

**THE GENUS *PROAPHELINOIDES* FROM INDIA  
(HYMENOPTERA : APHELINIDAE)**

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**ABSTRACT.** The aphelinid genus *Proaphelinoides* Girault is recorded for the first time from India. A new species, *P. anomalus*, is described. Comments are given on two other known species, *P. elongatiformis* Girault and *P. australis* Girault, the latter species considered here as distinct from *elongatiformis*. A key to the three species is also provided.

The genus *Proaphelinoides* was described by Girault (1917) in a paper privately printed by him. The type-species, *P. elongatiformis*, was based on specimens bred from *Odonaspis secreta* (Cockerell) collected in Sri Lanka. The second species, *P. australis*, was described by him (1922) from two specimens collected in Australia. Till recently, the identity of this genus remained obscure mainly because the types were not examined. Mercet (1930) apparently overlooked the diagnostic characters given in the original description and considered the genus a synonym of *Centrodora* Foerster. This synonymy was accepted by almost all subsequent authors who dealt with *Centrodora* (Ferriere, 1965; Nikol'skaya & Jasnosh, 1966; Hayat, 1974; Gordh, 1979).

The systematic position of the genus was recently clarified almost simultaneously by Rosen (October, 1980) and Hayat (January, 1981). Both authors revalidated *Proaphelinoides* and placed *Bestiola* Nikol'skaya in synonymy with Girault's genus. Rosen considered *P. australis* and *B. mira* as synonyms of *elongatiformis*. Hayat, at that time, did not examine the types of *australis* and considered *mira* as doubtfully distinct from *elongatiformis*.

In the present paper a new species of *Proaphelinoides* is described from material collected in India. The synonymy of *mira* with *elongatiformis* proposed by Rosen is accepted, but *australis* is here shown to be distinct from that species (see also Hayat, 1983). A key is given for the separation of the three species.

**1. *PROAPHELINOIDES ANOMALUS*, sp. nov. (Figs. 1-6)**

**Female:** Length, holotype, 1.39 mm; one paratype, 1.11 mm. Head with frontovertex golden yellow; face pallid; genae nearly whitish; temples and occiput suffused with dusky; tips of mandibles blackish. Antennal scape pale yellow to whitish; pedicel and flagellum yellow, flagellum suffused with pale brown. Thorax mostly golden yellow; pronotum whitish dorsad washed with pale brown ventrad; sides of propodeum dusky; meso- and metapleura dusky brown. Wings hyaline, fore wing with a light diffused spot below stigmal vein. Legs pallid to nearly white; hind coxae in proximal half to two-thirds brownish, distal one-third to half of femora especially dorsally, and tibiae in proximal third or so, pale brown. Gaster dark brown to blackish, pale at base (most of middle of first two or three terga); last tergum with whitish apex; third valvulae (=styli; ovipositor sheaths) blackish brown.

Head with the frontovertex about a third of head width; ocelli with apical angle slightly obtuse, lateral ocelli slightly more than one ocellus diameter from occipital margin. head, in front view (Fig. 1) about 0.33 wider than high, with eyes strongly curving outwards from about middle of their length; eyes strongly bulged and densely setose; rest as in figure. Antennal scape moderately flattened, 4x as long as wide; pedicel, dorsal length, about 2x of maximum width, slightly shorter than dorsal length of first segment of clava (= third segment of funicle, but in this species it appears to be a part of the clava rather than the funicle); second segment of clava large, 0.25 longer than scape; setae as shown in Fig. 2, the clava with short rhinaria.

Thorax flattened, with a faint line in middle running from apex of mesoscutum to nearly the first tergum of gaster; pronotum half the length of mesoscutum, with concave posterior margin, collar with 4-5 pairs of long setae; middle lobe of mesoscutum, measured from collar of pronotum, a trifle longer than scutellum (11:10.5), distinctly wider than long (23:14), with 6-7 pairs of setae, posterior pair of setae twice or more the length of other setae, about as long as the anterior pair of scutellar setae, and separated from each other by a distance about equal to the distance between a seta and outer margin of the plate; side lobe and axilla each with 2 and one setae respectively; scutellum slightly more than 1.5x as wide as long (11:7), with a slight notch in middle of posterior margin for reception of the metanotal tubercle, and with two pairs of long setae; propodeum long, its median length nearly four times that of metanotum or slightly less than half of scutellum (11:27), broadened on sides and with a sinuous, fine carina on each side mesad of and almost touching the spiracles. Fore wing (Fig. 3) without the characteristic bunch of dark setae present in other species, but with a well-defined linea calva proximally bordered by 3-4 rows of setae; otherwise as in figure. Hind wing about 4x as long as wide, disc densely setose and marginal fringe about one-third the width of disc. Legs normal for the genus (long and slender); fore tibiae shorter than the corresponding tarsi, but middle and hind tibiae longer than their tarsi; basitarsus of middle leg slightly longer than the following three segments together and about a third longer than corresponding tibial pair.

Gaster depressed, quite flat above, and measured to tip of last tergum, nearly 2x of thorax (20:11), almost parallel-sided in about proximal half, then gradually narrowed to the sixth segment; seventh tergum usually hidden from view, and the last tergum compressed (Fig. 5); the last tergum, seen from above, narrow and elongate (Fig. 6), slightly less than one-third the length of rest of gaster (13:47); ovipositor long, slightly more than 2.5x of middle tibia (2.6:1); third valvula slightly more than 2x of basitarsus of middle leg; ovipositor shortly protruding.

Male: Unknown.

Host: Unknown.

Holotype: Female, India: Karnataka, 25 km W. of Mudigere, 28.x.-3.xi.1979, Coll. J.S. Noyes. In the British Museum (Natural History), London. Paratypes: 1 female (dissected and mounted on a slide), same data as in holotype; 1 female, Karnataka: Bannerghatta, N.P., 5.xi.1979, Coll. Z. Boucek & J.S. Noyes. In B.M.(N.H.) London.

Distributon: India: Karnataka.

2. PROAPHELINOIDES AUSTRALIS Girault (Figs. 7-10)

Proaphelinoides australis Girault, 1922. Insec. Inscit. Menstr., 10: 101. F. Type: F, Australia, Nelson (Queensland Mus., Brisbane); examined.

Centrodora australis: Hayat, 1974. Polsk. Pismo Ent., 44: 289.

The original description of this species was based upon two specimens. I have examined a slide-mounted specimen labelled as "Type ♀" by Girault. This single extant specimen is here taken as the holotype (see also Rosen, 1980). Rosen considered this species as a synonym of elongatiformis, but the differences noted here are sufficient, at least for the present and until proved to be variable characters, to regard australis as distinct from the type-species. The notable differences are the longer first segment of clava, comparatively longer last tergum of gaster, the widely separated posterior pair of setae on the middle lobe of mesoscutum and of scutellum, and the presence of a well-defined linea calva bordered by a single row of setae proximally. For further elaboration of these characters see figures 7-10 and the key to species.

Host: Unknown.

Distribution: Australia.

3. PROAPHELINOIDES ELONGATIFORMIS Girault (Figs. 11-14)

Proaphelinoides elongatiformis Girault, 1917. Descr. Stell. Nov., 1917: [4]. F. Lectotype: F, Sri Lanka (U.S. Natl. Mus., Washington). Lectotype selected and designated by Hayat, 1981. - Swezey, 1946: 216, F. Guam Is. - Rosen & DeBach, 1979: 102. - Rosen, 1980: 300, synonymy. - Hayat, 1981: 469, synonymy.

Bestiola mira Nikol'skaya, 1963. Ent. Obozr., 42: 188. F. Type: F, USSR, Caucasus (Zool. Inst., Leningrad). - Tachikawa, 1964: 46, F, Japan. - Ferriere, 1965: 97. - Nikol'skaya & Jasnosh, 1966: 187. - Jasnosh, 1978: 482.

Centrodora elongatiformis: Hayat, 1974. Polsk. Pismo Ent., 44: 290.

Proaphelinoides mirus: Hayat, 1981. Oriental Ins., 14: 470.

Host: Odonaspis secreta (Cockerell); 'swept from bamboo leaves infested with Asterolecanium miliaris longum (Green)' (Swezey, 1946).

Distribution: Sri Lanka; USSR; Japan; Guam Island.

KEY TO SPECIES OF PROAPHELINOIDES, FEMALES

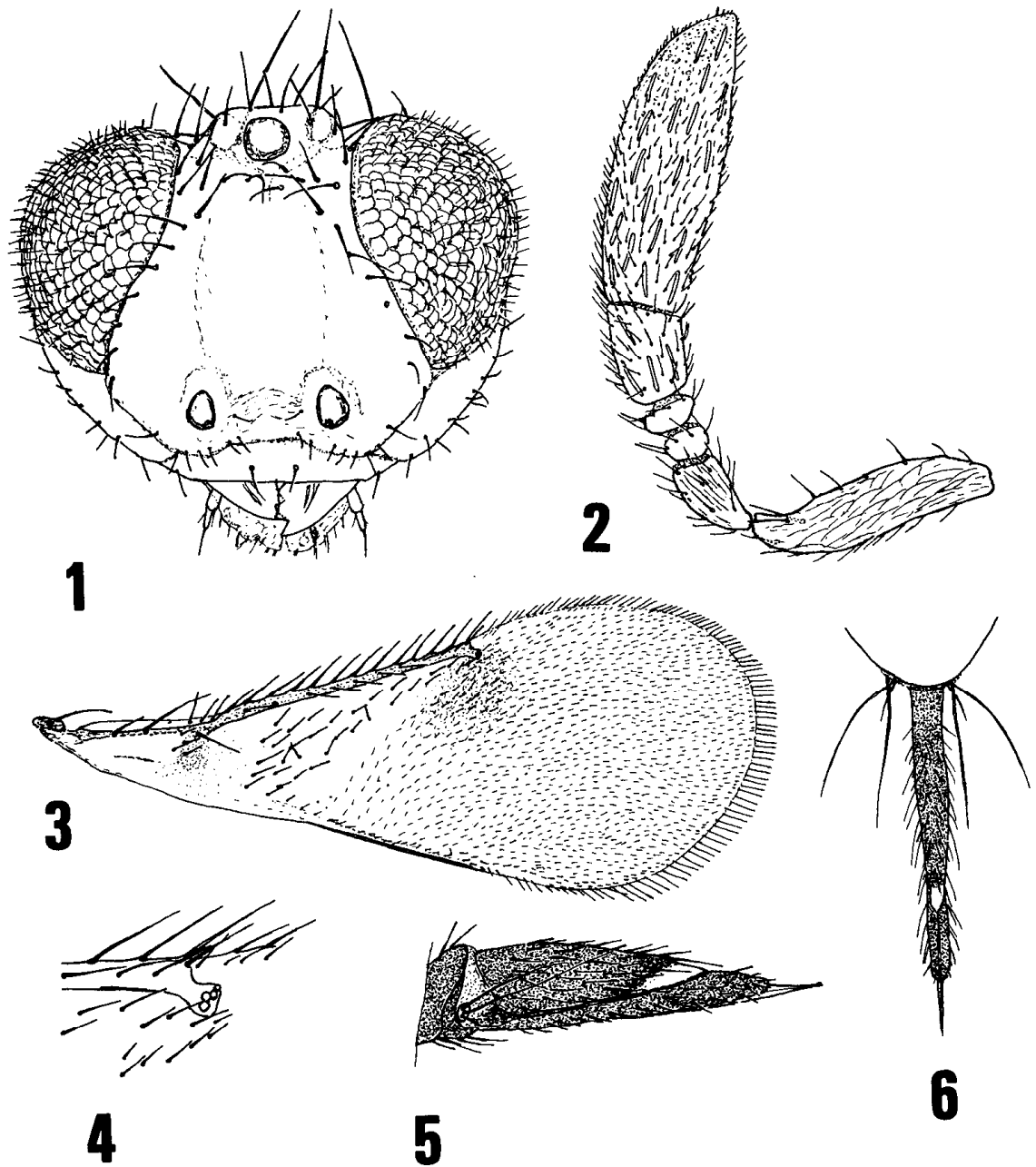
1. Fore wing with a bunch of dark setae below proximal third of marginal vein; linea calva either absent or proximally bordered by a single row of short setae; eyes with fine, colourless setae; third valvulae pale yellow . . . . . 2.
- Fore wing without a bunch of dark setae below marginal vein; linea calva well-defined, proximally bordered by 3-4 rows of setae; eyes densely setose; third valvulae blackish brown. India: Karnataka. . . . . 1. anomalus, sp. nov.
2. First segment of clava (=third segment of funicle) about as long as wide; fore wing with linea calva not clearly defined; distance between posterior pair of setae of the middle lobe of mesoscutum less than the distance from a seta to outer margin of the plate. Sri Lanka; USSR; Japan; Guam. . . . . 3. elongatiformis Girault

First segment of clava about 1.5x as long as wide; fore wing with well-defined linea calva proximally bordered by a single row of setae; distance between posterior pair of setae of middle lobe of mesoscutum greater than the distance from a seta to outer margin of the plate. Australia. . . . 2. australis Girault

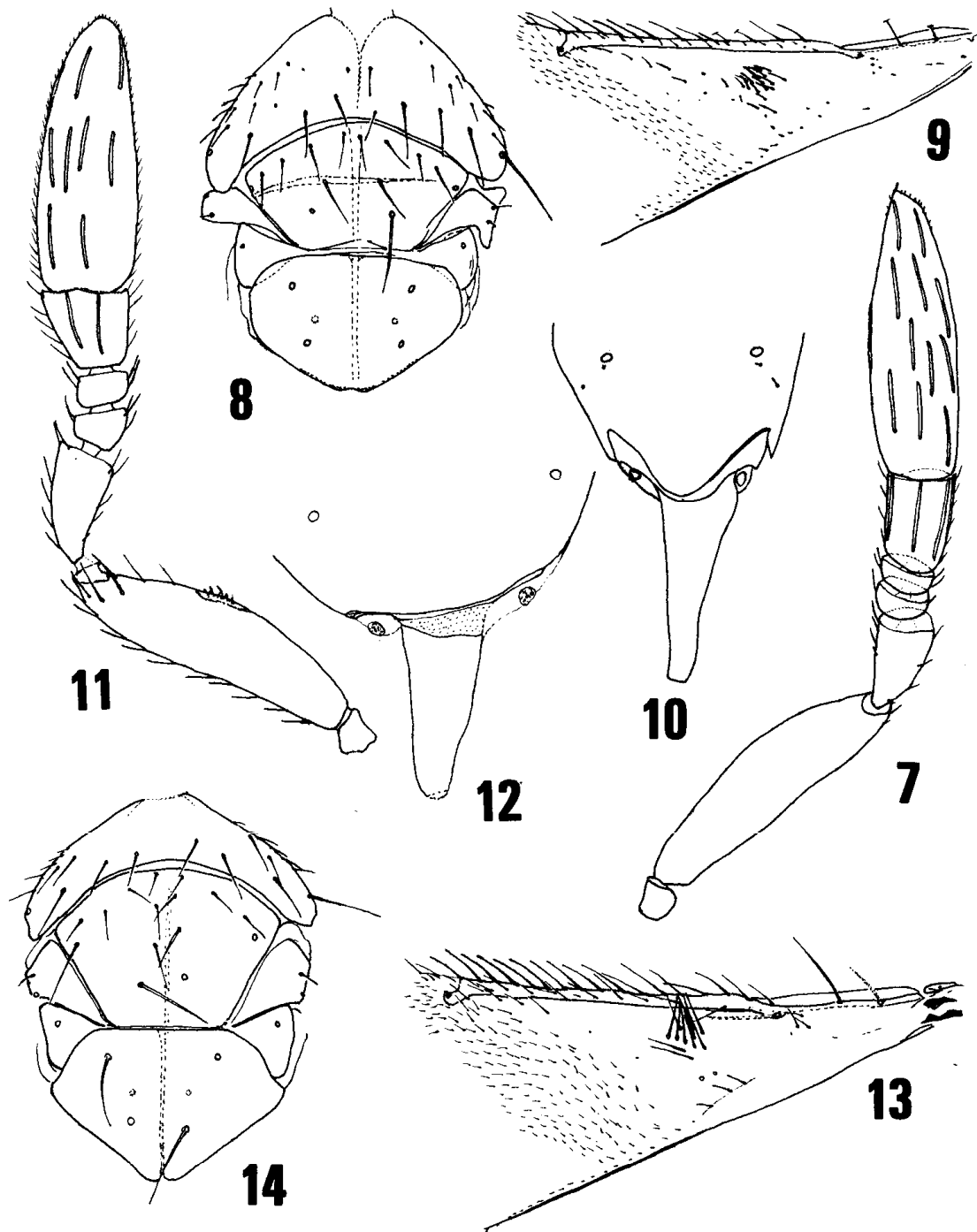
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Figs. 1-6. *Proaphelinoides anomalus*, sp. nov., female: 1, head, front view; 2, antenna; 3, fore wing; 4, distal venation of fore wing; 5, apex of gaster in side view; 6, apex of gaster in dorsal view. Figs. 1-4 from paratype, 5 and 6 from holotype.



Figs. 7-10. *Proaphelinoides australis* Girault, female holotype: 7, antenna; 8, pro- and mesothorax, dorsum; 9, part of fore wing; 10, apex of gaster, dorsal. Figs. 11-14. *P. elongatiformis* Girault, female, Japanese specimens det. T. Tachikawa as *Bestiola mira*: 11, antenna; 12, apex of gaster, dorsal; 13, part of fore wing; 14, pro- and mesothorax, dorsum.