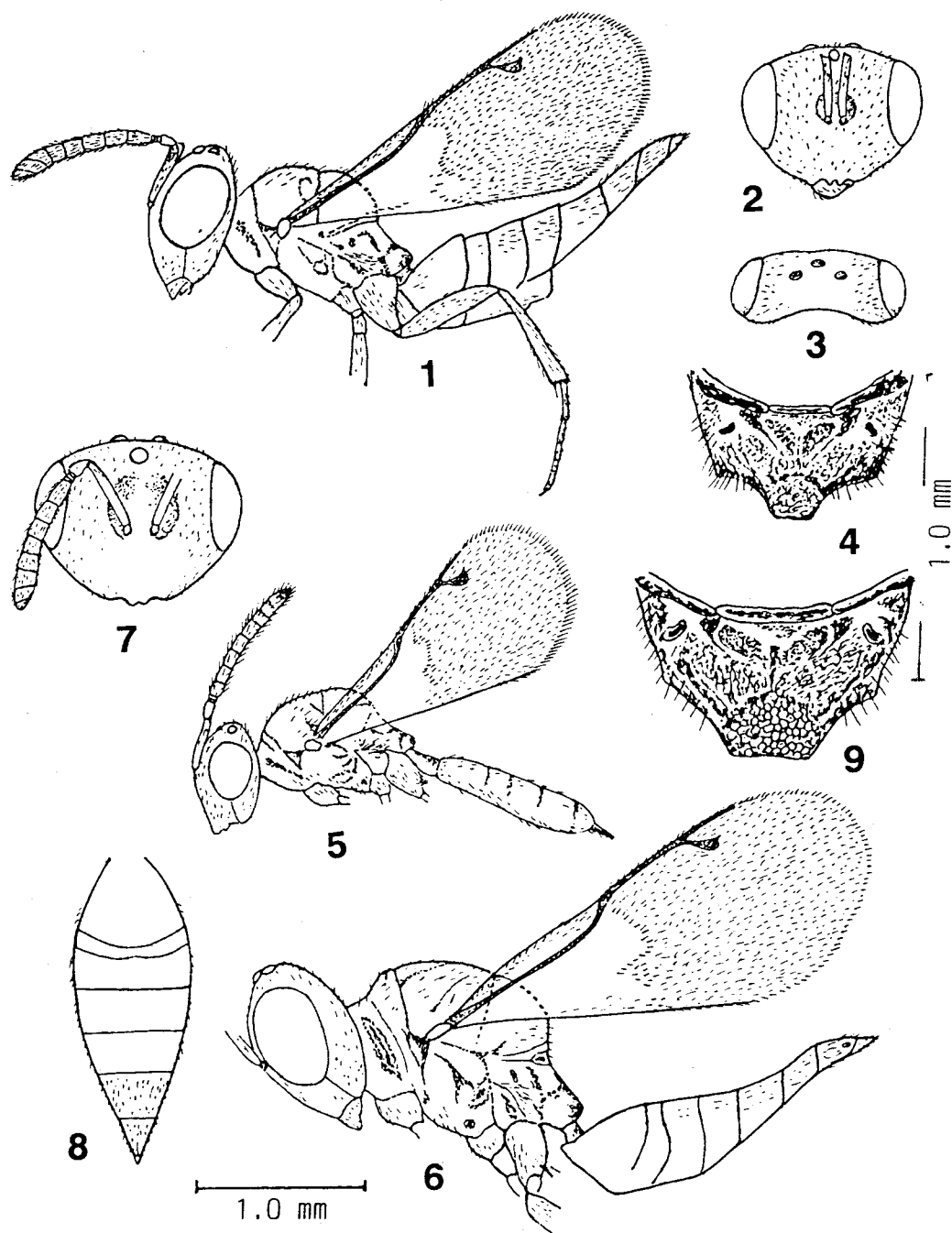
*Holotype*: ♀, INDIA: Kerala: Calicut University Campus, 23.xi.1987, Coll. P. M. Sureshan. Deposited in Western Ghat Field Research Station, Zoological Survey of India, Calicut.

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Figs. 1-9. 1-4, *Paraiemea vishnuae*, sp. nov., ♀: 1, body in profile; 2, head in front view; 3, head in dorsal view; 4, propodeum in dorsal view. 5, *P. vishnuae* ♂, body in profile. 6-9, *P. convexa*, sp. nov., ♀: 6, body in profile; 7, head with antenna in front view; 8, gaster in dorsal view; 9, propodeum in dorsal view.