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Descriptions of three new species of Trichogrammatidae (Hymenoptera) from India

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The genera *Paracentrobia* HOWARD and *Chaetostricha* WALKER are reported for the first time from India. Three new species; *P. magniclavata*, *P. longiclavata* and *C. terebrator* are described and illustrated. Types have been deposited in Zoological Museum, Aligarh Muslim University, Aligarh, India.

Genus *Paracentrobia* HOWARD

Paracentrobia HOWARD, 1897, J. Linn. Soc. Zool. 26: 178.

Type-species: *Paracentrobia punctata* HOWARD, by monotypy.

Comments: DOUTT & VIGGIANI (1968) synonymised the genera: *Abbella* GIRAULT, *Ittys* GIRAULT, *Brachistella* GIRAULT, *Jassidophthora* PERKINS and *Abbellisca* GHESQUIERE with *Paracentrobia* HOWARD.

The genus *paracentrobia* HOWARD is characterized for having antennae with 2-segmented funicle, 3-segmented club; fore wings with disc beyond venation densely or sparsely setose; costal cell narrow; marginal vein longer than stigmal vein. The genus is reported for the first time from India. In the present study two new species are described which are separated by the following key characters:

Key to Indian species of *Paracentrobia* HOWARD, based on females

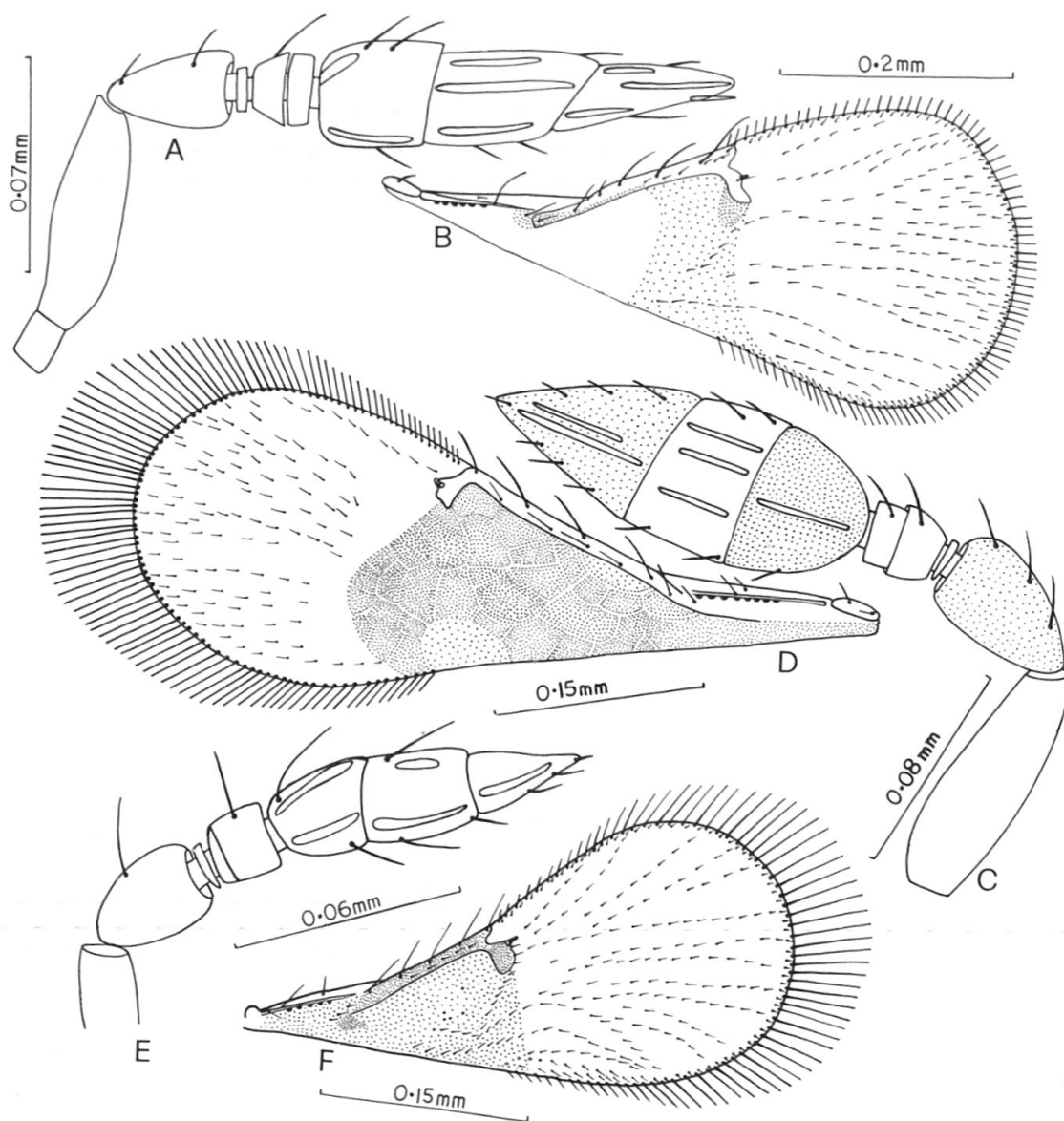
1. Antennae with club less than three times as long as wide, shorter than scape, pedicel and funicle together; fore wings more than two and a half times as long as wide; marginal fringe long, one-third of wing width *P. magniclavata* sp. n.
- Antennae with club long, slightly less than four times as long as wide, as long as scapae, pedicel and funicle together; fore wings slightly more than three times as long as wide; marginal fringe short, one-tenth of wing width *P. longiclavata* sp.n.

Paracentrobia longiclavata sp. n. (Figs. A, B).

Female

Head yellowish brown; eyes dark. Antennae (fig. A) yellow; scape cylindrical, slightly more than three times as long as wide; pedicel one and a half times as long as wide; single ring segment present; funicle 2-segmented, first segment longer than second; club large, 3-segmented, about four times as long as wide, as long as scape, pedicel and funicle segments together.

Thorax yellow. Fore wings (fig. B) hyaline except a transverse band beneath stigmal vein infuscated; slightly more than twice as long as wide; disc beyond venation



Figs. A-F, A-B, *Paracentrobia longiclavata* sp.n. ♀: A, Antenna; B, Fore wing. C-D *Paracentrobia magniclavata* sp. n. ♀: C, Antenna, D, Fore wing. E-F. *Chaetostricha terebrator* sp. n. ♀: E, Antenna; F, fore wing.

sparsely setose, setae arranged in rows; costall cell narrow; sub marginal vein as long as marginal vein; postmarginal vein developed; stigmal vein about as long as premarginal vein; marginal fringe short, about one-tenth of wing width. Legs yellow.

Abdomen brownish, slightly longer than thorax; ovipositor hidden, arising from basal one-third of abdominal venter.

Body length: 0.61 mm.

Holotype ♀. INDIA, Madhya Pradesh, Gwalior, 5.XI.1983, collected by sweeping, (M. YOUSUF).

Paracentrobia magniclavata sp. n. (Figs. C, D)

Female

Head brownish; frontovertex as long as wide; ocelli arranged slightly in obtuse triangle, lateral ocellus separated by less than its diameter from inner orbital and occipital margins separately; eyes dark. Antennae (fig. C) yellowish except pedicel, first and third club segments brownish; scape about three times as long as wide; pedicel about one and a half times as long as wide, longer than ring and funicle segments together; single ring segment present; funicle 2-segmented, basal segment longer than second; club 3-segmented, two and a half times as long as wide, longer than pedicel and funicle segments together.

Thorax dark brown. Fore wings (fig. D) infuscated except disc beyond venation hyaline, slightly less than three times as long as wide; disc beyond venation sparsely setose, setae arranged more or less in rows; costal cell narrow; submarginal vein slightly shorter than marginal vein; postmarginal vein absent; stigmal vein about as long as premarginal vein; marginal fringe long, about one-third of wing width. Hind wings hyaline, slightly more than ten times as long as wide; marginal fringe about twice the wing width. Legs yellowish brown.

Abdomen dark brown, slightly longer than thorax; ovipositor hidden, arising from basal one-third of abdominal venter.

Body length: 0.76 mm.

Holotype ♀. INDIA: Uttar Pradesh, Bulandshahr, collected by sweeping, 11.X.1983 (M. YOUSUF).

Paratypes 4 ♀ (Same data as for holotype).

Genus *Chaetostricha* WALKER

Chaetostricha WALKER, 1851: 210.

Type-species: *Chaetostricha dimidiata* WALKER, by monotypy.

Comments: DOUTT & VIGGIANI (1968) synonymised the genera: *Centrobia* FOERSTER, *Centrobiella* GIRAULT and *Ratzeburgalla* GIRAULT with *Chaetostricha* WALKER. The genus *Chaetostricha* is characterized for having antennae with single ring segment, 2-segmented funicle, 3-segmented club; fore wings with discal setae arranged in rows; vein track RSI present; costal cell narrow; marginal vein long and straight, much longer than stigmal vein; postmarginal vein absent or rudimentary; ovipositor exerted.

The genus is reported for the first time from India. The species *C. mukerjii* MANI (1935) which was earlier described from India, does not belong to this genus. *C. terebrator* sp. n. is related to *C. doricha* (WALKER) from which it can be separated by its having fore wings with infuscated patch beneath venation and marginal fringe slightly less than one-third of wing width.

Chaetostricha terebrator sp. n. (figs. E, F)

Female

Head yellow, wider than long in facial view; frontovertex wider than long; ocelli red, arranged in slightly obtuse triangle, lateral ocellus separated by slightly more than its diameter from inner orbital and occipital margins separately; malar space shorter than eye width; mandible with three acute teeth. Antennae (fig. E) yellowish brown inserted slightly above the lower level of eyes; pedicel slightly longer than wide; single ring segment present; funicle indistinctly 2-segmented, basal segment much shorter

than apical segment; club 3-segmented, three and a half times as long as wide, much longer than pedicel and funicle together.

Thorax dark brown. Fore wings (fig. F) hyaline, slightly infuscated beneath venation, slightly more than twice as long as wide, outer margin broadly rounded; costal cell narrow, as long as marginal vein; submarginal with 2 setae; marginal vein long and straight; postmarginal vein rudimentary; stigmal vein well developed, about as long as premarginal vein; marginal fringe long, about one-third the wing width; discal setae arranged in several rows; vein tracks Rsl present. Hind wings long and narrow, seven times as long as wide; marginal fringe about twice the wing width. Middle and hind legs dark brown except tibiae and tarsus yellow.

Abdomen dark brown, slightly longer than thorax; ovipositor much exerted, arising from basal one-third of abdominal venter; exerted part of ovipositor about one-half the length of abdomen.

Body length excluding exerted part of ovipositor: 0.44 mm.

Length of exerted part of ovipositor: 0.10 mm.

Holotype: ♀, INDIA: Uttar Pradesh, Meerut 15.XI.1983, collected by sweeping, (M. YOUSUF).

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