

# Family PROCTOTRUPIDAE

*Proctotrupes* Haliday, 1833 : 273; Serphidae : Kieffer, 1909 : 1.

**Diagnosis :** Body 3-10 mm long. Black, robust, smooth and shiny. Sculpture on propodeum showing great variation. Antenna 13 segmented in both sexes. Transscutellar suture very pale or absent. Forewing with a distinct stigma and a wide costal cell and without discoidal and cubital cells. Claws simple, bifid or trifid, never pectinate. Metasoma in lateral view more or less curved, in females with a down-curved apex.

**Classification :** The family is well documented from the Oriental Region and is classified into two subfamilies, viz., Austroserphinae and Proctotrupinae. The latter is a large subfamily with 21 genera. Austroserphinae includes only 3 genera and is not yet documented from the Oriental Region (Johnson, 1992).

**Status in India and Kerala :** Rajmohana and Narendran (1996) reported this family for the first time from Kerala, through genus *Phaenoserphus*. This family is known from India by 6 genera namely *Phaenoserphus* Kieffer, *Nothoserphus* Brues, *Codrus* Panzer *Cryptoserphus* Kieffer, *Exallonyx* Kieffer and *Proctotrupes* Latreille (Mani and Sharma, 1980 ; Townes, 1981; Narasimham *et al.*, 1997).

**Remarks :** Though any published data supporting the presence of *Proctotrupes* Latreille in India was not found, the author has come across this genus in entomological collections preserved at various institutes in India. Hence this genus is also included in the key presented here.

## Key to genera of Proctotrupinae from India (Modified from Mani and Sharma, 1982)

1. Head dorsally, extremely transverse; vertex above lateral ocelli, with two thin horn like projections ..... *Nothoserphus* Brues
- Head of normal shape, moderately transverse; vertex without any projections ..... 2
2. Claws simple, fifth tarsal segment of foreleg not swollen ..... 3

— Claws of fore and mid leg forked, bifid or trifid; fifth tarsal segment of foreleg swollen ..... 5

3. Propleura striate; abdomen largely red ..... *Proctotrupes* Latreille

— Propleura without any sculpture; abdomen black or brownish black ..... 4

4. Petiole visible in dorsal view, as long as thick, notauli faintly indicated; tergites 3 to 5 transverse ..... *Phaenoserphus* Kieffer

— Petiole not visible dorsally; notauli often faintly indicated; tergites 3 to 5 elongate ..... *Cryptoserphus* Kieffer

5. Frons with distinct carina between antennal sockets ..... *Codrus* Panzer

— Frons without carina between antennal sockets, atmost with almost imperceptible longitudinal elevation ..... *Exallonyx* Kieffer

## Generic Diagnosis

### 1. Genus *Phaenoserphus* Kieffer (Figs. 58-61)

1951. *Proctotrupes curtippennis* Haliday, designated by Muesebeck and Walkley, Kieffer 1908c, *Andre. Librarie Scietifique* : 289, 298.

1931. *Carabiphagus* Morley : 14. Type : *Proctotrupes laevifrons* Foerster. Synonymized by Nixon (1938b).

**Diagnosis :** Body black. Antenna 13 segmented in both sexes; flagellar segments elongated in males, thicker in females. Mandibles simple. Propleura smooth and partly rugolosopunctate anterioventrally, also with a median sublongitudinal depression near inner margin. Notauli absent. Propodeum reticulately punctate with a long median dorsal longitudinal ridge. Forewing with well distinct pterostigma and radial cell. Petiole distinct and striated. T2 largest and often reaching to over half of metasomal length. Ovipositor curved, compressed and less than half the abdomen.

**Distribution :** Palearctic, Nearctic and Oriental Regions.

*Status in India and Kerala* : Rajmohana and Narendran (1996) reported this genus through 4 species, for the first time in India as well as Kerala.

### Key to Indian species of *Phaenoserphus* Kieffer

1. Males ..... 2
- Females ..... 3
2. Median dorsal ridge on propodeum extending to its tip .....  
... *P. transversus* Rajmohana and Narendran
- Median dorsal ridge on propodeum reaching only 0.7 part of it .....  
..... *P. keralensis* Rajmohana and Narendran
3. Petiole longitudinally striate; pterostigma 2.2x length of radial cell; gena short, 0.53 maximum length of eye .....  
..... *P. sureshi* Rajmohana and Narendran
- Striae on petiole irregular; pterostigma 3.75x length of radial cell; gena long, 0.65x maximum length of eye in AV .....  
..... *P. longigena* Rajmohana and Narendran.

### Species Diagnosis

1. *Phaenoserphus keralensis* Rajmohana and Narendran  
(Fig. 58)

1996. *Phaenoserphus keralensis* Rajmohana and Narendran. *J. Ent. Res.*, 20(1) : 43-51.

Length = 2.91 mm.

*Male* : Head and body shining black. Antennae blackish brown. Wings a little infusate, veins blackish brown. Head not transverse in anterior view. Frons without any striations and punctures. Eyes hairy. Genal carina distinct. OOL = 2xOD. Length of gena = 0.2x eye length. Antenna 13 segmented; scape 2x as long as thick; F1 2.6x as long as thick; F2 2.9x as long as thick, 1.1 of F1; F3 to F10 almost subequal; F11 1.32x F1. Propleura smooth and shiny. Notauli absent. Scutellum with a transverse fovea. Propodeum with mid longitudinal ridge reaching till 0.71 of it; deep distinct punctuations laterally and with indistinct wrinkles dorsally. Pterostigma 4.16x length of radial cell. Petiole as long as thick and

longitudinally striate. T2 basally with abbreviate striations and reaching to 0.68 of abdominal length.

*Female* : Unknown.

*Type locality* : Eravikulam (Idukki, Kerala).

2. *Phaenoserphus transversus* Rajmohana and Narendran  
(Fig. 59)

1996. Rajmohana and Narendran. *J. Ent. Res.*, 20(1) : 43-51.

Length = 2.8 mm

*Male* : Head and body shining black. Antennae blackish brown. Wings a little infusate, veins blackish brown.

Head transverse in anterior view. Frons without any striations and punctures. Eyes hairy. Genal

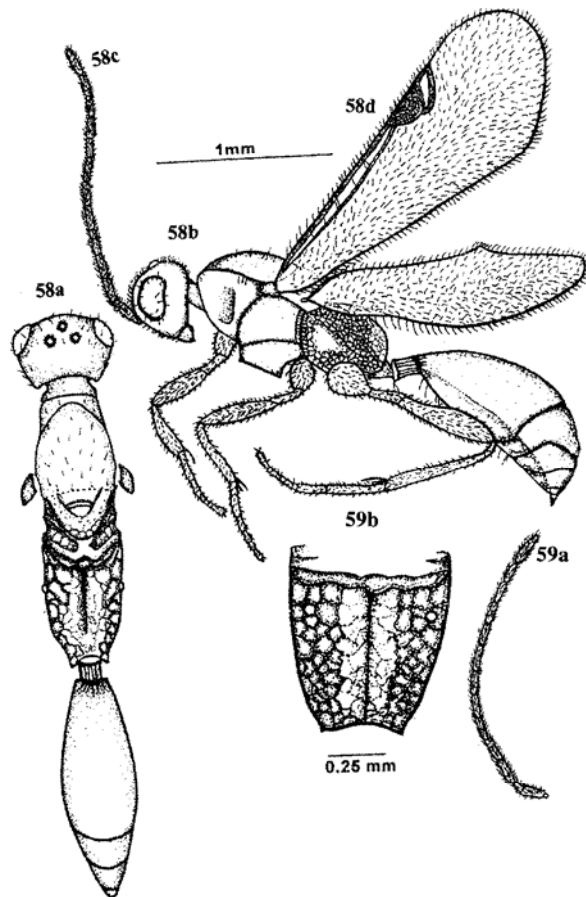


Fig. 58. *Phaenoserphus keralensis* Rajmohana & Narendran sp.nov. a. Body (D.V.); b. Body (Profile); c. Antenna; d. Forewing.

Fig. 59. *Phaenoserphus transversus* Rajmohana & Narendran sp.nov. a. Antenna; b. Propodeum.

carina distinct. Length of gena = 0.29x eye length. OOL = 1.6x OD. Scape 1.9x as long as thick, F1 2.63x as long as thick, 1.31 of scape; F2 0.91 of F1; F3 to F10 subequal. F11 1.24x F1. Propleura smooth. Notauli absent. Median longitudinal ridge on propodeum extending throughout. Pterostigma 4.58x length of radial cell. Petiole as long as thick and longitudinally striate. T2 basally with abbreviate striations. T2 reaching to 0.7 of abdominal length.

*Female* : Unknown.

*Type locality* : Munnar (Idukki, Kerala).

3. *Phaenoserphus longigena* Rajmohana and Narendran  
(Fig. 60)

1996. *Phaenoserphus longigena* Rajmohana and Narendran. *J. Ent. Res.*, 20(1) : 43-51.

Length = 2.78 mm.

*Female* : Head and body shining black. Antennae blackish brown. Wings infusate, veins blackish brown.

Head transverse. Frons smooth. Eyes hairy. Gena very long, 0.65x eye length in anterior view. OOL= 2.7x OD. Scape 1.6x as long as thick, 0.89x F1; F1 2.25x as long as thick and 1.13x scape; F1 to F10 sub equal; F11 2.3x as long as thick; 1.3x F1. Propleura smooth. Notauli absent. Scutellum having a transverse fovea with pits. Petiole with irregular striations. Length of pterostigma 3.75x length of radial cell. T2 only basally striate; T2 reaching 0.73 of abdominal length.

*Male* : Unknown

*Type locality* : Munnar (Idukki, Kerala).

4. *Phaenoserphus sureshi* Rajmohana and Narendran  
(Fig. 61)

1996. *Phaenoserphus sureshi* Rajmohana and Narendran. *J. Ent. Res.*, 20(1) : 43-51

Length = 2.35 mm.

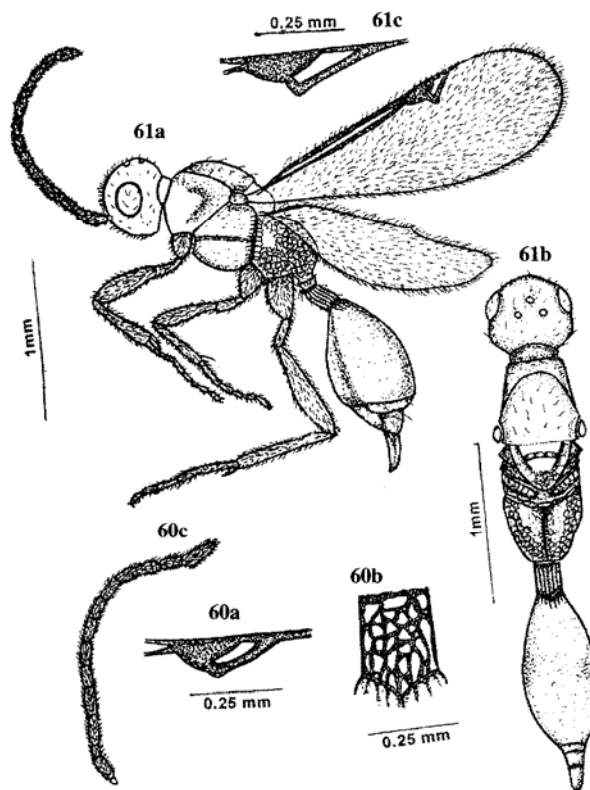


Fig. 60. *Phaenoserphus longigena* Rajmohana & Narendran  
a. Pterostigma; b. Petiole; c. Antenna.

Fig. 61. *Phaenoserphus sureshi* Rajmohana & Narendran  
a. Body (Profile); b. Body (D.V.); c. Pterostigma.

*Female* : Head and body shining black. Antennae blackish brown. Wings infusate, veins blackish brown.

Head transverse. Frons smooth. Eyes hairy. Length of gena 0.53x length of eye in anterior view. OOL=2x as long as thick, 1.45x F1; F1 1.83x as long as thick and 0.69x scape; F2 1.42x F1; F11 2.29x as long as thick and 1.45x F1 and equal to length of scape. Propleura smooth. Notauli absent. Scutellum having a transverse fovea with 3 impressions. Median ridge of propodeum extending to its tip; dorsal median area with pale wrinkles. Length of pterostigma 2.29x length of radial cell. Petiole 1.5x as long as thick and longitudinally striate. T2 only basally striate and reaching 0.8 of abdominal length.

*Male* : Unknown.

*Type locality* : Munnar (Idukki, Kerala).