

TAXONOMIC STUDIES ON INDIAN EPITRANINAE (HYMENOPTERA : CHALCIDIDAE)

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ABSTRACT. Ten species of *Epitranus* Walker (Epitraninae) collected from India are described as new, viz. *perticellus*, *kashmiriensis*, *nigrus*, *acuminatus*, *indicus*, *melogenus*, *giganticus*, *simplexus*, *areolatus* and *rosicorpus*. Species described by Mani and Dubey (1973, 74) under *Anacryptus* Kirby (1834), *Arretocera* Kirby (1834) and *Chalcitella* Westwood (1835) are being treated under *Epitranus* as new combinations. A key to the related species is also given.

Subfamily EPITRANINAE

Antennae inserted just above the clypeal suture; hind tibiae with a terminal spine-like projection; gaster petiolate, petiole not laminate at anterior margin.

Type-genus : *Epitranus* Walker, 1834 (monogeneric).

Epitranus Walker, 1834, was included in the tribe Smicrini by Ashmead (1896). Its antennal insertions, however, refer it to tribe Chalcitellini. *Chalcitella* Westwood (1835) has been sunk in synonymy with *Epitranus* Walker (1834) and the two are isogeneric and the later gets priority; the tribe has been renamed Epitranini (Burks, 1936). Burks elevated the tribe to subfamily Epitraninae in 1951. He also synonymised *Anacryptus* Kirby, 1883; *Arretocera* Kirby, 1883; *Platychalcis* Cameron, 1904; *Arretoceroidella* Girault, 1913; *Chalcitelloides* Girault, 1914 and *Arretoceroides* Girault, 1915 with *Epitranus* Walker. Steffan (1957) endorsed the synonymies proposed by Burks (1951). Habu (1960, '62) synonymised *Neoanacryptus* Girault, 1913; *Paranacryptus* Girault, 1915; *Arretoceroides* Girault, 1915 and *Pararretoceroides* Masi, 1938. Peck *et al.* (1963) incorporated the synonymies proposed earlier. Mani *et al.* (1973, 74) treated *Anacryptus*, *Arretocera* and *Chalcitella* as separate genera under the subfamily Chalcitellinae (now Epitraninae), without giving any reasons for their stand. From the drawings and descriptions given for the species of *Chalcitella*, *Anacryptus* and *Arretocera* by them, these are beyond doubt species of *Epitranus*. It is, therefore, proposed to transfer these species to *Epitranus* as new combinations.

Farooqui (1976) explored the possibility of separating the species of genera *Arretocera* and *Chalcitella* on the basis of their male and female genitalia.

Genus *Epitranus* Walker, 1834

- Chalcitella* Westwood, 1835, *Proc. Zool. Soc.*, London : 70. Type-species : *Chalcitella evanioides* Westwood.
- Anacryptus* Kirby, 1884, *J. Linn. Soc. London*, 17 : 544. Type-species : *Epitranus impulsator* Walker.
- Arretocera* Kirby, 1884, *J. Linn. Soc. London*, 17 : 545. Type-species : *Epitranus albipennis* Walker.
- Arretoceroidella* Girault, 1913, *Arch. Naturg. Jahrg.*, 79A (5) : 86. Type-species: *Arretoceroidella flava* Girault.
- Neoanacryptus* Girault, 1913, *Arch. Naturg. Jahrg.*, 79A (6) : 89. Type-species: *Neoanacryptus petiolatus* Girault.
- Chalcitelloides* Girault, 1914, *Ent. News*, 25 : 30 Type-species: *Chalcitelloides nigriscutum* Girault.
- Paranacryptus* Girault, 1915, *Mem. Queensland Mus.*, 4 : 347. Type-species: *Paranacryptus sanguineus* Girault.
- Arretoceroides* Girault, 1915, *Mem. Queensland Mus.* 4 : 351. Type-species : *Arretoceroides feralis* Girault.
- Pararretoceroides* Mani, 1938, *Cat. Ins.*, 23 : 149. Type-species : *Arretoceroides ceylonensis* Mani.

Genus *Epitranus* Walker can be distinguished from other genera by the following combination of characters : Head strongly contracted below compound eyes in lateral view; pre- and post orbital carinae distinct; antennal sockets placed just above the clypeal suture; wings almost glabrous; post-marginal vein absent; hind femora with one large tooth followed by comb-like teeth or with simple large teeth on outer ventral margin; hind tibiae with a sharp projection at apico-ventral margin; tergite I with basal margin carinated.

Type-species : *Epitranus flavescens* Walker.

Geographical distribution : Cosmopolitan except Australian and Neotropical regions.

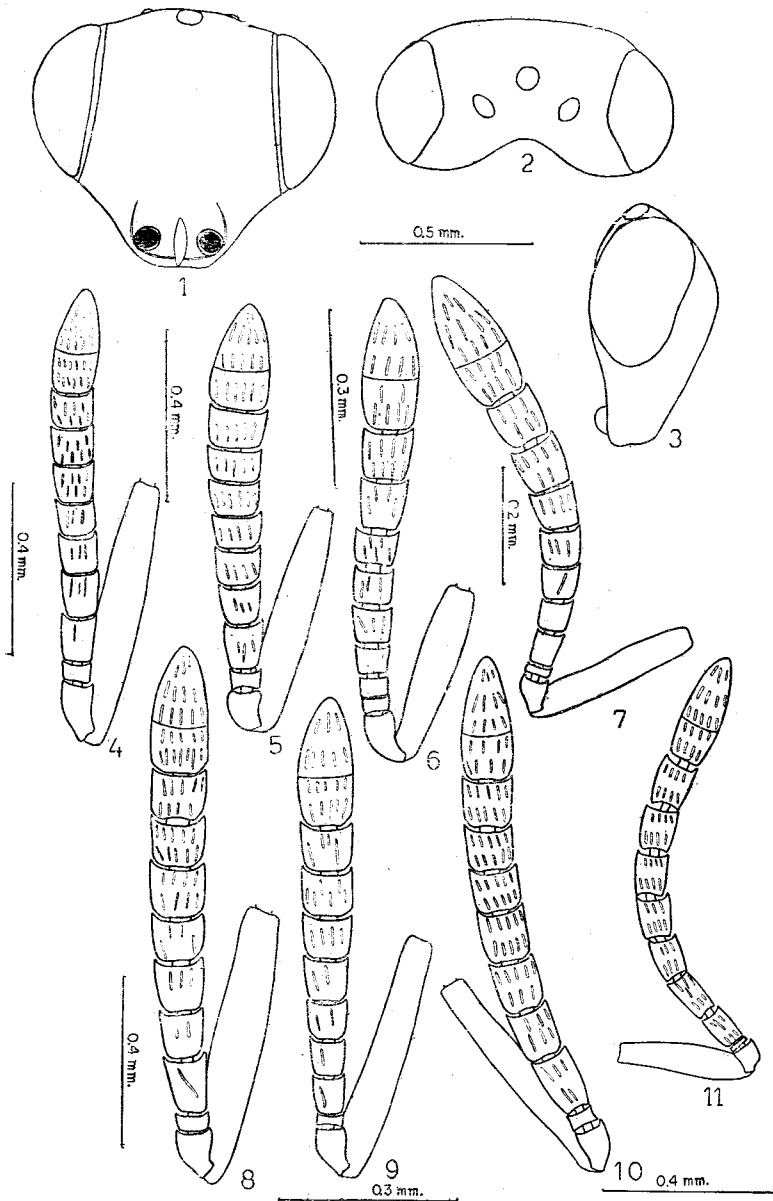
Affinities : Species of this genus show resemblance in general shape of the body and petiole with the species of Chalcidinae, but morphologically they are not so closely related.

Types of the species described here have been deposited with the Department of Zoology, Aligarh Muslim University, Aligarh, India. The proposed new combinations, new species described and other species studied by the authors have been incorporated in the following key to the species of the genus *Epitranus*.

KEY TO SPECIES OF THE GENUS *EPITRANUS* WALKER

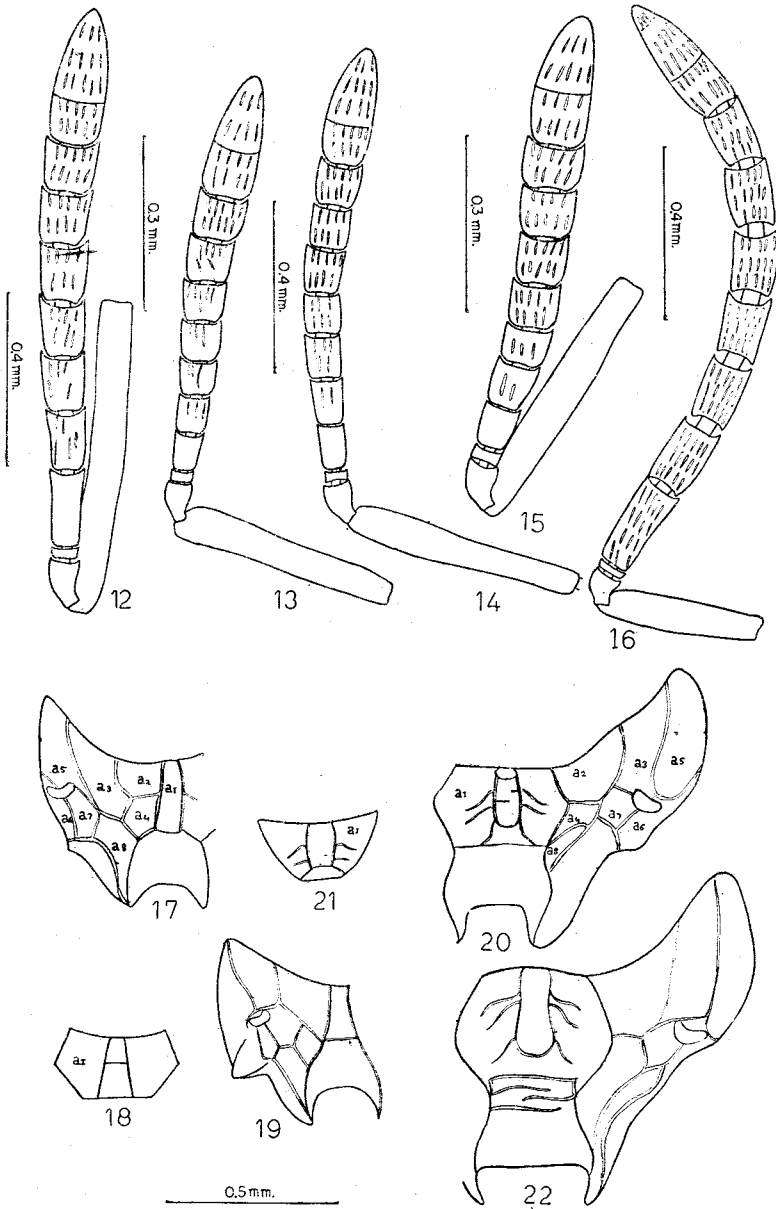
1. Fore wings with reduced venation 2
 Fore wings with normal venation 3
2. Fore wings with base of submarginal visible; antennae 10-segmented without annellus, club massive, unsegmented. Congo-Belge
 *anervosus* Steffan

- Fore wings with marginal vein not well-defined, less than 0.5 as long as submarginal; antennae 11-segmented, club 2-segmented. Japan . . . *shirakii* Habu
3. Hind femora with a series of comb-like teeth 4
Hind femora with simple large teeth 8
4. Clypeus trilobed 5
Clypeus with rounded apex 6
5. Fore wings fumate; lateral costae of propodeum with a recurved tooth. Congo-Belge *emissicius* Steffan
Fore wings hyaline; lateral costae of propodeum with 3 teeth. Japan
. *albipennis* Walker
6. Club distinctly 2-segmented 7
Club distinctly 3-segmented, scape 5 times as long as wide; stigmal vein fairly developed. India *marattensis* (Mani and Dubey), comb. nov.
7. Funicle segments 2-7, subsquare, club shorter than annellus to 4th funicle segment combined; hind femora with 24 teeth. India *perticellus*, sp. nov.
Funicle segments 4-7 wider than long, club as long as annellus to 2nd funicle segment combined; hind femora with 22 teeth. India.
. *kashmiriensis*, sp. nov.
8. Antennae 11-segmented 9
Antennae 12 or 13-segmented, club 2 or 3-segmented respectively 22
9. Stigmal vein reduced as an enlargement of marginal vein parallel to wing margin of fore wings 10
Fore wings with well developed stigmal vein, making an angle of 45° with the wing margin 14
10. First funicle segment shorter than pedicel 11
First funicle segment longer than pedicel 12
11. Scape 4 times as long as wide, petiole 4 times as long as wide; hind femora with 9 teeth. India *borivillia* (Mani and Dubey), comb. nov.
Scape 6 times as long as wide; petiole 5 times as long as wide; hind femora with 8 teeth. India *malabarensis* (Mani and Dubey), comb. nov.
12. Antennae and legs dark 13
Antennae and legs reddish; frontal lobes rounded at apex; interantennal lamellae absent; petiole 5.5 times as long as wide. Urundi (Africa) . . . *opificus* Steffan
13. Club as long as annellus and 1-3 funicle segments combined. Congo-Belge . . .
. *kivuensis* (Schmitz)
Club as long as 1-2 funicle segments combined. India
. *monticola* (Mani and Dubey), comb. nov.
14. Hind femora with 13-20 teeth 15
Hind femora with not more than 10 teeth 16
15. Scape 5.5 times as long as wide; hind femora with 17-20 teeth. Bas-Congo . . .
. *inops* Steffan
Scape 7 times as long as wide; hind femora with 13 teeth. Congo-Belge
. *flicornis* Steffan
16. Antennae dark 17
Antennae reddish-brown 18
17. Scape 7 times as long as wide; petiole 6 times as long as wide; hind femora with 9 teeth. India *annexia* (Mani and Dubey), comb. nov.



Figs. 1-11. Head of *E. acuminatus* : 1, Facial view; 2, Dorsal view; 3, Lateral view. Antenna of : 4, *perticellus* ♀; 5 & 10, *kashmiriensis* ♀ & ♂; 6 & 11, *nigrus* ♀ & ♂; 7, *acuminatus* ♀; 8, *indicus* ♀; 9, *melongenus* ♀.

- Scape 5 times as long as wide; petiole 5 times as long as wide; hind femora with 8 teeth. India *nilamburensis* (Mani and Dubey), comb. nov.
- 18. Tarsal gutter of hind tibiae not extending to the apophyses, if not, tarsal gutter narrow and shoot out towards the internal part of the ventral side of tibiae, in front reaching to apophyses; small species at most 4.5 mm 19
Tarsal gutter of hind tibiae evident, very deep, overall the ventral face of tibiae, the tarsal insertion up to apophyses; large species almost 5 mm 20
- 19. Submedian carinae of propodeum not reaching the cell articulation or very near to cell articulation; areolae a_2 and a_3 separated by a distinct carina; petiole 4 times as long as wide. Congo-Belge *exaltans* Steffan
Submedian carinae of propodeum robust and reaching to cell articulation, areolae a_2 and a_3 confluent, separation of carinae incomplete or absent; petiole 3 times as long as wide. Congo-Belge *incensitus* Steffan
- 20. Head in part reddish, head and thorax on dorsum covered with silken hairs; lateral carinae of pronotum extending to the dorsum of thorax, the region median of pronotum not or little depressed 21
Head and thorax entirely brown, covered with golden hairs; lateral carinae of pronotum on the dorsum form two tubercles with a depression. Congo-Belge *nitidus* (Schmitz)
- 21. Thorax with pronotum reddish-brown; ♀ funicle I subsquare or little wider; ♂ antennae short, flagellum twice longer than scape, first funicle slightly longer than wide; propodeum with submedian carinae incomplete, not reaching to cell articulation; areolae a_2 and a_3 minutely punctured. Congo-Belge *rubricolor* (Schmitz)
Thorax entirely black; ♀ antennae with funicle I slightly longer than wide; ♂ antennae very long, flagellum 3 times longer than scape; funicle I twice longer than wide; propodeum with submedian carinae reaching to cell articulation; areolae a_2 and a_3 shining. Congo-Belge *observator* Walker
- 22. Antennae 13-segmented, club 2-segmented 23
Antennae 12-segmented, club 2-segmented 32
- 23. Males 24
Females 25
- 24. Fore wings with reduced stigmal vein; petiole 6 times as long as thick. India *sancti-johani* (Mani and Dubey), comb. nov.
Fore wings with identical stigmal vein; petiole 6 times as long as thick. India *pallava* (Mani and Dubey), comb. nov.
- 25. Fore wings with identical vein 26
Fore wings with reduced stigmal vein; first funicle shorter than other segment; hind femora with 6 teeth. India. *ultima* (Mani and Dubey), comb. nov.
- 26. Hind femora with 12 teeth 27
Hind femora with not more than 10 teeth 28
- 27. Scape 4 times as long as wide; fore and middle legs reddish in color. India *ambadevia* (Mani and Dubey), comb. nov.
Scape 3 times as long as wide; fore and middle legs brownish black. India *malambarensis* (Mani and Dubey), comb. nov.
- 28. Body ferruginous-brown 29
Body predominantly black 30
- 29. Scape 6 times as long as wide; petiole 5 times as long as wide; hind femora with 8-9 teeth. India *ramnathi* (Mani and Dubey), comb. nov.

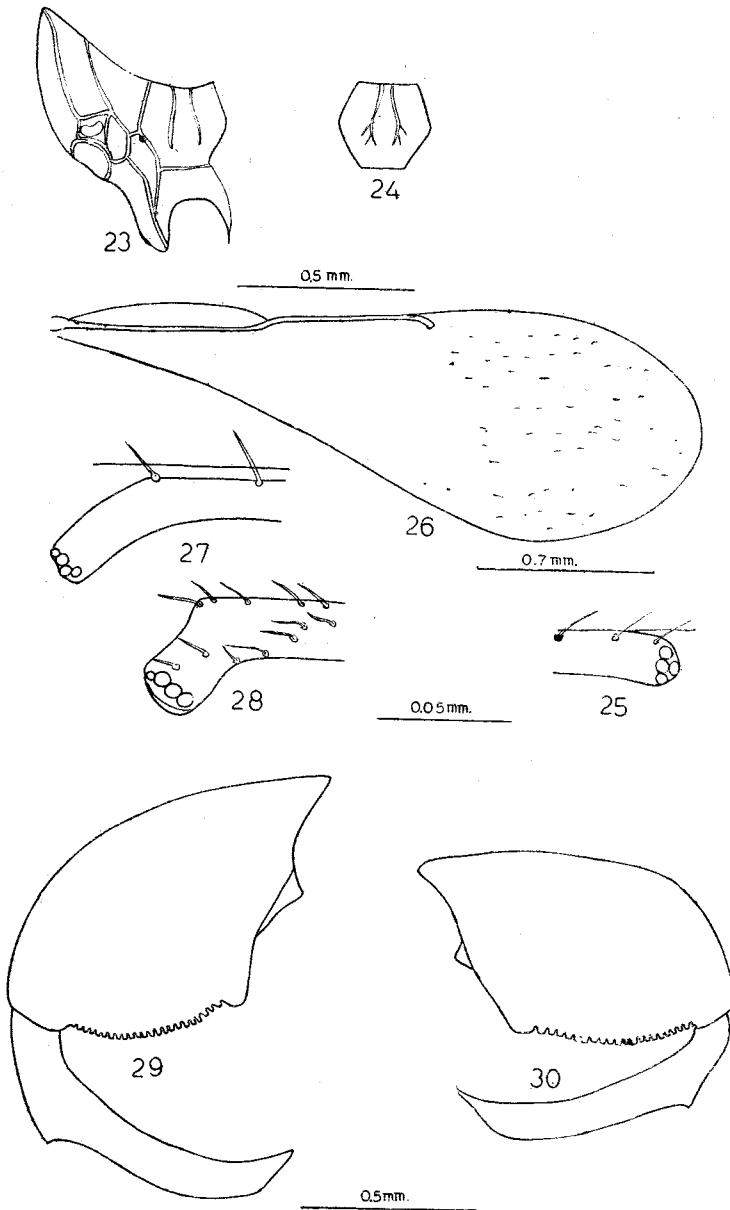


Figs. 12-22. Antenna of : 12, *giganticus* ♀; 13, *simplexus* ♀; 14 & 16, *areolatus* ♀ & ♂; 15, *rossicorpus* ♀; Propodeum (Part) : 17, *perticellus*; 18, *kashmiriensis*; 19, *acuminatus*; 20, *indicus*; 21 *melongenus*; 22, *giganticus*.

- Scape 7 times as long as wide; petiole 3 times as long as wide; hind femora with 10 teeth. India *cawnporensis* (Mani and Dubey), comb. nov.
30. Fore and middle legs black 31
Fore and middle legs reddish-brown; scape 7 times as long as wide; petiole 5.5 times as long as wide; hind femora with 10 teeth. India
. *tanjorensis* (Mani and Dubey), comb. nov.
31. Scape 7 times as long as wide; petiole 4 times as long as wide. India
. *nilamburensis* (Mani and Dubey), comb. nov.
Scape 8 times as long as wide, petiole 6 times as long as wide. India
. *ophiomontana* (Mani and Dubey), comb. nov.
32. Fore wings with well developed stigmal vein making an angle of 45° with the wing margin 33
Fore wings with reduced stigmal vein, only an apical expansion of marginal, parallel to wing margin; first funicle segment transverse; hind femora with 7 teeth. India
. *nigrus*, sp. nov.
33. Propodeum with distinct submedian carinae, reaching the cell articulation with the petiole 34
Propodeum with submedian carinae short, not reaching the cell articulation with the petiole 35
34. Hind coxae black, hind femora brown; scape 5.5 as long as wide, club as long as annellus plus .05 of 5th funicle segment combined; petiole more than 4 times as long as wide. India *acuminatus*, sp. nov.
Hind legs reddish; scape less than 5 times as long as wide, club as long as annellus to 2nd funicle segment combined; petiole 4 times as long as wide. India
. *indicus*, sp. nov.
35. Head reddish 36
Head black; scape 7 times as long as wide, club as long as annellus to 2nd funicle segment combined; hind femora with 9 teeth; ovipositor exerted. India
. *melongenus*, sp. nov.
36. Propodeum with areola a_4 large extending to the articular surface; hind coxae distinctly pitted on ventral surface 37
Propodeum with areola a_4 short, not reaching to articular surface; hind coxae unpitted 38
37. Scape 7.5 times as long as wide; hind femora with 13 teeth; petiole less than 3 times as long as wide. India *giganticus*, sp. nov.
Scape 6 times as long as wide; hind femora with 9 teeth; petiole 4.5 times as long as wide. India *simplexus*, sp. nov.
38. Funicle segments longer than wide; petiole 4 times as long as wide; abdomen dark brown. India *areolatus*, sp. nov.
Funicle segments 1-2 longer than wide, 3-6 subsquare, 7th wider than long; petiole 4.5 times as long as wide; abdomen reddish. India
. *rossicorpus*, sp. nov.

1. *Epitranus perticellus*, sp. nov. (Figs. 4, 17, 29, 39, 49, 53)

Female : Head reddish-brown except eyes, ocelli and occipital area dark; pronotum reddish; mesonotum brown with dark area near sutures and pits on anterior surface of scutum; legs reddish-brown, hind femora dark brown; petiole reddish-brown; abdomen brownish-black, except apical 0.3 reddish with genital apex black.



Figs. 23-30. Propodeum (Part) : 23, *simplexus*; 24, *areolatus*; 25, stigmatal vein of *nigrus*; 26, fore wing of *indicus*; 27, stigmatal vein of *indicus*; 28, stigmatal vein of *aerolatus*; Hind femur & tibia of : 29, *perticellus*; 30, *kashmiriensis*.

Head wider than long in facial view, distinctly wider than thorax with fine sculpture and silvery-white pubescence; pre-orbital carinae distinct; fronto-genal sutures obsolete; clypeus rounded at apex; scrobe cavity unexcavated, rugose, ocelli in obtuse-angled triangle; maxillary and labial palpi 4 and 3-segmented respectively. Antennae (Fig. 4) with scape about 6 times as long as wide (0.61 : 0.1), as long as pedicel to 5th funicle segment combined; annellus transverse, first funicle 1.5 times as long as wide, 2-7 as long as wide with increase in length and width distad; club 2-segmented, 2.5 times as long as wide (0.34 : 0.1), as long as annellus and half of funicle segment combined. Thorax compactly pitted, interspaces of pits narrow and carinated on pronotum, more wider and smooth on scutellum, with silvery-white pubescence; propodeum with submedian, sublateral and accessorial carinae distinct (Fig. 17). Fore wings hyaline, almost glabrous, less than 3 times as long as wide (2.38 : 0.85), stigma well formed, making an angle of 45° with the wing margin. Hind wings hyaline, almost 3.5 times as long as wide; marginal fringe short. Hind legs covered with silvery-white pubescence, coxae on inner surface with compactly arranged pits, femora less than twice as long as wide, outer-ventral margin with a robust tooth followed by 23 small teeth (Fig. 29). Petiole slightly more than 3 times as long as wide, with 3 longitudinal carinae on dorsum.

Gaster (Fig. 39) acuminate at apex, sparsely setose, densely microsculptured, tergite I covers about 0.67 of gaster; ovipositor slightly exerted; subgenital plate with two lateral horns on anterior margin, posterior margin with a small notch in the middle, followed by sublateral carinae (Fig. 49); first valvifers subtriangular with basal and apical angles at different levels, second valvifers long, narrow in the middle, broad at both ends, third valvulae long, almost of uniform thickness, movably articulated with second valvifers, outer plates of ovipositor narrow and truncated at base, narrowly rounded at apex, with a thick muscular ridge on ventral margin (Fig. 53).

Male : Unknown.

Length : Female, 3.54 mm.

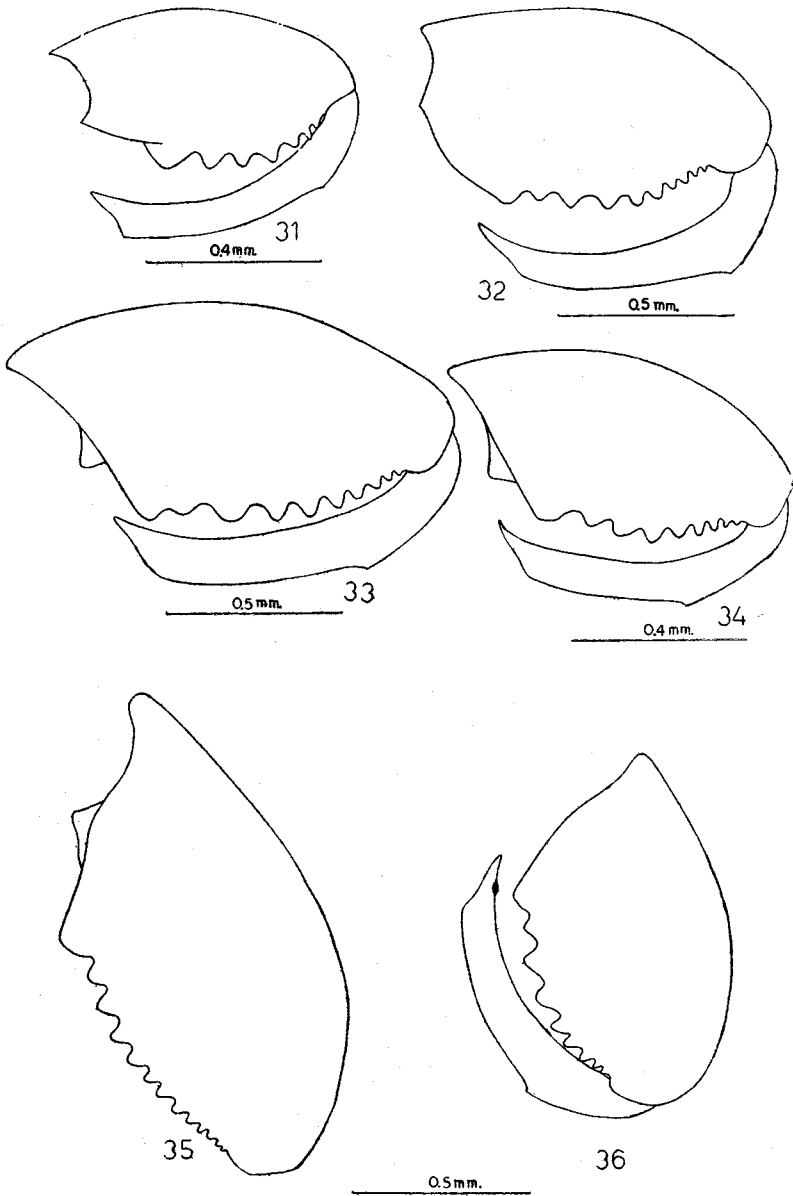
Holotype ♀, INDIA : UTTAR PRADESH : Aligarh, ex *Euzophera perticella* Rag. on *Solanum melongena* L., 5. vii. 1979, Coll. Tasawwer Husain, Cat. No. C-1.

E. perticellus, sp. nov. differs from the closely related species *E. marattensis* (Mani and Dubey) in having 2-segmented club, funicle segments subsquare, scape 6 times as long as wide and hind femora with 24 teeth.

2. *Epitranus kashmiriensis*, sp. nov. (Figs. 5, 10, 18, 37, 40)

This species differs from *E. perticellus* in the following characters :

Female : Head dark brown except reddish on parascrobal and ocellar areas, antennae and pronotum reddish, mesonotum ferruginous red with furrows along the sides of sutures and pits dark, propodeum reddish-brown, fore and middle legs reddish-brown, hind coxae brownish-black on dorsal surface, ventral surface reddish, femora predominantly dark, abdomen reddish, slightly brown on dorsum.



Figs. 31-36. Hind femur and tibia of : 31, *nigrus*; 32, *acuminatus*; 33, *indicus*; 34, *melongenus*; 35, *giganticus*; 36, *simplexus*.

Antennae (Fig. 5). Scape short, not reaching to front ocellus, 6 times as long as wide (0.53 : 0.1), as long as pedicel to 0.5 of 5th funicle combined; pedicel longer than wide; annellus transverse; 1st funicle longer than wide (0.11 : 0.09), 2-3 subsquare, 4-7 wider than long with increase in width distad; club 2-segmented, less than two times as long as wide (0.24 : 0.15), as long as annellus to 2nd funicle combined. Mesonotum of thorax with moderate pits, interspaces of pits as wide as diameter of pits; propodeum without tooth on lateral costae (Fig. 18). Outer-ventral margin of hind femora with a robust tooth followed by 21 short teeth (Fig. 30).

Gaster (Fig. 40) acuminate at apex, almost glabrous, only with few sparse setae, tergite I covers more than 0.67 of gaster.

Male : differs from female in the following characters : Antennae (Fig. 10). Scape more than 6 times as long as wide (0.54 : 0.08), as long as pedicel to 0.5 of 4th funicle combined, 1-4 funicle longer than wide, 5-7 as long as wide, club more than twice as long as wide (0.28 : 12), as long as preceding two funicle combined.

Length : Female, 3.25 mm; Male, 3.2 mm.

Holotype ♀, INDIA : J & K : Srinagar, 18. iii. 1976; *Allotype* ♂, A.P. : Hyderabad, 5. vii. 1977 and *Paratypes* : 7 ♀♀, 2 ♂♂, U.P. : Aligarh, 10.vii. 1976, Coll. Tasawwer Husain, Cat. No. a-2.

3. *Epitranus nigrus*, sp. nov. (Figs. 6, 11, 25, 31, 41, 50, 54)

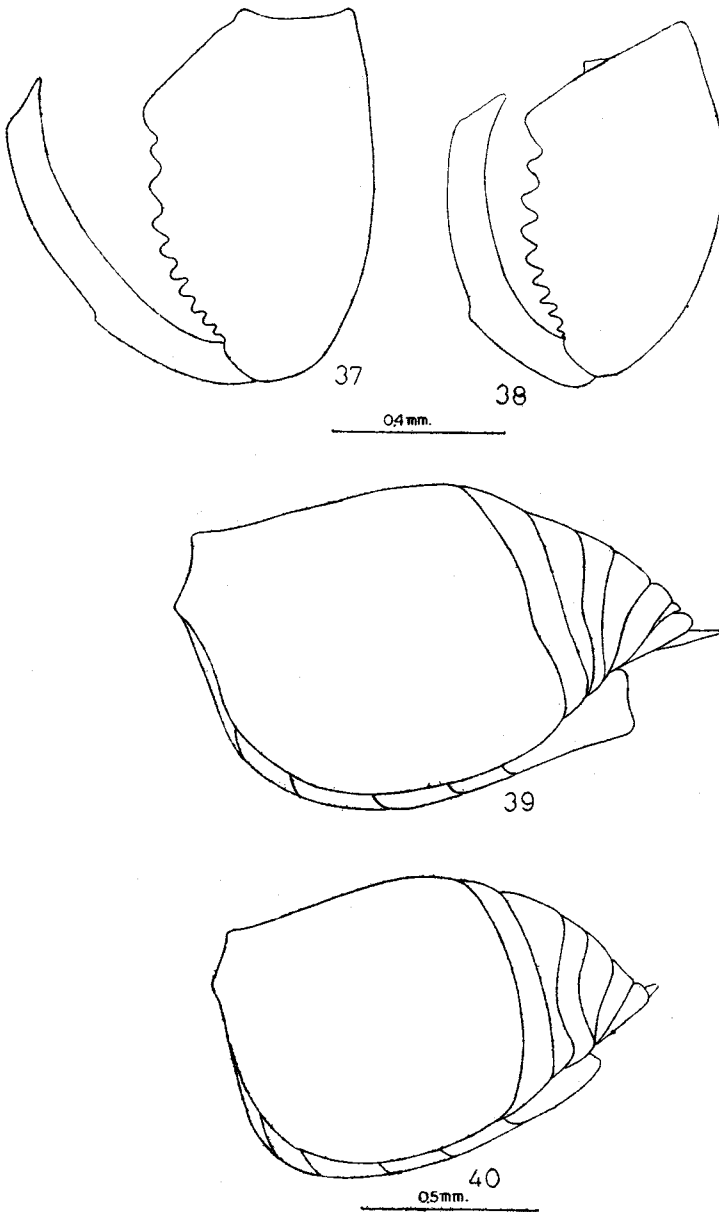
Female differs from *E. perticellus* in the following characters : Head black, antennae yellowish-red, thorax black, tegulae reddish-brown, wings hyaline, fore and middle legs orange-yellow, hind legs brownish-black, petiole brownish-black, abdomen black.

Antennal scape (Fig. 6) about 4.5 times as long as wide (0.31 : 0.07) as long as pedicel to 5th funicle combined; pedicel longer than wide (0.08 : 0.05); ring segment twice wider than long, 3-7 as long as wide; club 2-segmented, 2.5 times as long as wide (0.22 : 0.09), shorter than ring to 4th funicle combined. Thorax with a robust tooth on lateral costae of propodeum. Fore wings about 3 times as long as wide (1.82 : 0.6), marginal shorter than submarginal, stigmal reduced (Fig. 25). Hind coxae as long as hind femora, hind femora less than twice as long as wide, outer-ventral margin with a robust tooth followed by 6 short teeth (Fig. 31). Petiole 4 times as long as wide.

Gaster (Fig. 41). Tergite I covers 0.75 of gaster, emarginate on dorsum; subgenital plate and ovipositor as shown in Figs. 50 & 54 respectively.

Male : Differs from female in the following characters : Antennal scape (Fig. 11) 4 times as long as wide (0.33 : 0.08); pedicel subsquare; funicle segment slonger than wide with decrease in length distad, club about 3 times as long as wide (0.25 : 0.09), shorter than annellus to 3rd funicle combined.

Length : Female, 2.39 mm; Male, 2.35 mm.



Figs. 37-40. Hind femora and tibia of : 37, *areolatus*; 38, *rossicorpus*; Gaster of : 39, *perticellus*; 40, *kashmiriensis*.

Holotype ♀, INDIA : A.P. : Hyderabad, 20. iii. 1976, Coll. T.H., Cat. No. H.I. *Allotype* ♂, same data as for holotype.

4. *Epitranus acuminatus*, sp. nov. (Figs. 1-3, 7, 19, 32, 42, 51, 55)

Female differs from *E. perticellus* in having the following characters : Head black, antennae reddish, thorax black, tegulae reddish, fore and middle legs reddish, hind coxae brownish black, hind femora predominantly brown, tibiae reddish, tarsi orange-yellow, petiole reddish-brown, tergite I predominantly black, 2-7 reddish.

Head as shown in Figs. 1-3. Antennae (Fig. 7). Scape about 5.5 times as long as wide (0.30 : 0.55), as long as pedicel to half of 5th funicle segment combined; pedicel slightly longer than wide; annellus transverse, funicle segments subsquare with increase in length distad; club 2.5 times as long as wide (0.24 : 0.1), as long as annellus and half of 5th funicle combined. Propodeum as in Fig. 19. Hind femora about twice as long as wide, outer-ventral margin with a robust tooth followed by 9 small teeth (Fig. 32). Petiole less than 4 times as long as wide.

Gaster (Fig. 42) almost glabrous, Tergite I with few sparse setae, deeply emarginate on posterior margin, covers about 0.75 of gaster; subgenital plate and ovipositor as shown in Figs. 51 and 55 respectively.

Male : Unknown.

Length : Female, 3.34 mm.

Holotype ♀, INDIA : U.P. : Aligarh, ex *Chilo simplex* Butl. on *Zea mays* L., 1. iv. 1979, Coll. T.H., Cat. No. a-1. *Paratypes* : 2♀♀, same data as for holotype.

5. *Epitranus indicus*, sp. nov. (Figs. 8, 20, 26, 27, 33, 43)

Female differs from *E. perticellus* in the following characters : Head predominantly black except ventral surface of frons, clypeus, eyes and ocelli being reddish, antennae reddish; pronotum and mesonotum reddish except apex of scutellum and a narrow strip anterior of propodeum dark, episternum black, legs reddish, petiole reddish, abdomen black.

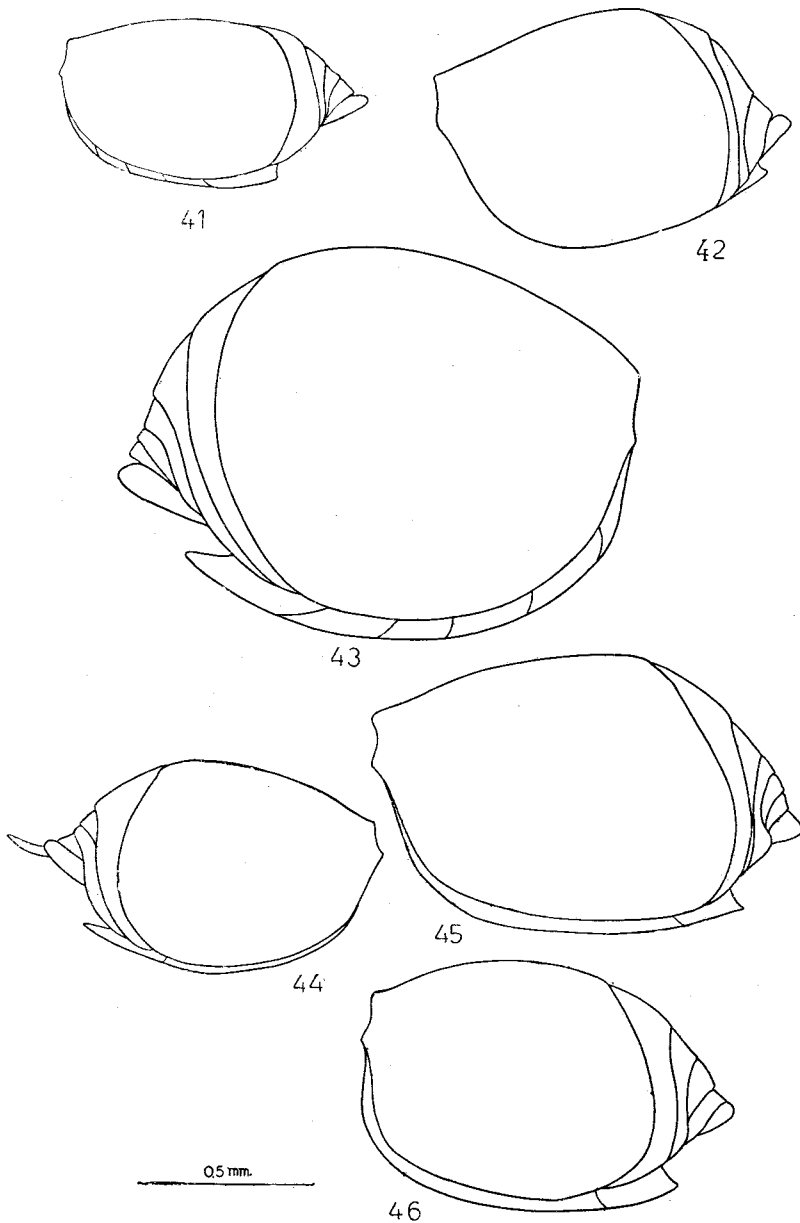
Antennae (Fig. 8). Scape 5.5 times as long as wide (0.65 : 0.12), as long as pedicel to 4th funicle combined; pedicel longer than wide; annellus transverse; 1-3 funicle longer than wide, 4-7 subsquare; club more than twice longer than wide (0.3 : 0.14), as long as annellus to 2nd funicle combined. Propodeum as in Fig. 20. Forewings about 3 times as long as wide, stigmal vein well formed (Figs. 26-27). Hind femora more than twice as long as wide, outer-ventral margin with 1+9 teeth, second tooth short (Fig. 33). Petiole 4 times as long as wide.

Gaster (Fig. 43) subacuminate at apex, densely sculptured with very few scattered setae, tergite I covers about 0.75 of gaster.

Male : Unknown.

Length : Female, 3.65 mm.

Holotype ♀, INDIA : U.P. : Aligarh, ex *Leucinodes orbonalis* Guen. on *Solanum melongena* L., 10. ii. 1979, Coll. T.H. Cat. No. a-4.



Figs. 41-46. Gaster of : 41, *nigrus*; 42, *acuminatus*; 43, *indicus*; 44, *melongenensis*; 45, *simplexus*; 46, *rossicorpus*.

6. *Epitranus melongenus*, sp. nov. (Figs. 9, 21, 34, 44)

Female differs from *E. perticellus* in the following characters : Head black except clypeus and ventral region of frons being reddish, eyes and ocelli brown, pronotum reddish-yellow, mesonotum and propodeum dark brown, tegulae reddish, hind coxae black at basal 0.67, apex reddish-brown, hind femora blackish-brown, tibiae and tarsi orange-yellow, petiole reddish-brown, abdomen black.

Antennae (Fig. 9). Scape 7 times as long as wide (0.42 : 0.06), as long as pedicel to 5th funicle combined; pedicel longer than wide (0.07 : 0.05); 1-2 funicle longer than wide, 3-7 as long as wide; club more than twice as long as wide (0.22 : 0.09), as long as annellus to 3rd funicle combined. Areola a_1 of propodeum as shown in Fig. 21. Hind femora slightly more than twice as long as wide, outer-ventral margin with 1+8 teeth (Fig. 34).

Gaster (Fig. 44) acuminate at apex, almost glabrous, minutely densely punctate, tergite I covers more than 0.75 of gaster, ovipositor exerted.

Male : Unknown.

Length : Female, 2.45 mm.

Holotype ♀, INDIA : U.P. : Aligarh, ex *Leucinodes orbonalis* Guen. on *Solanum melongena* L., 6. xii. 1979, Coll. T.H., Cat. No. a-5.

7. *Epitranus giganticus*, sp. nov. (Figs. 12, 22, 35, 47)

Female differs from *E. perticellus* in the following characters : Head reddish except eyes, occipital region and ocelli brownish-black, antennae reddish, thorax ferruginous, propodeum red except areola a_1 dark, legs reddish, petiole reddish-brown, abdomen black.

Antennae (Fig. 12). Scape 7.5 times as long as wide (0.60 : 0.08), as long as pedicel to 4th funicle combined, pedicel longer than wide, annellus transverse, funicle I about twice as long as wide, 2-7 distinctly longer than wide, club less than 3 times as long as wide (0.32 : 0.13), as long as annellus to 2nd funicle combined. Propodeum as in Fig. 22. Hind femora nearly twice as long as wide, outer-ventral margin with 1-12 teeth (Fig. 35). Petiole slightly less than 3 times as long as wide.

Gaster (Fig. 48) acuminate at apex, almost glabrous, tergite I covers 0.67 of gaster.

Male : Unknown.

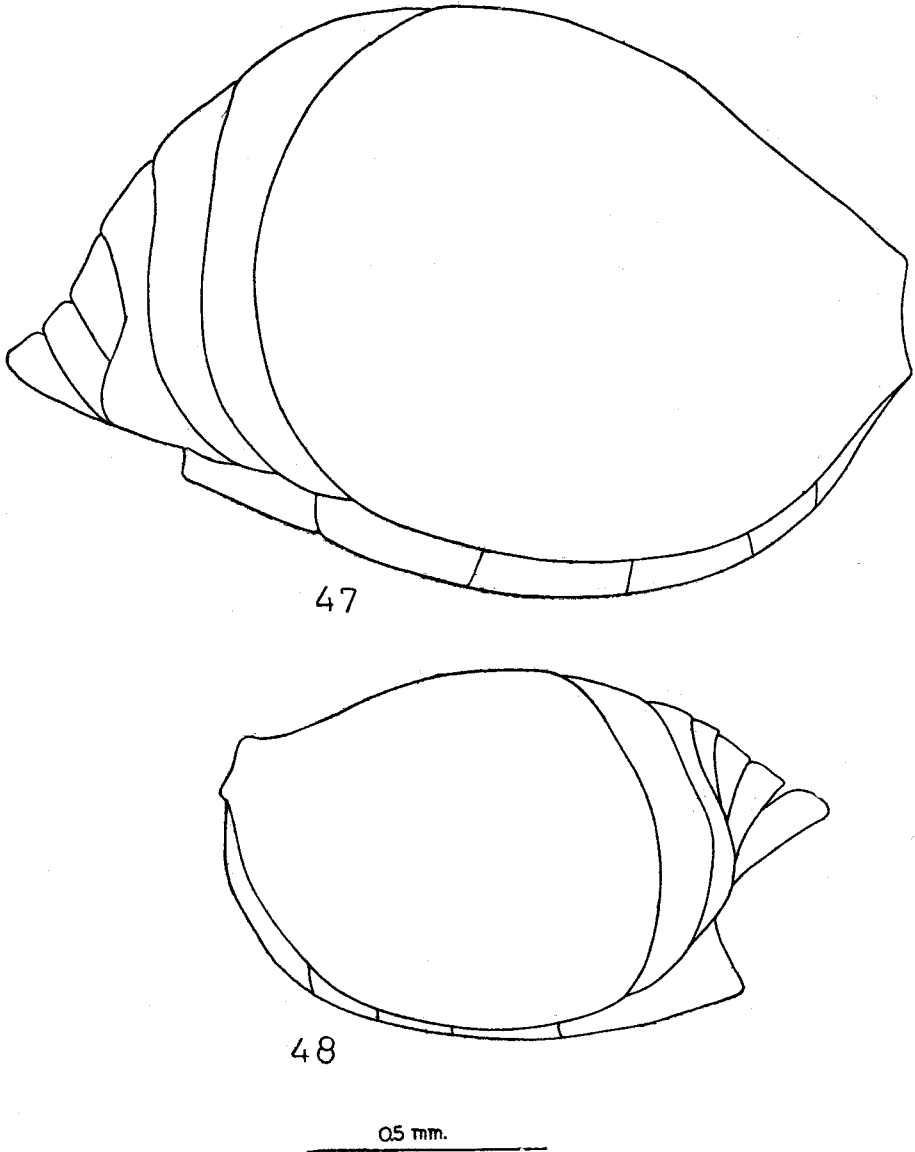
Length : Female, 4.1 mm.

Holotype ♀, INDIA : U.P. : Aligarh, ex *Leucinodes orbonalis* Guen. on *Solanum melongena* L., 8. xii. 1979, Coll. T.H., Cat. No. C-2.

8. *Epitranus simplexus*, sp. nov. (Figs. 13, 23, 36, 45)

Female differs from *E. perticellus* in the following characters : Head reddish, eyes and ocelli brown, antennae reddish-yellow, thorax reddish, propodeum reddish-brown, legs reddish, hind coxae and hind femora slightly brown, petiole reddish, gaster reddish somewhat dark on dorsum.

Antennae (Fig. 13). Scape 6 times as long as wide (0.41 : 0.07), shorter than pedicel to 5th funicle segment combined, pedicel 1.5 times as long as wide



Figs. 47-48. Gaster of : 47, *giganticus*; 48, *areolatus*.

(0.09 : 0.06); annellus transverse; 1-2 funicle longer than wide, 3-7 as long as wide, club less than 3 times as long as wide (0.21 : 0.09), as long as annellus to 3rd funicle combined. Propodeum as shown in Fig. 23. Hind femora less than twice as long as wide, outer-ventral margin with 1+8 teeth, second tooth short (Fig 36). Petiole 4.5 times as long as wide.

Gaster (Fig. 45) subacuminate at apex, almost glabrous only with few sparse setae, tergite I covers 0.67 gaster,

Male : Unknown.

Length : Female, 2.9 mm.

Holotype ♀, INDIA : U.P. : Aligarh, ex *Chilo simplex* Butl. on *Zea mays* L., 10. vi. 1979, Coll. T.H. Cat. No. a-7.

9. *Epitranus areolatus*, sp. nov. (Figs. 14, 16, 24, 28, 37, 48, 52, 56)

Female differs from *E. perticellus* in the following characters : Head reddish except scrobe cavity, occipital region and eyes brown, antennae reddish, pronotum reddish, mesonotum and propodeum light brown, tegulae reddish, legs and petiole reddish-brown, abdomen dark brown with base reddish-brown.

Antennae (Fig. 14). Scape 7 times as long as wide (0.53 : 0.08), as long as pedicel to 4th funicle combined; pedicel slightly longer than wide; annellus twice wider than long; funicle I 1.5 times as long as wide, 2-7 longer than wide with decrease in length distad; club more than twice as long as wide (0.27 : 0.11) less than annellus to 3rd funicle combined. Areola of propodeum as shown in Fig. 24. Fore wings less than 3 times as long as wide (2.0 : 0.75), stigmal vein as shown in Fig. 28. Hind femora 1.5 times as long as wide, outer-ventral margin with 1+9 teeth (Fig. 37). Petiole 4 times as long as wide.

Gaster (Fig. 48) acuminate at apex, almost glabrous, tergite I covers more than 0.75 of gaster; subgenital plate and ovipositor as shown in Figs. 52 and 56.

Male resembles female except for the following characters : Antennae (Fig. 16). Scape short, 5 times as long as wide (0.39 : 0.08), as long as pedicel to 0.5 of 2nd funicle combined; pedicel slightly longer than wide, 3rd 1.5 times, 4-7 longer than wide; club 3 times as long as wide, as long as annellus to half of 2nd funicle combined.

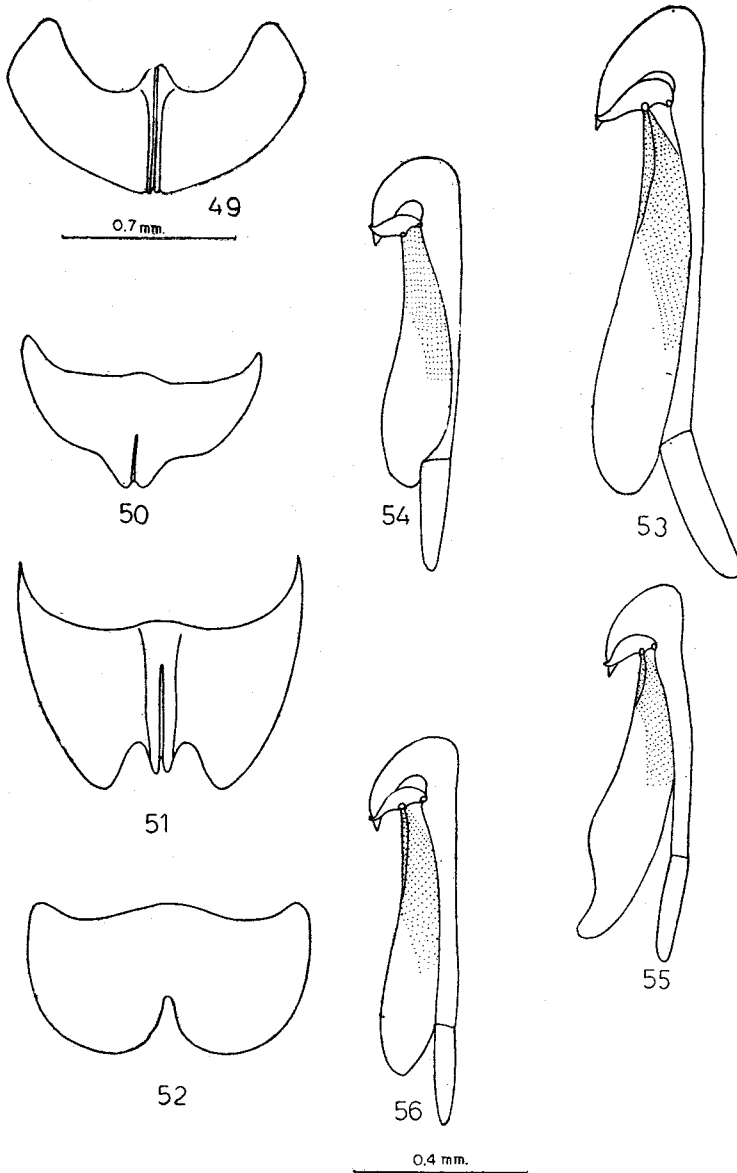
Length : Female, 3.56 mm. Male, 3.35 mm.

Holotype ♀, INDIA : U.P. : Aligarh, ex *Leucinodes orbonalis* Guen. on *Solanum melongena* L., 8. viii. 1978, Coll. T.H., Cat. No. a-3. *Allotype* ♂ and *Paratypes* : 2♀♀. Data same as for holotype.

10. *Epitranus rossicorpus*, sp. nov. (Figs. 15, 38, 46)

Female differs from *E. perticellus* in the following characters : Head reddish except eyes brown, ocelli yellowish, occipital region dark; antennae reddish; pronotum reddish, mesonotum reddish somewhat dark on scutellum propodeum dark in the middle; legs reddish, hind coxae and hind femora somewhat brown on dorsum; abdomen reddish.

Antennae (Fig. 15) : Scape 7 times as long as wide (0.47 : 0.07), shorter than pedicel to 5th funicle combined; 1-2 funicle longer than wide, 3-6 as long as wide, 7th wider than long; club more than twice as long as wide (0.23 : 0.1), as long as annellus to 3rd funicle combined. Hind femora less than twice as long as



Figs. 49-56. Subgenital plate of : 49, *perticellus*; 50, *nigrus*; 51, *acuminatus*; 52, *areolatus*; Ovipositor of ; 53, *perticellus*; 54, *nigrus*; 55, *acuminatus*; 56, *areolatus*.

wide, outer-ventral margin with 1+9 teeth, second tooth short. Petiole 4.5 times as long as wide.

Gaster (Fig. 46) acuminate at apex, almost glabrous, only with few sparse setae, tergite I covers 0.75 of gaster.

Male : Unknown.

Length : Female, 2.55 mm.

Holotype ♀, INDIA : U.P. : Aligarh, ex *Leucinodes orbonalis* Guen. on *Solanum melongena* L., 10. v. 1979, Coll. T.H., Cat. No. a-6.

Genera *Anacryptus* Kirby (1834), *Arretocera* Kirby (1834) and *Chalcitella* Westwood (1835) are synonyms of *Epitranus* Walker (1834). Species described under these genera by Mani & Dubey (1973, 74) are being transferred to *Epitranus* Walker as proposed new combinations.

11. *Epitranus marattensis* (Mani & Dubey), comb. nov.
(= *Anacryptus marattensis* Mani & Dubey, *In* Mani, Dubey, Kaul and Saraswat, 1973, *Mem. Sch. Ent. St. John. Coll. Agra*, 2 : 31).
12. *Epitranus cawnporensis* (Mani & Dubey), comb. nov.
(= *Anacryptus cawnporensis* Mani & Dubey, 1973).
13. *Epitranus borivilia* (Mani & Dubey), comb. nov.
(= *Chalcitella borivilia* Mani & Dubey, 1973).
14. *Epitranus malambarensis* (Mani & Dubey), comb. nov.
(= *Chalcitella malambarensis* Mani & Dubey, 1974).
15. *Epitranus monticola* (Mani & Dubey), comb. nov.
(= *Chalcitella monticola* Mani & Dubey, 1973).
16. *Epitranus annexia* (Mani & Dubey), comb. nov.
(= *Chalcitella annexia* Mani & Dubey, 1973).
17. *Epitranus nilamburensis* (Mani & Dubey), comb. nov.
(= *Chalcitella nilamburensis* Mani & Dubey, 1974).
18. *Epitranus sancti-johani* (Mani & Dubey), comb. nov.
(= *Arretocera sancti-johani* Mani & Dubey, 1973).
19. *Epitranus pallava* (Mani & Dubey), comb. nov.
(= *Arretocera pallava* Mani & Dubey, 1973).
20. *Epitranus ultima* (Mani & Dubey), comb. nov.
(= *Arretocera ultima* Mani & Dubey, 1973).
21. *Epitranus ambadevia* (Mani & Dubey), comb. nov.
(= *Arretocera ambadevia* Mani & Dubey, 1973).
22. *Epitranus malambarensis* (Mani & Dubey), comb. nov.
(= *Arretocera malambarensis* Mani & Dubey, 1974).
23. (*Epitranus ramnathi* (Mani & Dubey), comb. nov.
(= *Arretocera ramnathi* Mani & Dubey, 1973).
24. *Epitranus tanjorensis* (Mani & Dubey), comb. nov.
(= *Arretocera tanjorensis* Mani & Dubey, 1973).

25. *Epitranus nilamburensis* (Mani & Dubey), comb. nov.
(= *Arretocera nilamburensis* Mani & Dubey, 1973).
26. *Epitranus ophiomontana* Mani & Dubey), comb. nov.
(= *Arretocera ophiomontana* Mani & Dubey, 1973).

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