

Records of the Zoological Survey of India

**Descriptions of Some New and Records of Some Known
Proctotrupoidea (Hymenoptera) from
Garhwal Himalayas, India**

M. K. MUKERJEE

Zoological Survey of India

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OCCASIONAL PAPER NO.163

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by

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DESCRIPTIONS OF SOME NEW AND RECORDS OF SOME KNOWN
PROCTOTRUPOIDEA (HYMENOPTERA) FROM
GARHWAL HIMALAYAS, INDIA

By

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INTRODUCTION

This paper contains a report of my studies on a collection of Proctotrupeoidea with the help of grants from the University Grants Commission, New Delhi. The following genera are being reported for the first time from India: *Palpoteleia* Kieffer, *Cremastobaeus* Ashmead, *Neoscelio* Dodd, *Mirotelenomus* Dodd and *Duta* Nixon. The following little known species are recorded from new localities: *Scelio calcuttaensis* Mani, *Anteromorpha deccanensis* Sharma, *Macroteleia indica* Sharma, *Macroteleia lamba* Saraswat and *Idris sanctijohani* Mukerjee.

Specimens including types, are retained for the present in the Department of Zoology, Government Post-Graduate College, Rishikesh, pending disposal in national type collections.

Family SCELIONIDAE

Subfamily SCELIONINAE

Tribe SCELIONINI

1. *Scelio Calcuttaensis* Mani

This species was originally described by Dr. M. S. Mani (1936). I have before me

one example of female mounted on card (antenna and a pair of wings on slide) labelled as "Agastyamuni (Chamoli), Coll. M. K. Mukerjee, 21.x.1982.

The specimen before me fully agrees with that of the type specimen. Length 3.66 mm.

Tribe BARYCONINI

2. *Baryconus dunensis* n. sp.

(Fig. 1)

Male: Length 2.55 mm. general colour of body black; head black; eyes brown; mandibles reddish-brown with darker teeth; antenna black except for the reddish-brown radicle; mesosoma black; legs reddish-brown except for the black coxae; wings clear, veins brown, *sm* in hind wings light brown; metasoma black.

Head from above length to width 9.5: 16; vertex rounded, vertex and temples with large, irregular, deep setigerous punctae, very fine reticulations in between the punctae; occipital border with backwardly directed, moderately long silvery-white hairs, with a row of small, shallow, contiguous punctae; eyes bulging, perfectly bare; head posterolaterally with a short blunt projection; posterior ocelli distant from inner orbit by less than its own diameter; POL; LOL;-5: 3; head in lateral view (Fig. 1A) length to height 11: 15; vertex and temples clothed with dense silvery-white hairs; interantennal process rather long. projecting; eyes oval, with small ommatidia, length to height 6.5: 8.5; eye height to malar space 8.5: 5; malar sulcus shallow, narrow; occipital carina crenulate; head just below eye, in front of malar sulcus with a shallow subtriangular depression as shown in figure; head behind eyes and malar sulcus very finely reticulate, and with close, shallow, indistinct punctae except in the upper about 0.25, the punctae too with fine reticulations; head close to the occipital carina in the upper part with transverse, moderately strong carinae extending upto a little behind the posterior orbital line; head in front view length to width 15: 16; frons with a deep depression margined all around by a sharp keel, the depression with a series of transverse carinae, the rest of frons and genae with large, contiguous, deep setigerous punctae, the punctae separated by sharp carinae; totuli close to the clypeal border; head ventrolaterally slightly protruding; clypeus short; not projecting ventrolaterally; scape to interorbital space 21: 20 *Antenna* (Fig. 1B) with A1 to radicle as 21: 3; scape slender, thickened in the middle, subequal to the following 3 segments combined; A5 with a short angular projection as shown in figure; antennomers in proportions 21: 4.5; 6: 4; 8: 5.5; 8: 6; 8: 7; 7.5: 7; 7.5: 7; 7.5: 7; 7.5: 7; 7.5: 6.8; 7.5: 6; 11: 5.

Mesosoma from above almost as wide as head (17: 16); slightly longer than wide (20: 17); pronotum well visible laterally, with long hairs; notauli complete, deep, wider

behind, gradually becoming narrow anteriorly, widely separated from each other behind; median furrow on mesoscutum replaced by a row of large, deep, contiguous setigerous punctae; mesoscutum finely reticulate, matt with scattered, shallow, moderately large contiguous punctae; mesoscutum behind, between last median depression and the notauli with 3 moderately large, deep setigerous punctae on either side arranged linearly one behind the other; scutellum semicircular, with large deep, contiguous setigerous punctae; metanotum transverse with a row of deep close punctae, armed with a median short blunt tooth; metanotum unarmed laterally; mesoscutum, scutellum and metanotum lengths ratio 11: 6: 1.5; propodeum densely hairy, appearing smooth, slightly excavated posteromedially, posterolaterally with a blunt, short bulge; mesosoma in lateral view (Fig. 1A) slightly wider than high (17: 15.5); length to height 21: 15.5; skaphion absent; anterior border of propleurae with a series of close, deep depressions, the posterior border with 4 large deep polygons, the second from above being the largest, propleurae otherwise matt with leathery sculpture; a narrow groove extending between tegula to fore coxa, i.e. prepectus absent; mesopleurae with long backwardly directed dense silvery-white hairs; anterior border of mesopleurae with a row of rounded, minute, contiguous setigerous punctae; anterior about 0.50 of mesopleurae with moderately large, irregular setigerous punctae, the posterior 0.50 matt, with leathery sculpture; mesopleural depression deep, with transverse striations extending from the anterior to the posterior border; metapleurae more densely hairy, with small, deep, contiguous setigerous punctae anteriorly in the upper about 0.40, otherwise matt with leathery sculpture; metanotal tooth as shown in figure. *Fore wing* (Fig. 1 C&D) to body 120: 166; length to width 120: 50; $m: pm: st=2.5: 32: 12.5$ *Hind wing* (Fig. 1E) marginal fringe short.

Metasoma from above length to width 30: 13; T1 and T2 with strong longitudinal striations extending throughout their lengths; T3 longest, with weak longitudinal striations and minute, scattered punctae; following tergites reticulate, matt with small, rounded, shallow scattered punctae; T1 laterally with long hairs; metasoma covered with rather long, dense silvery-white hairs; the tip of metasoma with two long spines one on either side, more or less pointed at tips; T1 to T7 lengths ratio 11: 16: 25: 12: 7: 5: 1; metasoma in lateral view (Fig. 1A) length to height 30: 9; tergites with dense, moderately long, semierect silvery-white hairs; sternites with very dense, short silvery-white hairs; metasoma to rest of body 80: 86.

Material examined :

Holotype : Male on card (one set of wings and antenna on a slide), Rishikesh (Dehradun), Coll. M. K. Mukerjee & Party, 18: ii. 1991.

This species comes close to *B. bhartus* saraswat (1978) but differs in the smaller body, different colouration of antenna, wings not being subhyaline but clear, eyes being

perfectly bare, mesoscutum being without median longitudinal ridge but with a median longitudinal row of large deep contiguous punctae, scutellum with no indication of reticulate sculpture and metanotum being without blunt bilobed median tooth but with a simple median tooth which is not bilobed.

Tribe CALLISCELIONINI

3. *Macroteleia indica* Sharma

This species was originally described by sharma (1978) from two female specimens from Alipur Duar (Hasimara): N. Bengal and Moozhiar (Kerala). I have before me two examples of females mounted on cards (a pair of wings and antenna of both specimens on slides) labelled as "Rishikesh (Dehradun), Coll. *M. K. Mukerjee & Party*, 3. vi. 1991" and "Rishikesh (Dehradun), Coll. *M. K. Mukerjee & Party*, 6. vi. 1991"

The specimens before me agree with that of the type specimens except for the general colour of body being reddish-brown, antenna with yellowish-brown, radicle, scape and pedicel, slightly darker A3-A6 and very dark brown club, reddish-brown legs and slightly smaller body (length 3.38 mm.).

4. *Macroteleia lamba* Saraswat

This species was originally described by Saraswat (1978) from seven female and two male specimens from Kasaragod (Kerala) and Raja Bhat Khawa: Hasimara (N. Bengal). I have before me one example of female mounted on card (a pair of wings and antenna on slide) labelled as Rishikesh (Dehradun), Coll. *M. K. Mukerjee & Party*, 1. vii. 1991.

the specimen before me agrees with that of the type specimens except for smaller body (length 4.51 mm.), antenna with scape and radicle brown with reddish tinge, A2 to A5 slightly darker, A6 dark brown, club very dark brown, legs reddish-brown and metasoma black.

5. *Anteromorpha deccanensis* Sharma

This species was originally described by Sharma (1978) from one male specimen from Mahabaleshwar-Satara road, from Kelghar to Meta. Sharma (1980) also described the female in detail from large series of females and males from different localities. I have before me two males mounted on cards (left antenna and left wings of one specimen on slide) and one female on card (one set of wings and antenna on a slide) labelled as "Rishikesh (Dehradun), Coll. *M. K. Mukerjee & Party*, 11. vi. 1991" and Rishikesh (Dehradun), Coll. *M. K. Mukerjee & Party*, 8, 9, v. 1991."

The specimens before me agree with that of the type specimen except for the

reddish-brown radicle, scape, legs and T1 to T3, dark reddish-brown pleurae, and a smaller body (length 1.46 mm.).

6. *Probaryconus dunensis* n. sp.

(Fig. 2)

Male: Length 1.80 mm. General colour of body reddish-brown to black; head black; eyes brown; mandibles reddish-brown; antenna dark brown except for the yellowish-brown radicle and brownish proximal 0.30 of scape; mesosoma black; tegulae brown; legs including coxae reddish-brown, tarsal segments paler; fore wings uniformly infuscated light brown, veins brown, basalis darker; hind wings subhyaline, *sm* brown; metasoma with T1 and T2 reddish-brown, T3 paler with sides and posterior border black, T4 onwards black.

Head from above length to width 14: 24; vertex rounded, gradually sloping behind to join occiput, with dense short hairs, matt with rough sculpturing and large, shallow, close punctae; eyes bulging, perfectly bare; temples long bulging, with very dense, short silvery-white hairs; posterior ocelli distant from inner orbit by about 0.50 d; POL: LOL: OOL:=10: 5: 1; head in lateral view (Fig. 2A) length to height 17: 21; head behind malar sulcus and eyes with strong longitudinal rugae and with rather sparsely distributed small punctae; eyes oval, with large ommatidia, length to height 8: 13; eye height to malar space 13: 5; interantennal process long, projecting, head from in front length to width 20: 24; frons ventrolaterally with strong longitudinal striations and with rather close punctae, smooth in the central part, otherwise with sculpture as on vertex; frons and genae densely hairy; clypeus transversely striated, posterolateral corners acute clypeal border with 4 long silvery-white hairs, the lateral ones slightly shorter; toruli very close to the clypeus; scape to interorbital space 12: 14. **Antenna** (Fig. 2B) with A1 to radicle as 12: 3. 5; scape rather short, slender, thickened in the middle, subequal to the following 2 segments combined; funicular and club segments elongated with short, very dense hairs; antennomeres in proportions 12: 3; 4.5: 2.7; 7.5: 3.2; 6: 3; 6: 3; 6: 3; 6.5: 3; 6.5: 2.7; 6.5: 2.7; 6.5: 2.7; 6.5: 2.7; 6.5: 2.7; 8: 2.7.

Mesosoma from above as wide as head (24: 24); length to width 34: 24; pronotum narrowly visible laterally, with short hairs; skaphion absent; mesoscutum densely hairy, with sculpture as on vertex except for the deep punctae; notauli absent; mesoscutum separated from scutellum by a deep, wide groove having a series of strong longitudinal carinae; posterior border of scutellum straight; scutellum with large, close, deep punctae, densely hairy; metanotum narrow, transverse, unarmed, strip-like, medially as wide as at sides, with transverse rugae; propodeum very densely clothed with moderately long silvery-white hairs; the sides of propodeum contiguous in the middle and bispinose anterodorsally, the teeth slightly elongated with blunt tips; propodeum posterolaterally with an elongated spine; mesoscutum, scutellum, metanotum and propodeum lengths

ratio 18 : 8 : 2 : 6; mesosoma in lateral view (Fig. 2A) as high as wide (24 : 24); length to height 33 : 24; propodeum with anterodorsal teeth as shown in figure; scutellum with slightly longer hairs than those of mesoscutum; propleurae smooth anteriorly, with small, close punctae posteriorly, and rather large deep punctae anteriorly close to the fore coxae; mesopleurae with rather large, close, deep punctae anteriorly; mesopleural depression very deep with transverse striations above, otherwise smooth with an anterior and a posterior chain of deep, oval pits; metapleurae closely punctate anteriorly, with oblique rugae behind and smooth above, *Fore wing* (Fig. 2 C&D) to body 76 : 117; length to width 76 : 22.5; *m* : *pm* : *st* = 19 : 48 : 30; *sm*, *m* and *pm* with 13, 5 and 10 long bristles respectively; marginal fringe moderately long. *Hind wing* (Fig. 2E) to fore wing 63 : 76; length to width 63 : 11; marginal fringe to wing width 3.5 : 11.

Metasoma from above length to width 67 : 24; T1 laterally with some long stiff hairs, with longitudinal striations extending throughout its length; T2 with longitudinal striations confined to the proximal 0.50, however, the median striation is the longest occupying the proximal 0.70 of T2; following tergites smooth with minute, rather close setigerous punctae; T1 to T8 lengths ratio 11 : 17 : 20 : 8 : 5 : 3 : 2 : 1; metasoma in lateral view (Fig. 2A) length to height 67 : 10; metasoma rather flat above; metasoma to rest of body 67 : 50.

Material examined :

Holotype : Male on card (one set of wings and antenna on a slide), Rishikesh (Dehradun), Coll, *M. K. Mukerjee & Party*. 12. vi. 1991.

This species comes very close to but differs from *P. garhwalensis* n. sp. in the different colouration of body, eyes being perfectly glabrous and not pubescent, in the different sculpture of head and mesoscutum and the punctae on the T6 not being very close to each other. It also differs from *P. cauverycus* Saraswat (1978) in the presence of large, shallow, close punctae on vertex, bare eyes and T2 with striations only in the anterior half.

7. *Probaryconus garhwalensis* n. sp.

(Fig. 3&4)

Female : Length 1.91 mm. General colour of body brown to reddish-brown; head reddish-brown; eyes and ocelli black; mandibles reddish-brown with dark reddish-brown teeth; antenna yellowish-brown with reddish tinge except for the very dark brown sixth segment and club; mesosoma reddish-brown; tegulae brown; legs brownish-yellow; fore wings more or less uniformly infuscated light brown, basalis very slightly darker, veins

brown; hind wings subhyaline, vein light brown; metasoma brown except for the reddish-brown T3 and black hump of T1; ovipositor light brown with reddish tinge.

Head from above distinctly transverse (14: 27); vertex rounded, gradually sloping behind, densely clothed with short hairs, reticulately punctate, punctae close to each other; eyes bulging, finely and rather densely pubescent; temples long, slightly bulging, gradually sloping behind, its sides with dense hairs; ocelli large; posterior ocelli distant from inner orbits by slightly less than 0.50d; POL: LOL: OOL=8: 5: 1; head from in front conical; upper part of frons and vertex on either side with dense laterally directed hairs; frons without median longitudinal keel, with irregular longitudinal rugae and with rather close, large and deep setigerous punctae; genae with weak longitudinal striations; clypeus with pointed corners; toruli close to the clypeal border; head length to width 23: 27; scape to interorbital space 17: 13; head in lateral view (Fig. 3A) length to height 18: 23; vertex convex; malar sulcus narrow, deep; head behind eyes and malar sulcus with large, shallow, close punctae arranged more or less linearly and each row separated from the other by fine longitudinal rugae; head in front of the malar sulcus with fine weak striations; eyes oval with rather large ommatidia, length to height 13: 14; eye height to malar space 14: 7; interantennal process very well developed, long, projecting. **Antenna** (Fig. 3C) with A1 to radicle as 17: 3.5; scape long, cylindrical, subequal to the following three segments combined; A2 and A3 elongated, subequal; club subequal to scape; antennomeres in proportions 17: 3; 6: 2; 6: 2; 3.5: 2; 2.5: 2.5; 2.5: 2.8; 3: 4.5; 3: 5; 3: 5; 2.5: 5; 2.5: 4.5; 3.5: 4.5.

Mesosoma from above slightly narrower than maximum width of head (25: 27); length to width 28: 25; mesoscutum, scutellum and metanotum lengths ratio 17: 7: 1.5; skaphion absent; notauli absent; mesoscutum with short, dense, posteriorly directed hairs, with rather close, deep setigerous punctae; mesoscutum separated from scutellum by a wide deep groove; pronotum narrowly visible; posterior border of scutellum rather straight, scutellum with punctae as on mesoscutum; metanotum narrow, transverse, strip-like, medially as wide as at sides, unarmed; the two sides of propodeum contiguous in the middle with two well developed stout slightly elongated teeth one on each side anterodorsally bordering the hump of T1, propodeum posterolaterally with a very long, slender spine projecting slightly obliquely backwards; propodeum laterally in the middle with a short subconical tooth; mesosoma in lateral view (Fig. 3A) almost as high as wide (26: 25); length to height 28: 26; scutellum with golden yellow hairs, the hairs longer than those of mesoscutum, propodeum anterodorsally with a slightly elongated tooth projecting slightly obliquely upwards with its blunt tip almost at the level of the hump of T1; posterolateral spine of propodeum slender, elongate, much longer than the anterodorsal tooth, its tip at the level of the base of the hump of T1; the propodeal tooth anterior to the posterolateral spine is very short and stout; propleurae densely

hairy, with sculpture as on the head behind eyes and malar sulcus; prepectus well developed with an anterior row of shallow depressions; mesopleurae with large, deep, contiguous polygonal punctae, mesopleural depression very deep with an anterior and a posterior row of small slightly elongated, deep depressions, a few depressions of both the rows in the upper part meeting with each other forming striations, mesopleural depressions otherwise smooth; metapleurae anteriorly with punctae as on the mesopleurae, otherwise smooth; propodeum posteriorly close to the hump of T1 with very dense silvery-white hairs directed obliquely upwards towards the hump. *Fore wing* (Fig. 3 D&E) to body 79 : 124; length to width 79 : 23; *sm*, *m*, and *pm* with 11, 3 and 10 bristles respectively; *m* : *pm* : *st* = 13 : 42 : 31; basalis present; marginal fringe short. *Hind wing* (Fig. 3F) to fore wing 68 : 79; length to width 68 : 12; *sm* reaching the frenal hooks; marginal fringe short, *Legs* normal.

Metasoma from above elongate, length to width 78 : 26; T1 laterally with a series of long stiff hairs; hump of T1 smooth and highly shining; T1 with fine longitudinal striations running throughout its length; T2 with fine longitudinal striations confined to the anterior 0.50, otherwise smooth; following tergites with minute, rather close, setigerous punctae; T6 with minute, contiguous, setigerous punctae; metasoma densely hairy; ovipositor (Fig. 3B) slender, well exerted beyond the tip of metasoma, ovipositor to metasoma 28 : 78; T1 to T6 lengths ratio 14 : 20 : 22 : 8.5 : 6 : 7; metasoma in lateral view (Fig. 3A) length to height 78 : 15; hump of T1 at the level of metanotum; T1 ventrally with very dense silvery-white hairs; metasoma to rest of body 78 : 46.

Male: Length 1.87 mm. General colour of body reddish-brown; head reddish-brown; eyes and ocelli black; mandibles reddish-brown with dark teeth; antenna brown except for the light brown radicle; mesosoma reddish-brown; mesoscutum with 5 darker, wide longitudinal bands of which one is median and two on each side; tegulae brown; legs including coxae reddish-brown; fore wings more or less uniformly infuscated, light brown, basalis indicated as a very slightly darker line, veins light brown; hind wings subhyaline, vein light brown; metasoma reddish-brown, T4 in the posterior 0.40 and following tergites darker.

Head from above length to width 15 : 25; vertex rounded, gradually sloping behind to join occiput, densely clothed with short hairs, reticulately punctate, the punctae rather close to each other; temples considerably long, slightly bulging, along outer side with a row of recurved hairs directed obliquely upwards and outwards, eyes finely and sparsely pubescent; ocelli large; head posterolaterally without any projection; posterior ocelli distant from inner orbit by about 0.50d; POL : LOL : OOL = 8 : 4 : 1; head from in front conical; length to width 21 : 25; frons without depression and median longitudinal keel, upper

part on either side with dense hairs directed obliquely upwards and outwards; frons and genae with sculpture as in the female; clypeus ventrolaterally slightly projecting, its ventral margin with long stiff hairs; toruli very close to the clypeal border; scape to interorbital space 12: 14; head in lateral view (Fig. 4A) length to height 18: 22; vertex convex; eyes oval, with large ommatidia, length to height 8: 13; eye height to malar space 13: 5; head with sculpture as in the female; interantennal process well developed, large, projecting. *Antenna* (Fig. 4B) with A1 to radicle as 12: 3: scape slender, very slightly thickened in the middle, subequal to the following 2 segments combined; antennomeres in proportions 12: 3; 5: 2.7; 7.5: 2.9; 6: 2.7; 7: 2.7; 7: 2.7; 7: 2.7; 6.5: 2.7; 7: 2.7; 6.5: 2.5; 6.5: 2.3; 8.3: 2.2.

Mesosoma from above length to width 31: 25; mesoscutum, scutellum, metanotum and propodeum length ratio 16: 8: 1: 6: mesosoma as wide as maximum width of head (25: 25); pronotum very narrowly visible; skaphion absent; notauli absent; mesoscutum with short, dense, posteriorly directed hairs, with moderately close, rather large, deep setigerous punctae; mesoscutum separated from scutellum by a narrow, deep groove; scutellum with punctae as on the mesoscutum, densely hairy, its posterior border rather straight; scutellar rim with a row of large, deep depressions, and with a series of rather long hairs projecting obliquely downwards and inwards, extending over the anterior part of metanotum; metanotum unarmed, narrow, transverse, strip-like, medially as wide as at sides, with a row of large, deep depressions; propodeum anterodorsally with very dense, long silvery-white hairs arising from the extreme anterior end and confined to the anterior about 0.45; the two sides of propodeum contiguous in the middle, with two well developed slightly elongated conical teeth anterodorsally one on each side projecting slightly obliquely upwards and outwards; propodeum posterolaterally with a short, stout conical tooth, bordering the base of T1; tegulae shining; mesosoma gradually receding behind tegulae; mesosoma in lateral view (Fig. 4A) as high as wide (25: 25); length to height 31: 25; propodeum with anterodorsal and posterolateral teeth as shown in figure; prepectus well developed; sculpture of the pleurae as in the female. *Fore wing* (Fig. 4 C&D) to body 82: 122; length to width 82: 26; *m: pm: st*=16: 49: 31; *sm, m* and *pm* with 12, 3 and 12 bristles respectively; marginal fringe short; basalis indicated. *Hind wing* (Fig. 4E) to fore wing 67: 82; length to width 67: 12; marginal fringe about 0.33 of the maximum width of wing. *Legs* normal.

Metasoma from above length to width 73: 24; elongate, widest in the middle; T1 laterally with stiff hairs, with fine longitudinal striations extending throughout its length; T2 with fine longitudinal striations confined to the anterior 0.50, otherwise smooth; T3-T5 smooth with minute, rather close setigerous punctae; T6 with very close, minute setigerous punctae; T7 and T8 very narrow, smooth; metasoma densely hairy, its tip unarmed; T1 to T8 length ratio 12: 20: 19: 9: 6: 4: 2: 1; metasoma in lateral view (Fig. 4A) length to height 73: 13; metasoma to rest of body 73: 49.

Material examined:

Holotype: Female on card (one set of wings and antenna on a slide), Rishikesh (Dehradun), Coll. *M. K. Mukerjee & Party*, 20-27, v. 1992; *allotype* male on card (one set of wings and antenna on a slide) labelled like that of the holotype; *paratypes* 2 males on cards (antenna and a pair of wings of one specimen on slide, last six segments of left antenna and left fore wing of the other specimen are missing), Rishikesh (Dehradun), Coll. *M. K. Mukerjee & Party*, 4 v. 1991.

This species comes close to *P. cauverycus* Saraswat (1978) but is distinguished by the different colouration of body, vertex reticulately punctate, different proportions of *m*, *pm* and *st*, and T2 striated only in the proximal 0.50. It also differs from *P. khajjarus* (Mani) (1975) in the eyes being pubescent, different sculpture of head, infuscated fore wings, and T2 longitudinally striate only up to 0.50 of its length.

8. *Paridris duncensis* n. sp.

(Fig. 5)

Female: Length 2.03 mm. General colour of body reddish-brown to black; head black; eyes and ocelli brown; mandibles brown with reddish-brown teeth; antenna brown except for the light brown radicle and scape; mesoscutum and scutellum black; metanotum, propodeum and pleurae reddish-brown; legs including coxae brown with reddish tinge; fore wings more or less uniformly infuscated light brown, basalis slightly darker, veins brown; hind wings hyaline, *sm* light brown; T1 and proximal 0.20 of T2 reddish-brown, horn of T1 and remaining tergites dark brown.

Head from above length to width 17: 24; vertex rounded, gradually sloping behind to join occiput; vertex and temples matt, closely minutely punctate, with dense silvery-white hairs; temples rather long, gradually receding behind eyes; eyes with rather long, dense hairs; head posterolaterally rounded, without any projection; posterior ocelli distant from inner orbit but about 1d; POL: LOL: OOL=11: 6: 1.5; head in lateral view (Fig. 5A) length to height 17: 22; eyes oval, with large ommatidia, length to height 8: 11; eye height to malar space 11: 5; malar sulcus wide; interantennal process long, projecting; head behind malar sulcus with close, shallow, large punctae; head behind eyes coriaceous; head from in front length to width 23: 24; frons in the upper half and at sides with dense silvery-white semierect hairs, matt with leathery sculpture and deep rather close punctae, the rest of frons smooth and highly shining; frons without the median longitudinal keel; genae with sculpture as on the upper part of frons; toruli very close to the clypeal border; clypeus broad, posterolateral corners acute; scape to interorbital space 15.5: 14. *Antenna* (Fig. 5B) with A1 to radicle as 15.5: 4; scape long, slender, subequal to the following 3 segments combined; first funicular segment elongated, slightly shorter than the pedicel; A4 to A6 short, each distinctly shorter than the first funicular segment;

antennomeres in proportions 15.5: 2.9; 6.5: 2.5; 5.5: 2.7; 3.5: 2.5; 3: 2.6; 2.5: 3; 3: 4.4; 3: 5; 2.5: 5.3; 2.5: 5; 2.5: 4.8; 3.5: 4.

Mesosoma from above almost as wide as maximum width of head (22: 24); length (up to metanotum) to width 23: 22; mesoscutum clothed with dense, short silvery-white hairs, the posterior border with slightly longer hairs projecting over the base of scutellum, mesoscutum with close, shallow, large punctae; notauli absent; mesoscutum separated from scutellum by a considerably wider, deep groove; scutellum with dense, short silvery-white hairs, with punctae as on mesoscutum; posterior border of scutellum straight; metanotum transverse, smooth, unarmed; mesoscutum, scutellum and metanotum lengths ratio 15: 6: 2; propodeum rather densely covered with hairs on either side, smooth with shallow scattered punctae, excavated posteromedially to contain the horn of T1, unarmed; mesosoma gradually receding behind tegulae, posterolaterally projecting inwards; mesosoma in lateral view (Fig. 5A) very slightly higher than wide (24: 22); length to height 30: 24; prepectus present with a row of shallow, elongated pits extending from the anterior to the posterior border; propleurae with close, moderately large depressions; mesopleurae with a row of slightly elongated pits close to the posterior border extending up to the mid coxae; mesopleural depression deep, smooth; mesopleurae anteriorly with large, rather close, deep punctae; metapleurae with close, deep punctae. *Fore wing* (Fig. 5 C&D) to body 80: 132; length to width 80: 21; *m: pm: st*=13: 49: 31; *sm, m* and *pm* with 14, 4 and 12 bristles respectively; marginal fringe moderately long. *Hind wing* (Fig. 5E) to fore wing 67: 80; length to width 67: 11; marginal fringe to wing width 5: 11.

Metasoma from above length (including horn) to width 85: 26; T1 on either side with strong longitudinal striations, the rest of T1 and horn with weak striations and close punctae; T2 with strong longitudinal striations in the proximal 0.65, otherwise smooth with scattered, minute punctae; T3 to T5 smooth, with punctae as on the T2; T6 with close, shallow, rather large punctae; T3 widest; T4 onwards with long, dense silvery-white hairs; tip of metasoma unarmed; T1 to T6 length ratio 17: 22: 21: 11: 8: 6; metasoma in lateral view (Fig. 5A) length to height 85: 14; the horn of T1 extending over the propodeum as shown in figure; sternites with very dense silvery-white hairs; metasoma to rest of the body 85: 47.

Material examined:

Holotype: Female on card (one set of wings and antenna on a slide), Rishikesh (Dehradun), Coll *M. K. Mukerjee & Party* 8. vii. 1991.

This species differs from *P. coorgensis* Sharma (1978) in the different colouration of body, vertex with close punctae, gena without striations, eyes not sparsely but densely pubescent, notauli being absent, metanotum being unarmed and T3 not longitudinally

striate but smooth. It differs from *P. mahadeoensis* Sharma (1978) in the different colouration of body, vertex being closely punctate and not smooth, and T2 with longitudinal striations. It can be distinguished from *P. pachmarhicus* (Sharma) (1978) by different colouration of body, absence of tubercle on vertex and propodeum being without horizontal bidentate plate-like process.

9. *Palpoteleia indica* n. sp.

(Fig. 6&7)

Male: Length 17 mm. General colour of body brownish-black to black; head black; eyes and ocelli dark brown; mandibles brownish with reddish teeth; blisters white; antenna brown except for the yellowish-brown radicle and scape; mesosoma black; tegulae brown; wings subhyaline, veins light brown; legs yellowish-brown, last tarsal segment brown; metasoma brownish-black except for the reddish-brown petiole.

Head from above (Fig. 6A) reticulate, with minute, scattered setigerous punctae; temples bulging; vertex rounded, gradually sloping behind to join occiput; occipital carina non-crenulate; eyes finely and more or less densely pubescent; head length to width 14: 21; posterior ocelli distant from inner orbit by 1d; POL: LOL: OOL=5: 3: 2; head in lateral view (Fig. 6G) vertex with rather long, dense hairs; head behind eyes with reticulations; blister smooth and highly shining; head length to height 14: 19; eyes oval, length to height 8: 11; eye height to malar space 11: 6; malar sulcus very narrow; interantennal process minute projecting; head from in front (Fig. 6E) length to width 17: 21, smooth and highly shining except for the reticulations in the region between toruli and blisters, the reticulations extending on either side a little above the lower orbital border; eye length to blister length 10: 4; toruli well below the lower orbital border; clypeus broad, not projecting ventrolaterally; sides of frons and genae with long hairs; scape to interorbital space 11: 11. **Antenna** (Fig. 6F) with A1 to radicle as 40: 11; scape thickened apically, subequal to the following 2.25 segments combined; A2 to A7 and A12 elongated; A5 rather more elongated, slightly shorter than the A12; flagellar segments with rather dense hairs; antennomeres in proportions 40: 10.5; 19: 9.4; 15: 9; 16: 8; 20: 9; 16: 10; 16: 9; 14: 9.5; 14: 11.5; 14: 11.8; 15: 10.5; 26: 10.

Mesosoma from above (Fig. 6A) as wide as head (20: 21); length to width 25: 20; pronotum narrowly visible laterally, with a few moderately long hairs; tegulae shining; skaphion absent; mesoscutum with sculpture as on vertex with minute, scattered setigerous punctae; notauli deep, complete, wider behind; mesoscutum separated from scutellum by a rather wide, deep groove with a row of longitudinal carinae; scutellum semicircular, smooth and highly shining; scutellar rim with a row of minute pits; metanotum smooth

and highly shining, slightly produced at meson; mesoscutum, scutellum and metanotum lengths ratio 15: 6: 2; propodeum smooth and highly shining, with minute, scattered punctae, its posterior border with a row of elongated, rather large pits; propodeum excavated posteromedially, the excavation reaching the hind margin of metanotum; mesosoma gradually receding behind tegulae, posterolaterally with a small bulge as shown in figure; mesosoma in lateral view (Fig. 6G) slightly wider than high (20: 18); length to height 27: 18; mesoscutum, scutellum and propodeum with rather long hairs; prepectus developed, its front margin with a row of minute depressions, otherwise smooth and shining; propleurae with reticulations, smooth and shining in the central area; meso- and metapleurae smooth and highly shining, with usual rows of slightly elongated, rather deep pits. *Fore wing* (Fig. 6B&D) to body 66: 76; length to width 66: 23; *m: pm: st*= 14: 48: 26; *m* and *pm* with 2 and 5 long bristles respectively; marginal fringe moderately long. *Hind wing* (Fig. 6C) to fore wing 53: 66; length to width 53: 7; marginal fringe moderately long. *Legs* normal.

Metasoma from above (Fig. 6A) length to width 37: 19.5; T1 with a few long hairs laterally, with longitudinal striations extending throughout its length; T2 with striations reaching almost to the hind margin, the striations on either side shorter, T2 otherwise smooth and shining; T3 to T6 sculptured like that of vertex, posterior borders of each smooth and highly shining; T5 and T6 sculptured only in the proximal about 0.50 and 0.40 respectively; T3 longest and widest; T1 to T6 lengths ratio 5: 8: 11: 5: 3: 2.5; metasoma in lateral view length to height 37: 10; metasoma to rest of body 37: 39.

Female: Length 1.18 mm. General colour of body dark brown to black; head black; eyes and ocelli brown; blisters white; mandibles reddish with reddish-brown teeth; antenna yellowish-brown except for the brownish club; mesosoma black; tegulae brown; legs yellowish-brown; wings subhyaline, veins light brown; metasoma dark brown except for the reddish-brown T1; ovipositor brown.

Head from above (Fig. 7A) transverse (14: 23); reticulate, with fine, scattered setigerous punctae as in the male; vertex rounded, gradually sloping behind to join occiput; temples bulging; eyes bulging, with rather long and dense hairs; posterior ocelli distant from inner orbit by 1d; POL: LOL: OOL=5: 3: 2; head in lateral view (Fig. 7G) length to height 16: 20; vertex with rather long and dense hairs; head just behind posterior border of eyes with a row of rather long silvery-white hairs as shown in figure; eyes oval, length to height 9: 13; eye height to malar space 13: 6; interantennal process small, projecting; malar sulcus very narrow; malar space and head behind eyes finely reticulate; blisters oval, smooth and highly shining; head behind blisters smooth and highly shining; head from in front (Fig. 7E) length to width 17: 22; blister about 0.50 of eye length; frons smooth and shining except for fine reticulations in the area between

blisters and lower orbital border; frons with almost no hairs; anterior ocellus encircled by rather long hairs as shown in figures; clypeus broad, ventrolaterally not projecting; toruli well below the lower orbital border; scape to interorbital space 12 : 10.5 *Antenna* (Fig. 7F) with A1 to radicle as 42 : 12; scape slightly thickened in the middle, subequal to the following 3 segments combined (42 : 44); sensillar formula 1 : 2 : 2 : 2 : 1; antennomeres in proportions 42 : 10; 20 : 8; 13 : 6; 11 : 7; 10 : 7; 9 : 8; 8 : 10; 8 : 16; 11 : 20; 11 : 20; 11 : 18; 10 : 14.

Mesosoma from above (Fig. 7A) slightly narrower than head (20 : 23); length to width 25 : 20; pronotum narrowly visible laterally, with a row of dense hairs as shown in figure; mesoscutum densely clothed with hairs, sculptured like that of vertex, with minute setigerous punctae; notauli complete and deep; a row of minute pits present between mesoscutum and scutellum separated by carinae; scutellum semicircular, smooth and shining, densely hairy, the hairs rather long; scutellar rim along inner side with a row of minute pits; metanotum transverse, smooth and shining, slightly produced at meson, with a row of minute pits along its anterior border; mesoscutum, scutellum and metanotum lengths ratio 14 : 7 : 2; propodeum smooth and shining, excavated posteromedially, the excavation reaching the hind margin of metanotum; mesosoma gradually receding behind tegulae, posterolaterally with a minute bulge as shown in figure; mesosoma in lateral view (Fig. 7G) almost as high as wide (19 : 20); length to height 26 : 19; propodeum with rather long hairs as shown in figure; prepectus well developed, with a row of minute pits anteriorly, otherwise smooth; propleurae with reticulations except in the central part and posteriorly; mesopleurae smooth and highly shining except for the reticulations below near mid coxae, with two usual rows of slightly elongated pits; metapleurae without sculpture, smooth and highly shining, with a row of depressions only anteriorly, *Fore wing* (Fig. 7 B&D) to body 66 : 77; length to width 66 : 23; *m* : *pm* : *st* = 13 : 42 : 25; *sm*, *m* and *pm* with 10, 2 and 6 long bristles respectively; marginal fringe moderately long. *Hind wing* (Fig. 7C) to fore wing 55 : 66; length to width 55 : 6.5; marginal fringe to wing width 4 : 6.5. *Legs* normal.

Metasoma from above (Fig. 7A) length to width 38 : 20; T1 with a series of long hairs laterally; T1 and T2 with longitudinal striations as shown in the figure, otherwise smooth; T3 longest and widest with sculpture as on vertex, its posterior border smooth and shining; T4 and T5 with sculpture as on vertex but only in the proximal about 0.60. otherwise smooth and shining; T6 with reticulations only along the anterior border; T3 to T6 with minute, scattered setigerous punctae; T1 to T6 lengths ratio 7 : 9 : 12 : 5 : 3 : 3; ovipositor slightly exerted beyond the tip of metasoma; metasoma in lateral view tergites and sternites with rather long hairs; metasoma to rest of body 37 : 40; ovipositor to metasoma 6 : 37

Material examined :

Holotype: Male on card, Rishikesh (Dehradun). Coll. *M. K. Mukerjee and Party*, 2. v. 1991; **allotype** female on card (one set of wings and antenna on a slide), Rishikesh (Dehradun), Coll. *M. K. Mukerjee & Party*, 19. ii. 1991; **paratypes** sixteen males and two females-six males on cards (terminal five segments of one antenna in a specimen missing and in one other specimen one entire antenna missing) labelled like that on holotype; three males on cards (one set of wings and antenna of one specimen on slide, in this specimen terminal four segments of antenna missing; in one other specimen terminal segment of one antenna missing) labelled as "Rishikesh (Dehradun), Coll. *M. K. Mukerjee & Party*, 29. iv. 1991"; two males on cards (terminal six segments of one antenna missing in one specimen) labelled as "Rishikesh (Dehradun), Coll. *M. K. Mukerjee & Party*, 12. i. 1991"; one male on card labelled as "Rishikesh (Dehradun), Coll. *M. K. Mukerjee & Party*, 30. iv. 1991"; one male on card (terminal two segments of one antenna missing) labelled as "Rishikesh (Dehradun), Coll. *M. K. Mukerjee & Party*, 1. ii. 1991"; one female on card (one set of wings and antenna on a slide) labelled as "Rishikesh (Dehradun), Coll. *M. K. Mukerjee & Party*, 16. iv. 1991"; one female on card (terminal five segments of one antenna and last four segments of another antenna missing) labelled as "Rishikesh (Dehradun), Coll. *M. K. Mukerjee & Party*, 30. iv. 1991"; and three males on cards (one set of wings and antenna of one specimen on slide) labelled as "Agastyamuni (Chamoli), Coll. *M. K. Mukerjee*, 27. ix. 1982", "Agastyamuni (Chamoli), Coll. *M. K. Mukerjee*, 4. x. 1982" and "Agastyamuni (Chamoli), Coll. *M. K. Mukerjee*, 10. ix. 1982",

Tribe PSILANTERIDINI

10. *Opisthacantha dunensis* n. sp.

(Fig.8)

Female: Length 1.18 mm. General colour of body black; head black; eyes and ocelli dark brown; antenna very dark brown except for the brownish-black club; mandibles brown; mesosoma black, tegulae brown; legs brown except for the dark brown coxae; fore wings uniformly infuscated very light brown, basalis very slightly darker, veins brownish; hind wings clear, *sm* brownish, metasoma brown, ovipositor light brown.

Head from above (Fig. 8A) transverse (12: 23.5); vertex with less densely distributed golden yellow hairs, coriaceous, rounded, gradually sloping behind to join occiput; temples rather short, sculptured like that of vertex; eyes large, bulging, finely and very densely pubescent; head posterolaterally rounded with a minute projection as shown in figure; posterior ocelli contiguous with the inner orbit; POL: LOL=7: 5; head from in front slightly wider than long (23.5: 21); frons in the upper 0.50 and the lower only at sides with sculpture as on vertex, with dense short, golden yellow hairs, frons otherwise perfectly

smooth and highly shining, without hairs; the lower 0.50 of frons with a median longitudinal keel bifurcating near toruli; toruli close to the clypeal border; genae with fine longitudinal striations, with hairs as on the upper part of the frons; clypeus short, projecting bluntly ventrolaterally; scape to interorbital space 12: 9; head in lateral view (Fig. 8F) length to height 14: 21; eyes oval with large ommatidia, length to height 9: 12; eye height to malar space 12: 6; frons convex; interantennal process well developed, projecting; malar sulcus long, narrow; malar space longitudinally striated; lower part of head behind malar sulcus with longitudinal striations; head behind eyes smooth and highly shining, with scattered, rounded, minute setigerous punctae, *Antenna* (Fig. 8E) with A1 to radicle as 43: 10; scape slender, thickened in the middle, subequal to the following 5 segments combined; antennomeres covered with moderately long dense hairs; antennomeres in proportions 43: 10; 14: 8; 11: 8; 7.5: 7; 6: 7; 5: 7; 3: 9; 3: 12; 6.5: 18; 7: 19; 9: 19; 14: 16.

Mesosoma from above (Fig. 8A) as wide as maximum width of head (23: 23.5); almost as long as wide (21: 23); mesoscutum, scutellum and metanotum lengths ratio 9:7:2; pronotum very narrowly visible; mesoscutum and scutellum covered with rather sparsely distributed golden yellow hairs, scutellar rim with rather long such hairs projecting over metanotum; posterior border of mesoscutum straight, separated from scutellum by a narrow groove which is becoming wider at sides; a row of longitudinal carinae extending between mesoscutum and scutellum; mesoscutum sculptured like that of vertex; notauli rather narrow, widely apart from each other behind; scutellum semicircular, sculptured like that of vertex; scutellar rim with a row of large depressions; metanotum transverse, smooth, with a row of minute pits anteriorly, produced at meson; propodeum closely punctate, rather densely covered with hairs, moderately excavated posteromedially, with a row of minute depressions anteriorly; mesosoma with posterolateral cornes bluntly projecting inwards; mesosoma in lateral view (Fig. 8F) almost as high as wide (21: 23); as long as high (20:21); metanotum medially produced into a projection as shown in figure; propodeum densely hairy; pleurae smooth and shining except for the metapleurae near hind coxae with fine reticulations; meso—and metapleurae with chains of minute pits along posterior and anterior borders respectively; mesopleural depression rather shallow; prepectus present, spindle—like with transverse depressions; skaphion absent, *Fore wing* (Fig. 8 B & D) to body 50:77; length to width 50:17; basalis indicated; $m: pm: st=9.5:41:17$; *sm. m* and *pm* with 11. 3 and 5 long bristles respectively; marginal fringe short. *Hind wing* (Fig. 8c) to fore wing 46:50; length to width 46:7; marginal fringe moderately long. *Legs* normal.

Metasoma from above (Fig. 8A) length to width 46:20; T3 longest and widest; T1 and T2 with strong longitudinal striations running throughout their lengths; T3 with distinct but slightly weak longitudinal striations as shown in figure, the rest of T3 with reticulations;

T4 with reticulations; **T5** and **T6** smooth, shining and with minute, rounded sparsely distributed punctae; **T1** with a few rather long hairs laterally; other tergites with hair distribution as shown in figure; **T7** narrow; ovipositor well exerted beyond the tip of metasoma; **T1** to **T7** lengths ratio 6: 10: 13:5:3:3:6; metasoma in lateral view (Fig. 8F) length to height 45: 13; metasoma to rest of the body 45: 35.

Material examined:

Holotype: Female on card (one set of wings and antenna on a slide). Rishikesh (Dehradun), coll. *M.K. Mukerjee & Party*. 19.11.1991; **paratypes** 3 females on cards (left antenna and right wings of one specimen on slide, left antenna and left wings of the other specimen on slide, last six joints of right antenna of the remaining specimen are missing), Rishikesh (Dehradun), coll. *M.K. Mukerjee & Party*, 11. i—19.ii.1991

This species differs from *O. indica* Mani (1975) in the different colouration of body, different sculpture of head and mesosoma, and presence of notauli. It differs from *O. bengalensis* sharma (1978) in the smaller body, eyes being pubescent and not naked, presence of notauli, and **T1** and **T2** with strong striations. It also differs from *o. keralensis* Sharma (1978) in the smaller body, different colouration of antenna, hairy eyes, different sculpture of mesosoma, and **T4** with reticulations and **T5** and **T6** being smooth with sparsely distributed punctae.

11. *Psilanteris uttaranchalensis* n.sp.

(Fig. 9)

Female: Length 1.57 mm. General colour of body brownish-black to black; head black; eyes and ocelli dark brown; mandibles brown with dark reddish-brown teeth; radicle very light brown, scape in the proximal 0.50 yellowish-brown with reddish tinge otherwise dark brown, **A2** to **A6** dark brown, club very dark brown to brownish-black; mesosoma black; tegulae brown; legs yellowish-brown, last tarsal segment brown; fore wings bubhyaline, veins brown; hind wings clear, *sm* light brown; metasoma brownish-black.

Head from above length to width 16:28; vertex rounded, gradually sloping behind to join occiput, with scattered golden yellow hairs, coriaceous; temples short, gradually receding behind, sculptured like that of vertex; eyes large, perfectly glabrous; head posterolaterally rounded, without any projection; posterior ocelli contiguous with the inner orbit; POL:LOL=10: 6; head in lateral view (Fig.9A) length to height 17:25; reticulate; eyes oval, with large ommatidia, length to height 10:16; eye height to malar space 16:7; malar sulcus narrow, deep; interantennal process long, projecting; head from in front length to width 26:28; coriaceous; frons especially in the upper 0.50 and at sides with short, scattered golden yellow hairs; frons with a strong median longitudinal keel, wider at base, becoming narrow above, extending between toruli up

to the level of 0.50 of the height of the eyes; genae with strong longitudinal striations; toruli close to the clypeal border; clypeus short, smooth, not projecting ventrolaterally; scape to interorbital space 15:12. *Antenna* (Fig. 9B) with A1 to radicle as 15: 3.5; scape long, slender, subequal to the following 5.40 segments combined, antennomeres in proportions 15:3; 5.5:2.5; 2.5:2; 2:2; 2:2.2; 2:2.4; 2.5:4; 3:5; 3:5.5; 3:5; 3:4.5; 4.5:3.8.

Mesosoma from above as wide as long (29:29); almost as wide as head (29:28); pronotum narrowly visible laterally; skaphion absent; notauli complete, shallow, narrow, widely separated from each other behind; mesoscutum sculptured like that of vertex; a series of strong longitudinal carinae extending between mesoscutum and scutellum; scutellum semicircular, sculptured like that of vertex; scutellar rim with a row of rather large depressions; metanotum transverse, smooth, medially produced in to a well developed rather long spine, pointed at tip, projecting over the propodeum; mesoscutum, scutellum and metanotum lengths ratio 18:9:2; propodeum on either side with a tuft of long silvery-white hairs, closely punctate, slightly excavated posteromedially, the excavation not touching the hind margin of metanotum; propodeum laterally at about the middle with a blunt tooth-like projection, mesosoma in lateral view (Fig. 9A) as high as wide (29:29); as long as high (29:29); prepectus narrow, spindle-like, smooth; propleurae reticulate, with a row of large, deep close punctae along the anterior border; mesopleural depression deep, with transverse striations; mesopleurae above the depression with deep, irregular, elongated pits, otherwise with shallow, sparse punctae; mesopleurae behind the depression smooth; metapleurae with a row of large, deep, close punctae along the anterior border, otherwise matt with leathery sculpture; metapleurae with long, dense silvery-white hairs near hind coxae projecting backwards; propodeum with a tuft of long silvery-white hairs projecting backwards as shown in figure. *fore wing* (Fig. 9 C & D) to body 67:102; length to width 67:23; $m:st=10:18$; m with 3 bristles; marginal fringe short. *Hind wing* (Fig. 9E) to fore wing 58:67; length to width 58:10.5; marginal fringe moderately long.

Metasoma from above spatulate; length to width 54:26; T1 with 6 long hairs laterally on either side, transverse, with strong longitudinal striations; T2 with a row of large, deep pits along the anterior border, with strong longitudinal striations almost touching the hind margin, a narrow area along hind margin smooth and shining; T3 longest and widest; T3 onwards with reticulations; T4 onwards with rather dense silvery-white hairs; tip of metasoma unarmed; T1 to T6 lengths ratio 7:11:20:6:5:5; metasoma in lateral view (Fig. 9A) length to height 54:15; sternites with reticulations and dense silvery-white hairs; metasoma to rest of body 55:47

Material examined:

Holotype: Female on card (one set of wings and antenna on a slide), Rishikesh

(Dehradun), coll. *M.K. Mukerjee & Party*, 16.v.1991; *paratype* one female on card (right antenna and left wings on a slide) labelled like that of the holotype.

This species comes close to *P. indica* Mani (1975) but is distinguished by the different colouration of body, subhyaline wings, posterior ocelli contiguous with inner orbit, metanotum without bidentate plate-like process in the middle but with a rather long spine and T3 onwards not smooth but with reticulations. It can also be distinguished from *P. nitidulus* Szabo (1966) by the different colouration of antennae and legs, subhyaline fore wings, frons with a strong median longitudinal keel, scape not 8 times but only 5 times as long as wide, mesosoma not narrower but as wide as head, metanotum medially produced in to a rather long spine, and T3 onwards with reticulations.

12. *Duta indica* n.sp.

(Fig. 10 & 11)

Female: Length 1.17mm. General colour of body brown to brownish-black; frons in the lower about 0.50 dark brown, otherwise brownish-black; vertex brownish-black; eyes, ocelli and mandibles brown; antenna brown except for the paler radicle and proximal 0.50 of scape; mesosoma brown; tegulae and propodeum paler; wings uniformly infuscated light brown, veins darker; metasoma brown.

Head from above (Fig. 10A) transverse (12: 22); vertex rounded, gradually sloping behind to join occiput, with dense hairs, coriaceous; temples gradually receding behind eyes, coriaceous; eyes large, finely and very densely pubescent; posterior ocelli distant from inner orbit by slightly less than its own diameter; POL: LOL: OOL = 7: 4:1; head in lateral view (Fig. 11H) length to height 14: 18; eyes oval, length to height 10: 12.5; eye height to malar space 12.5: 5; head behind eyes smooth and shining, with minute, scattered, setigerous punctae; malar sulcus narrow, deep; interantennal process long, projecting; head from in front (Fig. 10E) length to width 18: 22; frons smooth and shining except for the fine reticulations confined to a very small area a little above the lower orbital border, close to the inner orbit, and with coriaceous sculpture above close to the anterior ocellus; frons in the upper about 0.33 and vertex with short, dense hairs, frons otherwise with almost no hairs, with some minute setigerous punctae close to the inner orbits; clypeus not too broad, ventrolaterally not projecting; toruli well below the lower orbital border, close to the clypeus; gena smooth and shining, with rather long, dense hairs; scape to interorbital space 14: 10. **Antenna** (Fig. 10F) with A1 to radicle as 51: 15; scape elongated, gradually becoming thicker apically, subequal to the following 3.50 segments combined; A3 and A4 elongated, each subequal to the A2; flagellum with short, dense hairs; antennomeres in proportions 51: 11; 15: 8.5; 15: 9; 14: 9; 10: 7; 6: 7.5; 6: 11; 9: 19; 10: 20; 10: 21; 10: 19; 14: 15.

Mesosoma from above (Fig. 10A) length to width 20.5: 21; pronotum very narrowly

visible laterally; mesosoma almost as wide as maximum width of head (21: 22); mesoscutum very densely clothed with short hairs, reticulate; skaphion indicated, smooth; notauli narrow, shallow and complete, widely separated from each other behind; mesoscutum separated from scutellum by a narrow, deep groove; scutellum semicircular, with hairs as on mesoscutum; scutellar rim with a row of close, rounded, rather deep depressions; metanotum transverse, slightly produced at meson, with slightly elongated, rather deep depressions on either side along the anterior border; metanotum unarmed; mesoscutum, scutellum and metanotum lengths ratio 11: 8:1.5; propodeum unarmed, excavated posteromedially, the excavation reaching the hind margin of metanotum; posterior border of propodeum with depressions; scutellum, metanotum and propodeum smooth; mesosoma gradually receding behind tegulae, posterolateral corners blunt; mesosoma in lateral view (Fig. 10H) slightly wider than high (21: 19); length to height 24: 19; prepectus present, smooth; pleurae smooth; mesopleurae with usual rows of rather shallow, slightly elongated depressions, a few depressions of both the rows meeting with each other to form striations; mesopleural depression deep. *Fore wing* (Fig. 10 B & D) to body 58: 76; length to width 58: 16; basalis indicated; $m: pm: st = 22: 42: 15$; m and pm with 3 and 7 long bristles respectively; marginal fringe moderately long. *Hind wing* (Fig. 10C) to fore wing 48: 58; length to width 48: 6.5; marginal fringe moderately long.

Metasoma from above (Fig. 10A) length to width 39: 19.5; tergites shining, with hairs as shown in figure; T3 longest and widest; T1 longitudinally striated throughout its length; T2 with striations not reaching the hind margin as shown in figure, otherwise smooth; following tergites smooth, with small, scattered, rounded setigerous punctae; ovipositor (Fig. 10G) long, longer than metasoma; T1 to T6 lengths ratio 5: 8: 16: 5: 2: 3; metasoma in lateral view (Fig. 10H) length to height 39: 12.5; sternites densely hairy; metasoma to rest of body 39: 37

Male: Length 1.17 mm. General colour of body brown to very dark brown; head very dark brown; eyes and ocelli brown; mandibles brown with reddish-brown teeth; antenna dark brown except for the yellowish-brown radicle and light brown proximal 0.50 of scape; mesosoma dark brown; tegulae, propodeum and pleurae brown; wings uniformly infuscated light brown, veins slightly darker; legs light brown; metasoma brown.

Head from above (Fig. 11A) transverse (12: 22); vertex rounded, gradually sloping behind to join occiput, with dense, short, silvery-white hairs, coriaceous; temples gradually receding behind eyes, sculptured like that of vertex; eyes finely and densely pubescent; head posterolaterally rounded, without any projection; posterior ocelli distant from inner orbit by 1d; POL: LOL: OOL = 7: 4: 1.5; head in lateral view (Fig. 11G) length to height 13: 17; eyes oval, with small ommatidia, length to height 7: 12; eye height to malar space 12: 5; malar sulcus narrow; interantennal process long, projecting; head behind eyes smooth and highly shining, with sparsely distributed hairs; head from in

front (Fig. 11E) length to width 18: 22; frons smooth and shining except for very fine reticulations confined to a very small area a little above the lower orbital border, close to the inner orbits; frons above, close to the anterior ocellus with coriaceous sculpture; frons with almost no hairs; genae smooth; toruli well below the lower orbital border; clypeus simple, ventrolaterally not projecting; scape to interorbital space 10: 12.5; *Antenna* (Fig. 11E) with A1 to radicle as 36: 12; scape slender, cylindrical, subequal to the following 2.50 segments combined; funicular segments and club elongated, with moderately long, dense hairs; antennomeres in proportions 36: 8; 12: 9; 16: 8; 16: 7; 21: 8; 18: 8; 18.5: 8; 17: 8; 17: 7.5; 17: 7.5; 15: 7.5; 24: 7.

Mesosoma from above (Fig. 11A) as wide as head (22: 22); length to width 23: 22; pronotum very narrowly visible laterally, with short hairs; mesoscutum densely covered with hairs, finely reticulate, separated from scutellum by a narrow, deep groove; skaphion indicated, smooth; notauli complete, narrow, rather deep, well separated from each other behind, diverging in front; scutellum densely hairy, its posterior border with a series of rather long hairs projecting over the base of metanotum; metanotum transverse, unarmed, shining, slightly produced at meson, with a row of deep pits on either side; mesoscutum, scutellum and metanotum lengths ratio 13: 7.5: 1.5; propodeum simple, unarmed, excavated posteromedially, the excavation reaching the hind margin of metanotum; scutellum, metanotum and propodeum smooth; mesosoma gradually receding behind tegulae, posterolaterally with a short bulge; mesosoma in lateral view (Fig. 11G) almost as wide as high (22: 21); length to height 25: 21; prepectus present, smooth; propleurae smooth; mesopleurae smooth with usual rows of rather deep, slightly elongated depressions, a few depressions of both the rows in the upper part meeting with each other to form striations; mesopleural depression deep smooth; metapleurae smooth. *Fore wing* (Fig. 11 B & D) to body 69: 76; length to width 69: 21; basalis indicated; *m: pm: st* = 24: 49: 17; *sm, m* and *pm* with 6, 3 and 6 long bristles respectively; marginal fringe moderately long, *Hind wing* (Fig. 11C) to fore wing 59: 69; length to width 59: 7; marginal fringe moderately long. *Legs* normal.

Metasoma from above (Fig. 11A) length to width 39: 18.5; T1 and T2 with longitudinal striations extending throughout their lengths; T3 longest and widest, smooth, with minute, scattered setigerous punctae; T4 to T6 with microsculpture (seen from a particular angle) and with punctae as on the T3; T4 onwards rather densely hairy; tip of metasoma unarmed; T1 to T6 lengths ratio 6: 9: 14: 5: 3: 2; metasoma in lateral view (Fig. 11G) length to height 38: 9; metasoma subequal to rest of body (38: 38).

Material examined:

Holotype: Female on card (one set of wings and antenna on a slide), Agastyamuni (Chamoli), Coll. M.K. Mukerjee, 21.x.1982; *allotype* male on card (one set of wings

and antenna on a slide), labelled like that of holotype; *paratypes* 2 males (one set of wings and antenna of both specimens on slides) labelled as "Agastyamuni (Chamoli), Coll. *M.K. Mukerjee*, 21.x.1982" and "Agastyamuni (Chamoli), Coll. *M.K. Mukerjee*, 18.x.1982"; and one female on card, Deoprayag (Tehri), Coll. *M.K. Mukerjee & Party*, 14, 15. iii. 1991

The generic placement of this species is provisional

Tribe CREMASTOBAEINI

13. *Cremastobaeus indicus* n.sp.

(Fig. 12)

Female: Length 1.15 mm. General colour of body reddish-brown to black; head black; eyes and ocelli brown; mandibles reddish-brown; antenna yellowish-brown except for the light brown A5 to A8 and brown club; mesosoma black; tegulae brown; legs yellowish-brown with reddish tinge, last tarsal segment brown; wings hyaline, veins very light brown; metasoma reddish-brown except for the brownish-black T5 and T6.

Head from above (Fig. 12A) transverse (14 : 21); reticulate, matt with minute, scattered silvery-white hairs; temples rather long, gradually receding behind eyes; vertex rounded, gradually sloping behind to join occiput; eyes bulging, finely and very densely pubescent; posterior ocelli contiguous with inner orbit; POL : LOL = 8 : 5; head in lateral view (Fig. 12G) length to height 14 : 8; eyes large, length to height 8 : 12.5; eye height to malar space 12.5 : 5; interantennal process minute, projecting; head behind eyes coriaceous; head from in front (Fig. 12E) slightly wider than long (22 : 18); frons with a deep depression, margined all around by a strong carina, antennal scrobe with transverse striations as shown in figure; a well developed strong keel present just in front of anterior ocellus extending between inner orbits as shown in figure; frons except scrobe with rather dense, short silvery-white hairs, finely reticulate; head above the transverse keel indistinctly reticulate, genae sculptured like that of frons, without striations, rather densely hairy; clypeus narrow, ventrolaterally not projecting; toruli well below the lower orbital border, close to the clypeal border; scape to interorbital space 9 : 12. *Antenna* (Fig 12F) with A1 to radicle as 35 : 7; scape slender, subequal to the following 3.50 segments combined; A1 to A4 distinctly serrate dorsally, A3 and A4 almost fused, divided by oblique suture, i.e. without constriction; club ovoid, very abrupt, with 4 segments, the sutures between club segments distinct; antennomeres in proportions 35 : 9; 15 : 8; 6 : 8; 9 : 7.5; 10.5 : 6.5; 8 : 7; 7 : 8; 6 : 8.5; 6 : 15; 7 : 15; 7 : 15; 13 : 14.

Mesosoma from above (Fig. 12A) as wide as head (20 : 21); length to width 23 : 20; pronotum very narrowly visible laterally; mesoscutum densely covered with short silvery-white hairs, finely reticulate; notauli and skaphion absent; mesoscutum separated

from scutellum by a narrow groove; scutellum semicircular, with hairs as on mesoscutum, the hairs slightly longer than those of mesoscutum; scutellum sculptured like that of mesoscutum, with a row of minute, rounded pits along the inner side of scutellar rim; metanotum transverse, smooth, unarmed, with a row of minute rounded pits along the anterior border; mesoscutum, scutellum and metanotum lengths ratio 15: 6.5: 1.5; propodeum, smooth, clothed with very short silvery-white hairs, excavated posteromedially, the excavation reaching the hind margin of metanotum; mesosoma with posterolateral corners acute; mesosoma in lateral view (Fig. 12G) very slightly wider than high (20: 18); length to height 26: 18; prepectus present, its anterior border with a row of rather elongated depressions, the rest of prepectus with transverse wrinkles; propleurae with reticulations above, extending below up to a little below the lower level of tegulae, propleurae otherwise smooth and highly shining; mesopleurae with reticulations behind the lower about 0.33 of prepectus, extending below up to approximately the base of mid coxae; a narrow area behind prepectus smooth and highly shining; mesopleurae with rather dense hairs close to tegulae, and with usual rows of deep, slightly elongated depressions forming transverse striations above; metapleurae with only the anterior row of pits, very distinctly transversely striated. *Fore wing* (Fig. 12 B & D) to body 55: 75; length to width 55: 20; $m: pm: st= 13: 55: 15$; sm, m and pm with 15, 3 and 12 moderately long bristles respectively; marginal fringe moderately long. *Hind wing* (Fig. 12C) to fore wing 46: 55; length to width 46: 7; marginal fringe moderately long.

Metasoma from above (Fig. 12A) as wide as mesosoma (20: 20); length to width 38: 20; T1 laterally with very short hairs, flat, not produced in to hump, with strong longitudinal striations running throughout its length; T2 to T5 weakly longitudinally striated; T6 smooth, with rounded punctae, punctae separated from each other by roughly their own diameters; T5 sparsely punctate; T3 widest; T1 to T6 lengths ratio 8: 8: 7.5: 7: 5: 3; posterolateral corners of metasoma without spines; metasoma in lateral view (Fig. 12G) length to height 38: 10; T1 dorsally without hairs; sternites with reticulations; metasomal segments distinctly knotted; metasoma to rest of body 36: 39.

Material examined:

Holotype: Female on card (one set of wings and antenna on a slide), Rishikesh (Dehradun), Coll. *M.K. Mukerjee & Party*, 13-15.v.1991 *paratypes* one female on card, Rishikesh (Dehradun), Coll. *M.K. Mukerjee and Party*, 6. vi. 1991, two females well preserved in spirit labelled as "Rishikesh (Dehradun), Coll. *M.K. Mukerjee & Party*, 7. v. 1991" and Rishikesh (Dehradun), Coll. *M.K. Mukerjee & Party*, 3. vi. 1991"; and one female on card (club missing in left antenna), Bhaniawala (Dehradun), Coll. *M.K. Mukerjee & Party*, 23. x. 1991.

Tribe GRYONINI

14. *Mirotelenomus indicus* n. sp.

(Fig. 13)

Female: Length 0.66 mm. General colour of body brown to black; head black; eyes brownish-black, mandibles brown with reddish teeth; antenna brown except for the yellowish-brown radicle and scape; mesosoma black with brown tegulae and dark brown propodeum; legs yellowish-brown, last tarsal segment brown; wings subhyaline, veins light brown; metasoma brown.

Head from above (Fig. 13A) transverse (7 : 20); matt; vertex rounded, densely clothed with silvery-white hairs; occipital carina strong, non crenulate; temples rather short, gradually receding behind eyes; eyes narrow, bulging, finely and densely pubescent; posterior ocelli distant from inner orbit by 5d; POL : LOL : OOL = 6 : 3.5 : 3.5; head in lateral view length to height 10 : 16; eyes oval with large ommatidia, length to height 5 : 8; eye height to malar space 8 : 5; malar sulcus narrow; interantennal process rather long, projecting; head behind eyes with reticulations and with minute, scattered, setigerous punctae; head from in front (Fig. 14E) length to width 16 : 20; frons in the upper about 0.40 matt, frons below and genae with fine reticulations as shown in figure, frons in the central part smooth and highly shining, its sides with fine reticulations; frons with a median longitudinal keel, not reaching the anterior ocellus as shown in figure; toruli well below the lower orbital border; clypeus broad, ventrolateral corners acute; clypeal border with a series of long silvery-white hairs; frons above densely hairy; scape to interorbital space 10 : 12. *Antenna* (Fig. 13F) with A1 to radicle as 36 : 8; scape slender, thickened in the proximal 0.75, subequal to the pedicel, funicular segments and first club segment combined; funicular segments particularly the last two distinctly transverse; antennomeres in proportions 36 : 7.5; 11 : 7; 5 : 7; 5 : 7; 4.5 : 7.5; 4 : 8; 4 : 10; 6 : 13; 7 : 14.5; 6 : 14; 6 : 12; 9 : 9.

Mesosoma from above (Fig. 13A) as wide as head (19 : 20); very slightly wider than long (19 : 17); pronotum well visible laterally; skaphion absent, tegulae shining; notauli absent, mesoscutum densely hairy, coriaceous, separated from scutellum by a narrow groove; scutellum semicircular, with hairs and sculpture as on mesoscutum; metanotum narrow, with a minute projection at meson as shown in figure; mesoscutum and scutellum lengths ratio 9.5 : 5; propodeum in the middle covered over by metanotum as shown in figure, its sides with short, dense hairs; posterolateral corners of mesosoma with a tooth-like process blunt at tip projecting obliquely backwards and outwards as shown in figure, close to it anteriorly is another tooth-like process, pointed apically as shown in figure; mesosoma in lateral view (Fig. 13G) slightly wider than high; almost as long as high; mesoscutum, scutellum and metanotum almost in one level; prepectus absent; propleurae smooth; mesopleurae in the upper 0.50 with transverse striations, the lower

0.50 with usual rows of narrow slightly elongated pits; mesopleural depression smooth; metapleurae with striations in the upper about 0.40, its posterior border with a row of rather large depressions, metapleurae otherwise smooth and shining. *Fore wing* (Fig. 13 B & D) to body 31.5: 43; length to width 31.5: 10.5; *sm* distinctly downcurved before joining *m*; *sm*: *m*: *pm*: *st*= 53: 5.5: 11: 16; *sm* with 6 bristles, *m* and *pm* with 2 bristles each; marginal fringe very long; marginal fringe to wing width 7.5: 10.5. *Hind wing* (Fig. 13C) to fore wing 31: 31.5; length to width 31: 8; marginal fringe long; marginal fringe to wing width 5.5: 8. *Legs* normal.

Metasoma from above (Fig. 13A) as wide as maximum width of mesosoma (18: 19); slightly longer than wide (23: 18); T1 transverse, as wide as the T2, with fine longitudinal striations extending throughout its length; T2 longest, with fine longitudinal striations extending throughout its length as shown in figure, its sides with reticulations and with sparsely distributed minute setigerous punctae; T3 with reticulations and with punctae as on the T2; following tergites smooth and shining with scattered setigerous punctae; T1 to T6 lengths ratio 4: 10: 3.5: 2: 1.5: 2; metasoma with hairs as shown in figure; metasoma in lateral view length to height 22: 10; metasoma subequal to rest of body (22: 21).

Material examined:

Holotype: Female on card (one set of wings and antenna on a slide), Rishikesh (Dehradun), Coll. M.K. Mukerjee & Party, 29.vi.1991.

Tribe THORONINI

15. *Microthoron dunensis* n. sp.

(Fig. 14)

Female: length 0.72 mm. General colour of body black; head black; eyes brownish-black; mandibles brown; antenna dirty brown except for the paler radicle and A2 to A5; mesosoma black; tegulae brownish-black; legs brownish-black including coxae except for the brown tarsi fore wings uniformly infuscated light brown, basalis slightly darker, veins brown; hind wings paler than the fore wings, *sm* brown; metasoma black.

Head from above length to width 10: 21; smooth with sparsely distributed rounded punctae; vertex rounded, gradually sloping behind to join occiput, densely clothed with golden yellow hairs; temples rather short, more or less strongly receding behind eyes; eyes finely and very densely pubescent; posterior ocelli contiguous with the inner orbit; POL: LOL = 8: 5; head in lateral view (Fig. 14A) length to height 10: 17; eyes oval, with large ommatidia, length to height 7: 10; eye height to malar space 10: 6; malar sulcus narrow; malar space smooth and shining; head behind eyes also smooth and highly shining; interantennal process well developed, long, projecting, head from in front length to width 18: 21; frons in the upper 0.40 and genae with rather dense golden yellow

hairs, frons otherwise without hairs; frons smooth and highly shining, with a weak median longitudinal keel restricted to the basal 0.40; genae with weak longitudinal striations; clypeus small, not projecting ventrolaterally, clypeal border with a few long hairs; toruli very close to the clypeal border; scape to interorbital space 9 : 8. *Antenna* (Fig. 14B) with A1 to radicle as 32 : 11; scape long, thickened in the middle, longer than pedicel and funicular segments combined; A4 and A5 transverse; club with 4 sutures and 6 sensilla as shown in figure; antennomeres in proportions 32 : 10; 13 : 8; 9 : 7; 3 : 6; 3 : 6; 36 : 22.5.

Mesosoma from above length to width 16 : 19; mesoscutum densely clothed with short, semierect golden yellow hairs, smooth, with rather close, rounded setigerous punctae; skaphion indicated, smooth; notauli not indicated; mesoscutum separated from scutellum by a narrow, deep groove; scutellum less densely hairy than the mesoscutum, smooth, with sparsely distributed, rounded, minute punctae; scutellar rim with a row of close, deep depressions; metanotum transverse, smooth, unarmed; mesoscutum, scutellum and metanotum lengths ratio 8.5 : 6 : 1.5; propodeum matt with leathery sculpture, densely hairy, its anterior border with a row of close, minute pits; propodeum excavated posteromedially; mesosoma gradually receding behind tegulae, posterolaterally without any projection; mesosoma in lateral view (Fig. 14A) almost as high as wide (20 : 19); length to height 16 : 20; prepectus present, the anterior border with a row of small depressions as shown in figure; pleurae smooth except for the microsculpture in the lower about 0.50; mesopleurae with elongated, deep pits anteriorly and posteriorly, the posterior row is complete extending up to the mid coxae, the anterior row is confined in the upper 0.60; metapleurae with only the anterior row of deep, elongated pits extending up to the hind coxae. *Fore wing* (Fig 14 C & D) to body 42 : 43; length to width 42 : 11.5; *m : pm : st* = 10 : 8.5 : 13; *sm*, *m* and *pm* with 8, 2 and 2 bristles respectively; basalis indicated; marginal fringe moderately long. *Hind wing* (Fig. 14E) to fore wing 39 : 42; length to width 39 : 4; marginal fringe to wing width 5 : 4.

Metasoma from above length to width 22 : 15; T1 transverse, with strong longitudinal striations extending throughout its length; T2 with striations as on the T1, almost reaching the posterior margin, striations gradually becoming shorter on either side, the rest of T2 smooth; following tergites smooth and highly shining; T3 longest and widest; T1 laterally with a few long silvery-white hairs; T4 onwards rather densely hairy; T1 to T3 lengths ratio 2 : 4 : 11; T4 to T6 combined about 0.45 of the T3; metasoma in lateral view (Fig. 14A) length to height 22 : 10; posterior border of tergites with a row of rather long silvery-white hairs projecting over the base of the following tergites; metasoma to rest of body 22 : 25.

Material examined :

Holotype: Female on card (one set of wings and antenna on a slide), Rishikesh

Mesosoma from above narrower than head (21 : 24); length to width 24 : 21; pronotum narrowly visible laterally; notauli absent; mesoscutum densely covered with short hairs, sculptured like that of vertex, separated from scutellum by a wide, very deep groove; longitudinal carinae between mesoscutum and scutellum absent; scutellum semicircular, with hairs as on mesoscutum, sculptured like that of vertex; scutellar rim with close, shallow depressions; metanotum transverse, unarmed, smooth; mesoscutum, scutellum and metanotum lengths ratio 12 : 7 : 2; propodeum not excavated posteromedially, with strong longitudinal striations, posterolaterally with a short tooth-like process, projecting obliquely downwards; mesosoma gradually receding behind tegulae; mesosoma in lateral view (Fig. 15A) as high as wide (21 : 21); slightly higher than long (21 : 20), pleurae smooth; mesopleurae with 2 rows of slightly elongated pits only in the upper part as shown in figure; mesopleural depression shallow; metapleurae with a row of slightly elongated, shallow pits only along the anterior border in the upper part as shown in figure, *Fore wing* (Fig. 15 C & D) to body 61 : 56; length to width 61 : 24; *m* not touching the front margin of wing; *m* : *pm* : *st* = 10 : 7 : 35; *sm*, *m* and *pm* with 6, 2 and 1 bristles respectively; marginal fringe moderately long. *Hind wing* (Fig. 15E) to fore wing 52 : 61; length to width 52 : 9; marginal fringe to wing width 5 : 9.

Metasoma from above length to width 24 : 19; T1 transverse, with longitudinal striations extending throughout its length, with a few long hairs laterally; T2 with longitudinal striations as on the T1; T3 longest and widest; T3 and T4 reticulate, with minute, rounded, scattered punctae; T4 onwards with rather dense long, backwardly directed hairs; T1 to T4 lengths ratio 3 : 5 : 12 : 2.5; T5 to T7 about 0.60 of the T4; tip of metasoma unarmed, rounded; aedeagus slightly exerted beyond the tip of metasoma; metasoma in lateral view (Fig. 15A) length to height 24 : 8; metasoma to rest of body 24 : 29.

Material examined :

Male on card (one set of wings and antenna on a slide), Rishikesh (Dehradun), Coll. *M.K. Mukerjee & Party*, 9, 10. v. 1991.

This species was originally described by *Mukerjee* (1981) from two female specimens from Agra (U.P). I have before me one example of female mounted on card (left antenna and left wings on slide) labelled as "Bhaldiyana (Tehri), Coll. *M. K. Mukerjee & Party*, 10. v. 1991.

The specimen before me agrees with that of the type specimen except for smaller body (length 0.72mm).

Genera incertae sedis

17. *Neoscelio orientalis* n.sp.

(Fig. 16)

Male: Length 1.80 mm. General colour of body reddish-brown to black; head black;

eyes and ocelli brown; mandibles reddish-brown; antenna dark brown except for the light brown radicle and scape; mesoscutum, scutellum and propodeum brownish-black; metanotum (including spine) and tegulae dark reddish-brown; scutellar spines and propodeal spines reddish-brown; pleurae dark reddish-brown; wings uniformly infuscated light brown, veins brown, basalis paler; legs including coxae reddish-brown; metasoma brownish-black except for the proximal 0.20 of T1 reddish-brown and distal 0.80 of T1 and proximal 0.25 of T2 dark brown with reddish tinge.

Head from above (Fig. 16A) strongly transverse (16: 41); vertex rounded, gradually sloping behind to join occiput, with long hairs, provided with numerous keels as shown in figure; vertex from the posterior orbital line up to a little behind the posterior ocelli smooth and highly shining, with minute scattered punctae and a few large shallow setigerous punctae, the rest of vertex with rough and leathery sculpture; temples smooth and shining with minute scattered punctae, densely hairy; eyes small, provided with rather long, dense hairs; eyes bulging; temples gradually receding behind eyes; occipital carina strong, with a row of shallow depressions close to it, separated by keels; posterior ocelli distant from inner orbit by 3.33d; POL: LOL: OOL = 6: 3: 10; head from in front (Fig. 16D) length to width 36: 41.5; vertex with very long hairs; frons with hair distribution as shown in figure, with median longitudinal keel extending from a little above toruli right up to the anterior ocellus; frons with 3 long keels on either side extending from the base of mandibles, reaching near the ocellar area as shown in figure, in addition there are some short keels as shown in figure; frons with leathery sculpture and with small scattered setigerous punctae; posterolateral corners of clypeus acute; clypeal border with 6 very long hairs; toruli well below the lower orbital border, near the clypeal margin; scape to interorbital space 16: 27; head in lateral view (Fig. 16F) length to height 20: 32; eyes oval, with small ommatidia, length to height 12: 18; eye height to malar space 18: 4; interantennal process very well developed, projecting; head behind eyes smooth and highly shining, with 2 long, longitudinal keels extending from the base of mandibles as shown in figure, with moderately long, sparse hairs. *Antenna* (Fig. 16E) with A1 to radicle as 16: 4; scape rather short, thickened in the middle, slightly shorter than the following 2 segments combined; funicular segments distinctly elongated, with short, dense hairs; antennomeres in proportions 16: 4; 4: 3.7; 13.5:3.5; 12:3.2; 12.5:3.2; 14:3.2; 14.5:3.2; 14.5:3; 14.5:3; terminal 3 segments missing.

Mesosoma from above (Fig 16A) almost as wide as maximum width of head (40:41); almost as wide as long (40:38); pronotum well visible laterally, with very long hairs as shown in figure; mesoscutum with large, moderately deep contiguous polygons arranged linearly one behind the other and separated from each other by well developed strong keels, with leathery sculpture and with small setigerous punctae; notauli wide, deep, complete, the edges distinctly raised forming keels; mesoscutum anteriorly strongly arched; the deep suture between mesoscutum and scutellum straight; mesoscutum and scutellum with moderately long hairs; scutellum semicircular, sculptured like that of mesoscutum;

posterior border of scutellum rather straight; scutellar teeth well developed, pointed at apex, projecting obliquely behind over metanotum as shown in figure; metanotum transverse; the metanotal spine long, slender, pointed at apex, projecting over the base of propodeum; metanotum anteriorly with a row of large, rounded depressions; propodeum more densely hairy, on either side with an anterior tooth and a posterior spine as shown in figure, with the same sculpture as on the mesoscutum; skaphion absent; mesoscutum, scutellum and metanotum lengths ratio 18:12:4; mesosoma in lateral view (Fig. 16F) wider than high (40:35); length to height 39:35; scutellar, metanotal and propodeal spines as shown in figure; metanotal spine very strong; propodeal spines shorter than the scutellar spines; propodeal teeth conical, stout; mesopleural depression with transverse rows of smooth, contiguous, elongated pits, the pits slightly deeper anteriorly and posteriorly; mesopleurae anterior to the depression with rather deep, slightly elongated contiguous punctae; metapleurae anteriorly with rounded, moderately deep punctae, and near coxae with shallow, contiguous punctae, otherwise with irregular keels; propodeum with a row of deep, contiguous punctae. *Fore wing* (Fig. 16B) to body 106:120; length to width 106:38; $sm:m:st=51:20:6$; sm and m with 12 and 7 bristles respectively; marginal fringe short. *Hind wing* (Fig. 16C) to fore wing 91:106; length to width 91:21; marginal fringe short.

Metasoma from above (Fig. 16A) length to width 64:37; T1 petiolate, longitudinally striated throughout its length; T2 with longitudinal striations extending almost to the hind margin; T1 and T2 laterally with a series of very long golden yellow hairs, rest of the tergites with moderately long hairs; T4 to T6 densely hairy; T3 longest and widest, minutely sparsely punctate; T4 to T6 with rather close punctae; tip of metasoma unarmed, rounded; T1 to T6 lengths ratio 13:14:23:8:4:1; metasoma in lateral view (Fig. 16F) length to height 63:17; T1 dorsally without hairs; sternites densely hairy; metasoma to rest of body 63:59.

Material examined:

Holotype: Male on card (one set of wings and antenna on a slide), Rishikesh (Dehradun), Coll, *M. K. Mukerjee & Party*, 23-30. vi 1992. Three terminal segments of left antenna mounted on slide missing, right antenna of the specimen with only proximal six segments and right fore wing missing.

Family SCELIONIDAE
Subfamily TELEASINAE
Tribe TELEASINI

18. *Trimorus duncensis* n. sp.

(Fig. 17)

Male: Length 0.67 mm. General colour of body very dark brown to black; vertex

black; frons very dark brown to black; eyes and ocelli dark brown; mandibles light brown with reddish—brown teeth; antenna brown except for the light brown scape and pedicel, and yellowish-brown radicle; mesosoma very dark brown; legs including coxae yellowish-brown; wings uniformly infuscated light brown, a narrow area along the margins of the fore and hind wings slightly darker, veins yellowish-brown; metasoma very dark brown except for the yellowish-brown T1.

***Head* from above distinctly transverse (6:19); vertex rounded; temples short; vertex and temples smooth and shining, with minute, scattered setigerous punctae; eye narrow, glabrous; head posterolaterally without any projection; POL: LOL: = 4:2:4; posterior ocelli distant from inner orbit by rd; head in lateral view (Fig. 17A) length to height 9:14; vertex rather strongly sloping behind to join occiput; eyes oval, large, with large ommatidia, length to height 5:9; interantennal process rather long, projecting; malar sulcus narrow, deep; eye height to malar space 9:3; head behind eyes and malar sulcus smooth and shining, with minute, scattered setigerous punctae; head from in front length to width 14:19; eyes distinctly bulging; frons smooth and highly shining with minute, scattered punctae; genae with very fine longitudinal striations; toruli roughly in between the lower orbital border and clypeal border; vertex with 2 moderately long silvery-white hairs one on either side of the anterior ocellus, projecting obliquely inwards over it, and 2 long hairs above the anterior ocellus one on either side projecting obliquely upwards and outwards; clypeus short, broad, posterolateral corners slightly projecting; clypeal border with a few long hairs; scape to interorbital space 7.5:13 *Antenna* (Fig. 17B) with A1 to radicle as 27:7; scape short, subequal to the following 2.25 segments combined; A3 and A4 rather short, almost subequal; flagellum densely hairy; antennomeres in proportions 27:7.5; 10:8; 12.5:6; 14:6; 24: 5.5; 26: 5.5; 27:7; 25:7; 25:7; 23:7; 22:7; 26:7**

***Mesosoma* from above slightly narrower than head (17:19); length to width 15:17; pronotum very narrowly visible laterally; skaphion absent; notauli complete, very narrow, deep, widely separated from each other behind; mesoscutum smooth, shining, with minute, scattered setigerous punctae, separated from scutellum by a narrow, deep groove; scutellum semicircular, smooth, shining, with minute, scattered setigerous punctae; scutellar rim with a row of small, deep depressions; metanotum smooth, with chains of close, minute pits on either side; the median metanotal tooth short, broad at base; lateral metanotal teeth absent; mesoscutum, scutellum and metanotum lengths ratio 8:5:2; propodeum smooth, with a row of close minute pits along borders, excavated posteromedially; the excavation touching the hind margin of metanotum; posterolateral corners of propodeum slightly projecting; mesosoma gradually receding behind tegulae; mesosoma in lateral view (Fig. 17A) almost as high as wide (18:17); length to height 15:18; metanotal tooth blunt at tip; propleurae smooth, with minute, scattered punctae; mesopleurae smooth, with usual chains of minute, close pits, the anterior row being restricted to the upper 0.45 and the posterior row is complete extending almost up to mid coxae; metapleurae**

smooth with anterior and posterior rows of close, minute pits extending below almost up to hind coxae, *Fore wing* (Fig. 17C) to body 52:43; length to width 52:16.5; *sm:m:st*=72:55:10; *sm* and *m* with 7 and 6 long bristles respectively; marginal fringe moderately long. *Hind wing* (Fig. 17D) to fore wing 43:52; length to width 43:6; marginal fringe to wing width 5:6.

Metasoma from above length to width 20:15; T1 with a few long hairs laterally, with longitudinal striations extending throughout its length; T2 with longitudinal striations restricted to the anterior about 0.60, the striations gradually becoming shorter on either side, T2 otherwise perfectly smooth and shining; T3 longest and widest, with very short striations restricted to the anterior about 0.12, otherwise smooth and shining, with minute, scattered setigerous punctae; following tergites smooth and highly shining, with punctae as on the T3; T1 to T6 lengths ratio 4:5:8:2:1:1; metasoma in lateral view (Fig. 17A) short; length to height 19:7; tip of metasoma unarmed, metasoma to rest of body 19:24.

Material examined:

Holotype: Male on card (one set of wings and antenna on a slide), Rishikesh (Dehradun), Coll. *M.K. Mukerjee & Party*, 4. v. 1991; *paratypes* 2 males on cards (last six segments of right antenna of one specimen missing), Rishikesh (Dehradun), Coll. *M.K. Mukerjee and Party*, 16. iv.-1.v.1991; and one male on card, Rudraprayag (Pauri), Coll. *M.K. Mukerjee & Party*, 18,19.iii.1991.

This species comes close to *T. nilamburensis* Mukerjee (1981) but is distinguished by much smaller size, glabrous eyes, wings infuscated light brown, the whole of mesoscutum with minute, scattered setigerous punctae, metanotum without lateral teeth and different colouration of body.

19. *Trimorus garhwalensis* n. sp.

(Fig. 18)

Male: Length 18 mm General colour of body very dark brown to brownish-black; head brownish-black; eyes dark brown; mandibles brown with reddish-brown teeth; antenna dark brown except for the yellowish-brown redicle, and brown scape and pedicel; mesosoma very dark brown; legs including coxae dark reddish-brown; wings uniformly infuscated light brown, veins brownish; basalis in the fore wings slightly darker; metasoma very dark brown except for the reddish-brown T1.

Head from above distinctly transverse (9:27); vertex rounded, smooth with minute, scattered setigerous punctae, with rather long, dense, golden yellow hairs; temples moderately long, gradually receding behind eyes, smooth; eyes bulging, finely and sparsely pubescent; head posterolaterally without any projection; posterior ocelli distant from inner orbit by 3d; POL: LOL: OOL= 5:3:6; head in lateral view (Fig. 18A)

length to height 12: 21; vertex strongly convex; interantennal process well developed, long, projecting; eyes oval, with large ommatidia, length to height 8: 12; malar sulcus narrow, deep; eye height to malar space 12: 6; head behind malar sulcus and eyes smooth and shining, with minute, scattered setigerous punctae; head in front of malar sulcus, close to the lower orbital border with microsculpture, otherwise with longitudinal striations; head from in front length to width 18: 27; genae and frons in the lower about 0.40 with longitudinal striations, frons otherwise smooth and shining; eyes distinctly bulging; toruli almost at the level of the lower orbital border; clypeus smooth, broad, ventrolaterally projecting; scape to interorbital space 13.5: 16. *Antenna* (Fig. 18B) with A1 to radicle as 48: 13; scape short, gradually becoming thicker apically, subequal to the following 2.15 segments combined; A5 with an angular projection as shown in figure, flagellum densely hairy; antennomeres in proportions 48: 15; 13: 12; 29: 11; 40: 11; 50: 12; 50: 9.7; 48: 9.7; 46: 9; 46: 8.5; 43: 8; 39: 8.5; 43: 8.2.

Mesosoma from above slightly narrower than head (24: 27); almost as long as wide (25: 24); pronotum narrowly visible laterally; skaphion absent; mesoscutum very densely clothed with golden yellow hairs, with small, rounded, rather close setigerous punctae; notauli very narrow, deep, widely separated from each other behind; outer border of the lateral lobe of mesoscutum with a row of shallow, rather large, close pits; mesoscutum, separated from scutellum by a narrow; deep groove, scutellum semicircular, smooth, with small, scattered setigerous punctae; scutellar rim with a row of close, small, deep pits; metanotum smooth, transverse, the median metanotal tooth fairly long; the lateral teeth slightly shorter and narrower than the middle tooth; anterior border of metanotum with a chain of close, small, deep pits; mesoscutum, scutellum and metanotum lengths ratio 15: 8: 2; propodeum deeply excavated posteromedially, the excavation touching the hind margin of metanotum; propodeum smooth, its posterior border with a row of minute pits, with a bulge posterolaterally, mesosoma gradually receding behind tegulae; mesosoma in lateral view (Fig. 18A) higher than wide (29: 24); length to height 26: 29; scutellum dorsally with distinctly longer hairs than on mesoscutum; metanotal tooth blunt at tip; pleurae smooth; meso- and metapleurae with chains of deep pits; mesopleural depression deep, with strong transverse striations, *Fore wing* (Fig. 18C) to body 94: 77; length to width 94: 31; $sm: m: st = 32: 19: 4.8$; *sm* and *m* with 14 and 10 long bristles respectively; marginal fringe moderately long. *Hind wing* (Fig. 18D) to fore wing 81: 94; length to width 81: 15; marginal fringe to wing width 6: 15.

Metasoma from above length to width 39: 25; T1 laterally with 2 long hairs, with longitudinal striations extending throughout its length; T2 with strong longitudinal striations except in the posterior 0.30, the striations gradually reducing in length on either side, T2 otherwise smooth and shining; T3 longest and widest, with minute elongated striations confined to the base, T3 otherwise smooth and shining; following tergites smooth, with minute, scattered setigerous punctae; metasoma rather strongly receding behind T3, T4

onwards densely hairy; T1 to T6 lengths ratio 7: 9: 14: 5: 2: 2; metasoma in lateral view (Fig. 18A) length to height 38: 12, with hair as shown in figure; metasoma to rest of body 38: 39.

Material examined:

Holotype: Male on card (one set of wings and antenna on a slide), Rishikesh (Dehradun), Coll. *M. K. Mukerjee & Party*, 19. ii. 1991.

This species runs to couplet 8 in key to species (1981: Mukerjee) and comes close to *T. atturensis* Mukerjee but is distinguished in the eyes being finely and sparsely pubescent, gena as well as frons basally with striations, mesoscutum being very densely clothed with hairs and with small rather close setigerous punctae and metasoma being 0.50 of body. It differs from *T. nilamburensis* Mukerjee (1981) in the smaller size, the wings being uniformly infuscated light brown, different sculpture of mesoscutum and different proportions of antennomeres. This species also differs from *T. dunensis* n. sp. in the larger body, the eyes being glabrous, metanotum with median as well as lateral teeth and the metasoma being 0.50 of body.

20. Trimorus tuberculatus n. sp.

(Fig. 19)

Female: Length 1.58 mm. General colour of body very dark brown to black; head black; eyes brownish-black; mandibles reddish-brown with dark teeth; antenna dark brown except for the radicle and proximal 0.40 of scape yellowish-brown, the rest of scape and pedicel brown; mesosoma black; tegulae dark brown; legs including coxae yellowish-brown; fore wings uniformly infuscated very light brown, veins brownish; hind wings clear, *sm* pale brown; metasoma including horn of T1 very dark brown except for the reddish-brown T1; ovipositor silvery-white.

Head from above length to width 15: 29; vertex rounded, gradually sloping behind; vertex anterior to the posterior ocelli smooth, with small, deep, rather close setigerous punctae, the rest of vertex and temples coriaceous; temples rather long, gradually receding behind eyes, with short hairs directed obliquely upwards and outwards; eyes bulging, finely and densely pubescent; head posterolaterally without any projection; posterior ocelli distant from inner orbit by 1.5d; POL: LOL: OOL= 10: 5: 3; head in lateral view (Fig. 19A) length to height 14: 26.5; malar sulcus very narrow, deep; eyes with small ommatidia, length to height 8: 15; eye height to malar space 15: 6.5; head behind malar sulcus and lower 0.50 of eyes with large rather close setigerous punctae, the space between punctae smooth and shining, the rest of head behind eyes with longitudinal rugae; interantennal process rather long, projecting; head from in front as long as wide (29: 29); roughly spherical; frons basally with strong longitudinal striations, the striations

gradually increasing in length on either side extending up to a little above the lower orbital border; frons above and at sides with small, shallow, rather close punctae, otherwise smooth without punctae; frons except for the smooth central part with very short, dense silvery-white hairs; genae with longitudinal striations; clypeus broad, transversely striated, posterolateral corners acute, with 2 long hairs medially one on either side; toruli well below the lower orbital border, very close to the clypeal border; scape to interorbital space 18.5: 17 *Antenna* (Fig. 19B) with A1 to radicle as 68: 14; scape long, slender, gradually becoming thicker, subequal to the following 5.50 segments combined; first funicular segment subequal to the pedicel; second funicular segment slightly shorter than the preceding segment; third and fourth funicular segments subequal, each distinctly shorter than the second funicular segment; antennomeres in proportions 68: 12; 18: 10; 19: 12; 15: 12; 7: 8.6; 6: 9; 7: 13.4; 10: 19; 10: 21; 10: 21; 10: 20.5; 14: 15.

Mesosoma from above almost as long as wide (30: 31); pronotum very narrowly visible laterally, with a row of rather long hairs directed obliquely backwards and outwards; skaphion absent; mesoscutum strongly arched anteriorly, longitudinally rugose, with very dense hairs; notauli not indicated; mesoscutum separated from scutellum by a deep groove, wider at sides, with a row of strong longitudinal carinae; posterior border of scutellum straight; scutellum with moderately large, shallow, close setigerous punctae, the punctae with reticulations; scutellar rim with a row of large, deep pits; metanotum very narrow in the middle, gradually becoming wider at sides, unarmed, with a row of close, deep punctae extending the whole length; mesoscutum, scutellum and metanotum lengths ratio 15: 8: 1; propodeum unarmed, densely clothed on either side with long, silvery-white hairs, deeply excavated posteromedially to contain the horn of T1, the excavation touching the hind margin of metanotum; mesosoma gradually receding behind tegulae; mesosoma in lateral view (Fig. 19A) as high as wide (31: 31); almost as long as high (30: 31); propleurae smooth with minute, scattered punctae; mesopleurae smooth above the mesopleural depression, with an anterior row of small, deep, close pits and a posterior row of rather large, deep pits; mesopleural depression very deep, smooth with an anterior and a posterior row of large, deep pits and each row is close to the corresponding row of pits of mesopleurae; metapleurae smooth, with an anterior and a posterior row of large, deep pits; propodeum smooth. *Fore wing* (Fig. 19C) to body 70: 103; length to width 70: 22.5; $sm: m: st = 32: 14.5: 3$; sm and m with 11 and 8 bristles respectively; marginal fringe moderately long. *Hind wing* (Fig. 19D) to fore wing 63: 70; length to width 63: 16; marginal fringe to wing width 5: 16.

Metasoma from above length (including the horn of T1) to width 64: 30; horn of T1 smooth and shining; T1 with strong longitudinal striations extending throughout its length; T2 with striations as on the T1 except for the smooth posterior about 0.15;

T3 longest, smooth, without striations, with minute, scattered punctae; following tergites smooth, with punctae as on the T3; T1 with a few moderately long hairs on either side; T5 very narrow medially, its posterior border strongly concave; T4 onwards rather densely hairy; ovipositor well exerted beyond the tip of metasoma, long; T1 to T5 lengths ratio 14: 13: 26: 6: 1; metasoma in lateral view (Fig. 20A) length to height 59: 18; horn of T1 projecting over propodeum as shown in figure; sternites with very dense, short, silvery-white hairs; ovipositor to metasoma 40: 59; metasoma to rest of body 59: 44.

Material examined:

Holotype: Female on card (one set of wings and antenna on a slide), Rishikesh (Dehradun), Coll. *M. K. Mukerjee & Party*, 3. v. 1991

This species differs from all other species of *Trimorus* Foerster known from oriental region in the presence of a horn on T1

21. *Trimorus uttaranchalensis* n.sp.

(Fig. 20)

Male: Length 1.07 mm. General colour of body brownish-black to black; head black; eyes very dark brown; mandibles brown with dark reddish-brown teeth; antenna dark brown except for the brown radicle; mesosoma black, tegulae brownish-black; legs dark brown; wings uniformly infuscated light brown, veins brown; a very narrow area along the margin of the fore wings slightly darker; metasoma brownish-black except for the reddish brown T1

Head from above transverse (12: 26); vertex rounded, densely hairy, rugae behind posterior ocelli, otherwise smooth and shining; temples long, bulging; eyes small, distinctly bulging, finely and more or less densely pubescent; temples smooth and shining; occipital carina strong; head posterolaterally without any projection; posterior ocelli distant from inner orbit by 2.5d; POL: LOL: OOL=6: 3: 5; head in lateral view (Fig. 20A) length to height 12: 19; eyes rather small, oval, with large ommatidia, length to height 6: 10; eye height to malar space 10: 4; malar sulcus narrow, deep; head behind malar sulcus with fine longitudinal striations extending between the base of mandibles up to a little above the lower orbital border, head otherwise smooth and shining with scattered minute setigerous punctae; interantennal process rather large, projecting; head from in front length to width 21: 26; frons with a sharp, median narrow keel extending between anterior ocellus up to a little above toruli, bifurcating at base to enclose toruli; frons from the base up to a little above toruli, the sides in the lower about 0.60, and genae with fine striations, frons otherwise smooth and shining, with minute setigerous punctae; genae with dense, short silvery-white hairs; clypeus broad, with strong transverse striations, ventrolaterally projecting; clypeal border with 6 long silvery-white hairs; toruli slightly below the lower orbital border; scape to interorbital space 13: 17 *Antenna* (Fig. 20B)

with A1 to radicle as 46: 10; scape slender, thickened in the middle, subequal to the following 2.40 segments combined; flagellar segments elongated, A5 with an angular projection as shown in figure; funicular segments and club clothed with very dense hairs; antennomeres in proportions 46: 11; 13: 11; 25: 10; 25: 10; 31: 12; 30: 10; 31: 9; 30: 8; 32: 8.5; 31: 8; 31: 7; 39: 7

Mesosoma from above almost as long as wide (25: 26); pronotum narrowly visible laterally, with long, ventrolaterally projecting hairs; skaphion absent; notauli complete, narrow, deep, widely separated from each other behind; middle lobe of mesoscutum very densely hairy, with coarse sculpture; lateral lobes of mesoscutum with rather large and close punctae, the punctae separated from each other by less than their own diameter, the space between punctae smooth and shining; mesoscutum separated from scutellum by a wide, deep groove having a series of longitudinal carinae; scutellum semicircular, with longer hairs than on mesoscutum, smooth and shining, with small scattered punctae; scutellar rim with a chain of small, deep pits; metanotum transverse, smooth, with a short and broad median tooth; anterior border of metanotum on either side with chain of close, small, deep pits; mesoscutum, scutellum and metanotum lengths ratio 14: 8: 2; propodeum smooth, excavated posteromedially, the excavation touching the hind margin of metanotum; propodeum posterolaterally with a small bulge; mesosoma in lateral view (Fig. 20A) very slightly higher than wide (28: 26); propleurae smooth; mesopleurae smooth, with a chain of small, deep depressions close to the anterior border of mesopleural depression, confined to the lower 0.60; mesopleural depression deep with transverse striations; metapleurae with complete chain of small, deep pits along borders, smooth in the upper 0.45, otherwise with weak transverse striations; propodeum just behind the posterior border of metapleurae with rather long, dense silvery-white hairs as shown in figure. *Fore wing* (Fig. 20C) to body 69: 70; length to width 69: 24; *sm*: *m*: *st*=26: 15: 3; *sm* and *m* with 9 and 7 long bristles respectively; marginal fringe moderately long. *Hind wing* (Fig. 20D) to fore wing 61: 19; length to width 61: 10; marginal fringe to wing width 6: 10.

Metasoma from above length to width 33: 22; T1 with strong longitudinal striations extending throughout its length; T2 with striations almost touching the hind margin, laterally smooth and shining; T3 longest and widest, smooth, without striations, with minute scattered punctae; following tergites smooth, with punctae as on the T3; metasoma particularly T4 onwards with rather long, dense hairs; T1 to T6 lengths ratio 5: 7: 15: 4: 1: 1; metasoma in lateral view (Fig. 20A) length to height 32: 13; metasoma to rest of body 32: 27

Material examined:

Holotype: Male on card (one set of wings and antenna on a slide), Rishikesh (Dehradun), Coll. M. K. Mukerjee & Party, 12. iv. 1991

This species runs to couplet 7 in key to species (1981: Mukerjee) and comes close to *T. agraensis* Mukerjee but is distinguished by the infuscated wings, different proportions of antennomeres, metanotum with a median tooth and different colouration of legs.

Family SCELIONIDAE
Subfamily TELENOMINAE
Tribe TELENOMINI

22. *Telenomus chamoliensis* n. sp.

(Fig. 21)

Female: length 0.72 mm. General colour of body very dark brown to black; head black; eyes dark brown; mandibles brown with darker teeth; antenna including radicle dark brown; mesosoma black; legs dark brown; fore wings uniformly infuscated very light brown, veins including basalis slightly darker; hind wings subhyaline, *sm* pale brown; metasoma very dark brown.

Head from above transverse (7: 16); vertex rounded, gradually sloping behind to join occiput; head behind the level of posterior ocelli reticulate, the reticulations finer at sides, head otherwise smooth, with small, deep, rounded setigerous punctae; vertex and temples with dense silvery-white hairs; temples rather long, bulging; eyes finely and sparsely pubescent; head posterolaterally with a tiny projection, pointed apically; posterior ocelli contiguous with inner orbit; POL: LOL = 7: 4; head in lateral view (Fig. 21A) length to height 9: 14; eyes large, with small ommatidia, length to height 5: 9; eye height to malar space 9: 3.5; malar sulcus narrow shallow; head behind eyes smooth and shining, with small scattered rounded setigerous punctae; interantennal process minute, projecting; head from in front length to width 14: 16; frons above smooth and shining, with small, deep, rounded, scattered setigerous punctae; frons below at sides with reticulations and punctae, the reticulations extending on either side up to slightly above the lower orbital border; clypeal border with long silvery-white hairs; toruli close to the clypeal border; scape to interorbital space 8.5: 9. *Antenna* (Fig. 21B) with A1 to radicle as 31: 7; scape long, slender, subequal to the following 3.33 segments combined; antennomeres in proportions 31: 6.5; 13: 5.8; 9: 5.5; 7: 6; 7: 6; 5: 6; 5: 6.5; 7: 8; 8: 9; 8: 9; 12: 8.

Mesosoma from above length to width 20: 16.5; pronotum very narrowly visible laterally; skaphion absent; notauli not indicated; mesoscutum reticulate, densely covered with short, backwardly directed silvery-white hairs; scutellum semicircular, smooth, with minute, scattered, rounded setigerous punctae, less densely hairy than mesoscutum; scutellar rim with a row of close, small, shallow depressions; metanotum smooth, slightly produced at meson, with minute, scattered punctae; mesoscutum, scutellum and metanotum lengths ratio 12: 4.5: 1.6; propodeum smooth, excavated posteromedially,

the excavation touching the hind margin of metanotum, unarmed; mesosoma gradually receding behind tegulae; mesosoma in lateral view (Fig. 21A) longer than high (19: 13); wider than high (16.5: 13); propleurae smooth, with longitudinal rugosity anteriorly; mesopleurae smooth, with small, rounded, scattered punctae anteriorly; mesopleural depression deep, smooth; metapleurae smooth and shining, with scattered, minute, rounded punctae. *Fore wing* (Fig. 21C&D) subequal to the body (47: 47); length to width 47: 15; *m: pm: st* = 7: 41: 21; *sm, m* and *pm* with 10, 2 and 9 long bristles respectively; basalis indicated; marginal fringe moderately long. *Hind wing* (Fig. 21E) to fore wing 42: 47; length to width 42: 6; marginal fringe to wing width 5: 6.

Metasoma from above (Fig. 21F) length to width 21: 14; metasoma with 5 visible tergites; T1 transverse, smooth, with 2 long silvery-white hairs on each side laterally; T2 longest, with short, fine striations confined to the base as shown in figure, otherwise smooth and highly shining, with scattered, minute setigerous punctae; following tergites smooth and shining, with rather close, minute setigerous punctae; T3 onwards with rather dense, moderately long silvery-white hairs directed posteriorly; T1 to T5 lengths ratio 2.5: 13: 2.5: 1: 1; metasoma in lateral view (Fig. 21A) length to height 21: 10; ovipositor slightly exerted beyond the tip of metasoma; metasoma to rest of body 22: 25.

Material examined:

Holotype: Female on card (one set of wings and antenna on a slide), Chamoli, Coll. *M. K. Mukerjee & Party*, 26, 27, iii. 1991.

This species differs from *T. argus* Johnson & Bin (1988) in its bigger size, lower frons without curved wrinkles flanking clypeal range and antennal insertions, frons below at sides with reticulations, and scutellum being smooth and not rugulose above and striate below. It can be distinguished from *T. phymatae* Masner & Johnson (1979) by smaller body, dark brown legs and antennae including radicle, vertex not evenly coriaceous but reticulate behind the level of posterior ocelli, frons below at sides with reticulations, A2 distinctly longer than A3, and indication of basalis in fore wings.

23. *Telenomus duncensis* n. sp.

(Fig. 22)

Male: Length 0.86 mm. General colour of body black; head black; eyes brown; mandibles brown with reddish tinge, teeth very dark brown; antenna dark brown with reddish tinge except for the yellowish-brown radicle and scape; mesosoma black; tegulae brown; legs including coxae yellowish-brown, last tarsal segment brown; wings uniformly infuscated light brown, veins darker, metasoma black.

Head from above (Fig. 22B) length to width 9: 18; vertex rounded, gradually sloping behind to join occiput, with scattered hairs, coriaceous; temples rather long, distinctly

bulging as shown in figure, sculptured like that of vertex; eyes finely and densely pubescent; head posterolaterally with a minute, angular projection; posterior ocelli contiguous with inner orbit; POL: LOL=6:3; head in lateral view (Fig. 22A) length to height 11:15; head behind eyes with reticulations and small, scattered, shallow, rounded punctae, interantennal process short, projecting; eyes very large, with small ommatidia, length to height 11:11; eye height to malar space 11:3; head from in front length to width 15:18; frons without depression and median longitudinal keel, with moderately large, rounded, deep, scattered setigerous punctae; frons basally on either side with reticulations, otherwise smooth; frons above and vertex with moderately long, upwardly directed, silvery-white hairs; eyes slightly bulging; genae not considerably prolonged towards buccal region, with reticulations; clypeus very short, broad, slightly produced midventrally, ventrolaterally with a short bulge; clypeal border with 4 long silvery-white hairs; toruli very close to the clypeal border; scape to interorbital space 10:9. *Antenna* (Fig. 22C) with A1 to radicle as 36:8; scape long, slender, cylindrical, subequal to the following 2.70 segments combined; antennomeres in proportions 36:7; 10.5:5; 13:6.6; 16:6.6, 16:6.5; 14:6; 14:5.5; 14:6; 15:7.7; 15:8; 12.5:8.3; 21:8.

Mesosoma from above slightly narrower than head (16:18); length to width 21:16, pronotum very narrowly visible laterally; skaphion absent; notauli absent; mesoscutum very densely clothed with short silvery-white hairs, with sculpture as on vertex, separated from scutellum by a narrow, deep groove; a series of longitudinal carinae extending between mesoscutum and scutellum; scutellum semicircular, smooth, with minute, rounded, deep, scattered setigerous punctae; scutellum densely hairy, hairs longer than those of mesoscutum; scutellar rim along inner side with a row of close, small, deep pits; metanotum transverse, produced at meson, closely punctate; mesoscutum, scutellum and metanotum lengths ratio 11:6:2; propodeum excavated posteromedially, smooth with a well developed elongated tooth posterolaterally, projecting obliquely backwards and outwards; mesosoma gradually receding behind tegulae; mesosoma in lateral view (Fig. 22A), slightly higher than wide (18:16); length to height 21:18; anterior about 0.50 of propleurae closely punctate, propleurae otherwise smooth; mesopleurae with weak transverse striations above the mesopleural depression, reticulate anterior to the depression, posterior border with a row of small, close punctae; mesopleural depression deep, smooth; metapleurae smooth. *Fore wing* (Fig. 22 D&E) to body 51:56; length to width 51:16; *m:pm:st*=16:62:27; *sm, m* and *pm* with 9, 3 and 9 bristles respectively; marginal fringe moderately long. *Hind wing* (Fig. 22F) to fore wing 46:51; length to width 46:7; marginal fringe to wing width 5:7

Metasoma from above (Fig. 22G) length to width 25:14; metasoma with 6 visible tergites; T1 laterally with 3 long hairs, with strong longitudinal striations extending throughout its length; T2 longest, gradually becoming wider posteriorly, with striations restricted to the base as shown in figure, otherwise smooth, with minute rounded, setigerous

punctae particularly in the distal 0.40; following tergites smooth, with minute, rounded, rather close, shallow punctae; T1 to T6 lengths ratio 4: 14: 2: 1.5: 1.5: 1.5; metasoma in lateral view (Fig. 22A) length to height 25: 9; metasoma to rest of body 25: 31.

Material examined:

Holotype: Male on card (one set of wings and antenna on a slide) Rishikesh (Dehradun), Coll. *M. K. Mukerjee & Party*, 16. iv. 1991.

This species differs from *T. solitus* Johnson (1983) in vertex not being reticulate but coriaceous, mesoscutum not shallowly reticulate but with coriaceous sculpture, T1 with 3 pairs of lateral setae and the greatest length of basal costae on T2 slightly exceeding the medial length of T1. It can be distinguished from *T. versicolor* Bin & Johnson (1982) by the yellowish-brown legs with the last tarsal joint brown, different colouration of antennae, vertex not scaly-reticulate posteriorly but evenly coriaceous and distinctly elongated funicular segments and club.

24. *Telenomus pauriensis* n. sp.

(Fig. 23 & 24)

Female: Length 1.27 mm. General colour of body brownish-black; head black; eyes brown; mandibles reddish-brown, antenna dark brown except for the reddish-brown radicle and scape, and reddish-brown to dark brown pedicel; mesosoma black; wings subhyaline, veins light brown; legs reddish-brown, coxae black; metasoma brownish-black.

Head from above distinctly transverse (14: 32); vertex reticulate; a row of moderately long hairs arising from just below the weakly developed hyperoccipital carina, projecting over the hind border of vertex; occiput sculptured like that of vertex; eyes large, bulging, finely and densely pubescent; temples very short, very strongly receding behind eyes; POL: LOL= 12: 6; posterior ocelli contiguous with the inner orbit; head from in front conical; length to width 20: 32; upper margin of head straight; frons without median longitudinal keel, ventrolaterally with reticulations and scattered punctae, the reticulations on the sides extending up to about 0.50 of eye height, frons otherwise smooth and shining with scattered punctae; eyes strongly bulging; toruli close to the clypeus; clypeus simple, ventrolaterally not projecting, clypeal border with 4 long stiff hairs; scape to interorbital space 16: 15; head in lateral view (Fig. 23A) length to height 15: 25; hyperoccipital carina not very prominent; head behind eyes reticulate; interantennal process short, projecting; eyes oval with small ommatidia, length to height 12: 15; eye height to malar space 15: 5. **Antenna** (Fig. 23B) with A1 to radicle as 58: 13; scape long, slender, cylindrical, subequal to the following 3.33 segments combined; first funicular segment subequal to the pedicel; second funicular segment distinctly shorter than the

preceding segment; sensillar formula 1: 2: 2: 1; antennomeres in proportions 58: 10; 19: 8; 20: 8; 14: 8; 12: 9; 10: 9; 9: 11; 11: 13; 12: 13.5; 12: 13.5; 18: 11.5.

Mesosoma from above slightly narrower than the maximum width of head (30: 32); pronotum very narrowly visible, with short, dense, recurved hairs; skaphion absent; notauli absent; anterior margin of mesoscutum strongly arched; mesoscutum sculptured like that of vertex, with very dense short hairs; scutellum semicircular, smooth, very densely hair, with scattered rounded deep punctae, scutellar rim with a row of deep depressions; metanotum moderately long, unarmed, closely umbilicately punctae medially, smooth laterally; mesoscutum, scutellum and metanotum lengths ratio 15: 9: 4; propodeum smooth, unarmed; mesosoma gradually receding behind tegulae, length to width 28: 30; mesosoma in lateral view (Fig. 23A) as high as wide (30: 30); length to height 28: 30; scutellum with distinctly longer hairs than on the mesoscutum, tip of metanotum rounded, projecting over the hind margin of propodeum; propleurae anteriorly close to the coxae rugulose, otherwise matt with leathery sculpture; mesopleurae with weak transverse striations above, otherwise smooth with a chain of pits anteriorly restricted in the upper about 0.30 and a posterior complete row of small deep pits; mesopleural depression very deep, smooth and highly shining; metapleurae smooth, highly shining. *Fore wing* (Fig. 23 C&D) to body 71: 83; length to width 71: 27; *m: pm: st*= 15: 81: 46; *sm, m* and *pm* with 11, 2 and 10 bristles respectively; marginal fringe short. *Hind wing* (Fig. 23E) to fore wing 61: 71 length to width 61: 12; marginal fringe to wing width 5: 12.

Metasoma from above (Fig. 23F) with 5 visible tergites; length to width 39: 26; T1 laterally with 4 long stiff hairs, with strong longitudinal striations running throughout its length; T2 longest and widest, with weak longitudinal striations restricted to the base as shown in figure, otherwise smooth and highly shining, with minute scattered punctae; following tergites smooth with punctae as on the T2; T1 to T5 lengths ratio 4: 29: 1: 1: 3; ovipositor slightly exerted beyond the tip of metasoma; metasoma in lateral view (Fig. 23A) length to height 40: 17; metasoma to rest of body 40: 43.

Male: Length 1.00 mm. General colour of body brownish-black to black; head black; eyes brown; mandibles reddish-brown; antenna dark brown with reddish tinge except for the light brown radicle, scape and pedicel; mesosoma black; wings uniformly infuscated very light brown, veins light brown; legs including coxae yellowish-brown; metasoma brownish-black.

Head from above distinctly transverse (10: 27); reticulate; a row of sparse long hairs arising from just below the weakly developed hyperoccipital carina projecting anteriorly over the hind border of vertex; temples very short, strongly receding behind eyes; eyes

finely and densely pubescent; head posterolaterally with a short bulge; POL: LOL= 11: 5; posterior ocelli contiguous with inner orbit; head from in front conical; length to width 19: 27; upper margin of head straight; frons without median longitudinal keel, basally on either side reticulate and with scattered punctae, frons otherwise smooth and shining with small, rounded, deep setigerous punctae; toruli very close to the clypeal border; clypeus very short, broad, simple, not produced posterolaterally; scape to interorbital space 13.5: 14; head in lateral view (Fig. 24A) length to height 11: 21; hyperoccipital carina developed but weak; head behind eyes reticulate; eyes oval, with small ommatidia, length to height 8: 13; eye height to malar space 13: 4; malar sulcus narrow, deep; interantennal process short, projecting. *Antenna* (Fig. 24B) with A1 to radicle as 49: 11; scape long, slender, cylindrical, subequal to the following 3.30 segments combined; A4 with a short but distinct projection subapically as shown in figure; antennomeres in proportions 49: 8; 14: 8; 15: 8; 17: 9.5; 16: 10.4; 13: 8.8; 13: 8.8; 13: 9; 13: 10; 13: 9.5; 13: 9; 20: 9.

Mesosoma from above slightly narrower than the maximum width of head (24: 27); length to width 25: 24; pronotum narrowly visible, with a row of short recurved hairs along outer side; skaphion absent; notauli absent; anterior margin of mesoscutum strongly arched; mesoscutum densely hairy, reticulate, separated from scutellum by a wide, deep groove; scutellum semicircular, smooth with scattered, minute, rounded setigerous punctae, scutellar rim with a row of small, deep depressions, scutellum densely clothed with long silvery-white hairs; metanotum rather long, medially closely umbilicately punctate, smooth on either side, unarmed; mesosoma gradually receding behind tegulae, posterolaterally without any projection; mesoscutum, scutellum and metanotum lengths ratio 14: 7: 4; mesosoma in lateral view (Fig. 24A) as high as wide (25: 24); length to height 23: 25; mesosoma strongly convex dorsally; tip of metanotum blunt, projecting over the posterior border of propodeum; propleurae anteriorly near coxae rugulose, otherwise matt with leathery sculpture; mesopleurae above with weak transverse striations, otherwise smooth with an anterior row of pits restricted to the upper about 0.30 and a complete posterior row of small, deep depressions; mesopleural depression very deep, smooth and highly shining; metapleurae smooth and highly shining; propodeum unarmed; prepectus absent. *Fore wing* (Fig. 24 C&D) to body 60: 65; length to width 60: 22; $m: pm: st$ 11: 76: 40; sm , m and pm with 11, 2 and 9 bristles respectively; marginal fringe moderately developed. *Hind wing* (Fig. 24E) to fore wing 52: 60; length to width 52: 9.5; marginal fringe to wing width 5: 9.5.

Metasoma from above (Fig. 24F) T1 laterally with a few rather long, stiff hairs, with strong longitudinal striations running throughout its length; T2 longest and widest, with weak longitudinal striations confined to the base as shown in figure, otherwise smooth with scattered, minute, rounded punctae; following tergites smooth, with scattered, minute punctae; metasoma with 4 visible tergites; T3 transverse; T1 to T4 lengths ratio

6: 22: 3: 1.5; metasoma length to width 32.5: 21; metasoma in lateral view (Fig. 24A) length to height 32.5: 14; metasoma to rest of body 32.5: 34.

Material examined:

Holotype: Female on card (one set of wings and antenna on a slide), Srinagar, (Pauri), Coll. *M. K. Mukerjee & Party*, 16, 17. iii. 1991; *allotype* male on card, labelled like that of the holotype; *paratypes* one female on card, Karanprayag (Chamoli), Coll. *M. K. Mukerjee & Party*, 30. iii-1. iv. 1991; 2 males on cards, Deoprayag (Tehri), Coll. *M. K. Mukerjee & Party*, 14, 15. iii. 1991; one female on card, Joshimath (Chamoli), Coll. *M. K. Mukerjee & Party*, 21-23. iii. 1991, and nine males on cards, Rishikesh (Dehradun), Coll. *M. K. Mukerjee & Party*, 14-16. iv. 1991

This species differs from *T. applanatus* Bin & Johnson (1982) in the different colouration of antennae and legs, frons ventrolaterally with reticulations, different proportions of antennomeres, and T1 in female with 4 pairs of lateral setae.

Family DIAPRIIDAE

Subfamily DIAPRIINAE

25. *Psilus srinagari* n. sp.

(Fig. 25)

Female: Length 2.67 mm. General colour of body black; head black; eyes yellowish; mandibles dark brown with reddish teeth; antenna dark brown with reddish tinge except for the brownish-black scape; mesosoma black; wings subhyaline, *sc* brownish; legs reddish-brown except for the darker hind coxae; metasoma black; ovipositor reddish-brown.

Head from above slightly wider than long (33: 30); vertex and occiput smooth and highly shining, with scattered, rounded, minute punctae; frons well protruded forward for antennal insertion; head with two strong longitudinal carinae on each side arising from the anterior margin of vertex, the inner carina reaching the posterior ocellus, the outer carina extending far beyond the level of posterior ocellus, up to the level of the posterior orbital line; eyes small with sparse long hairs; POL: LOL: OOL= 9: 5: 5; posterior ocelli distant from inner orbit by 1.66d, head from in front frons smooth, with scattered, minute punctae, the prolongation of frons with small, deep, rather close punctae; frons basally with long, dense silvery-white hairs; head in lateral view almost as long as high (30: 31); eyes with small ommatidia, length to height 12: 13; gena smooth, with minute, scattered, setigerous punctae. *Antenna* (Fig. 25A) with A1 to radicle as 15: 4; scape thicker subapically, anteriorly truncated, distal end excavate when seen

laterally, subequal to the following 175 segments combined; first funicular segment shorter than the pedicel; antennomeres in proportions 15: 7.5; 9: 5; 8: 4.5; 6: 4.5; 6: 4.7; 6: 5; 6: 5.6; 6: 6; 6:6; 6: 6; 5.5: 5.8; 11: 5.8.

Mesosoma from above wider than head (40: 33); length to width 50: 40; pronotum well visible, with a series of long hairs; mesoscutum smooth and highly shining; notauli very deep, strongly diverging in front, separated behind by slightly less than their own thickness; the median lobe of mesoscutum with a small, rounded puncture on each side close to the notauli in the anterior about 0.40; scutellum smooth and highly shining, with scattered, minute, setigerous punctae particularly in the posterior part, the setae long; scutellum with 2 deep grooves anteriorly, one on each side, reaching nearly 0.40 of scutellum, the grooves separated by a strong carina; scutellum laterally with a large, deep groove and two small deep grooves behind lying close to each other; metanotum transverse, with 3 strong carinae, the median carina lies in continuation with the median propodeal carina, the lateral carinae are present behind the inner edge of the lateral grooves of scutellum; metanotum with 2 well developed teeth laterally, one on each side, the tips of the teeth projecting; propodeum smooth, posterolaterally with rather large, close deep punctae; the frontal median carina of propodeum bifurcating a little behind to form two very strong lateral carinae enclosing a subtriangular field with short, dense hairs; propodeum laterally with moderately long to long dense hairs; propodeum on the outer side of the lateral carinae with a large, deep depression, and anterolaterally with a stout, blunt tooth facing the metanotal tooth; mesoscut scutellum, metanotum and propodeum lengths ratio 21: 15: 4:11; mesosoma ventrolaterally with a short, subconical bulge, more or less pointed at the tip; mesosoma in lateral view wider than high (40: 30); length to height 54: 30; mesoscutum, scutellum and metanotum dorsally covered by long setae; pro- and mesopleurae smooth and highly shining, with scattered, minute punctae; metapleurae with large, close, deep pits. *Fore wing* (Fig. 25B) conspicuously incised distally but with clear hairless line; without venation, only *sc* present at the base; length to width 48: 21. *Hind wing* normal.

Metasoma from above almost as wide as mesosoma (38: 40); length to width 90: 38; T1 petiolate, length to width 19: 12, with 5 very strong longitudinal carinae running throughout its length and enclosing between them smooth, deep grooves, laterally with a series of very long hairs; T2 nearly occupying the entire dorsal surface, smooth and highly shining, with scattered, minute, rounded setigerous punctae, length to width 71: 38; T2 with a median longitudinal furrow restricted to the anterior about 0.40, lateral grooves absent; metasoma in lateral view length to height 90: 27; ovipositor exerted beyond the tip of metasoma, ovipositor to metasoma 14: 90; metasoma to rest of body 90: 84.

Material examined :

Holotype: Female on card (one set of wings and antenna on a slide), Srinagar (Pauri), Coll. *M. K. Mukerjee & Party*, 16, 17. iii. 1991.

This species comes close to *P. Saraswati* Sharma (1979) but differs by its much smaller size, different colouration of antenna and legs, third antennal segment shorter than pedicel, absence of a row of widely separated minute setigerous punctae mesially on mesoscutum, metanotum not unarmed but with a tooth on either side, different sculpture of propodeum, presence of a deep depression on the outer side of the lateral carinae of propodeum, and absence of two minute grooves near the anterior margin of T2 on either side of the anterior furrow.

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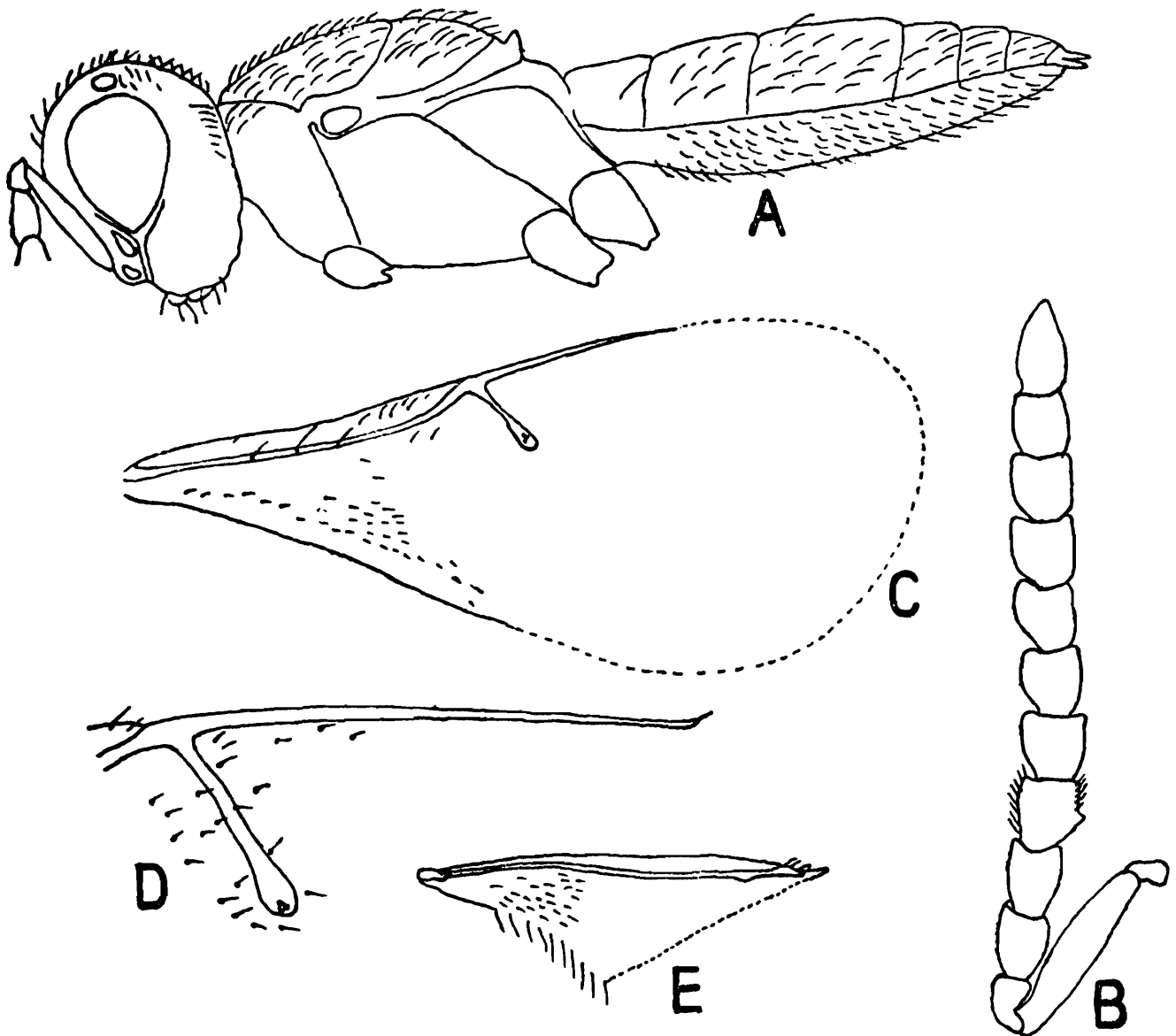


Fig. 1. *Baryconus dunensis* n. sp. Male : A, body in profile ; B, Antenna ; C, fore wing ; D, stigmal vein ; E, hind wing.

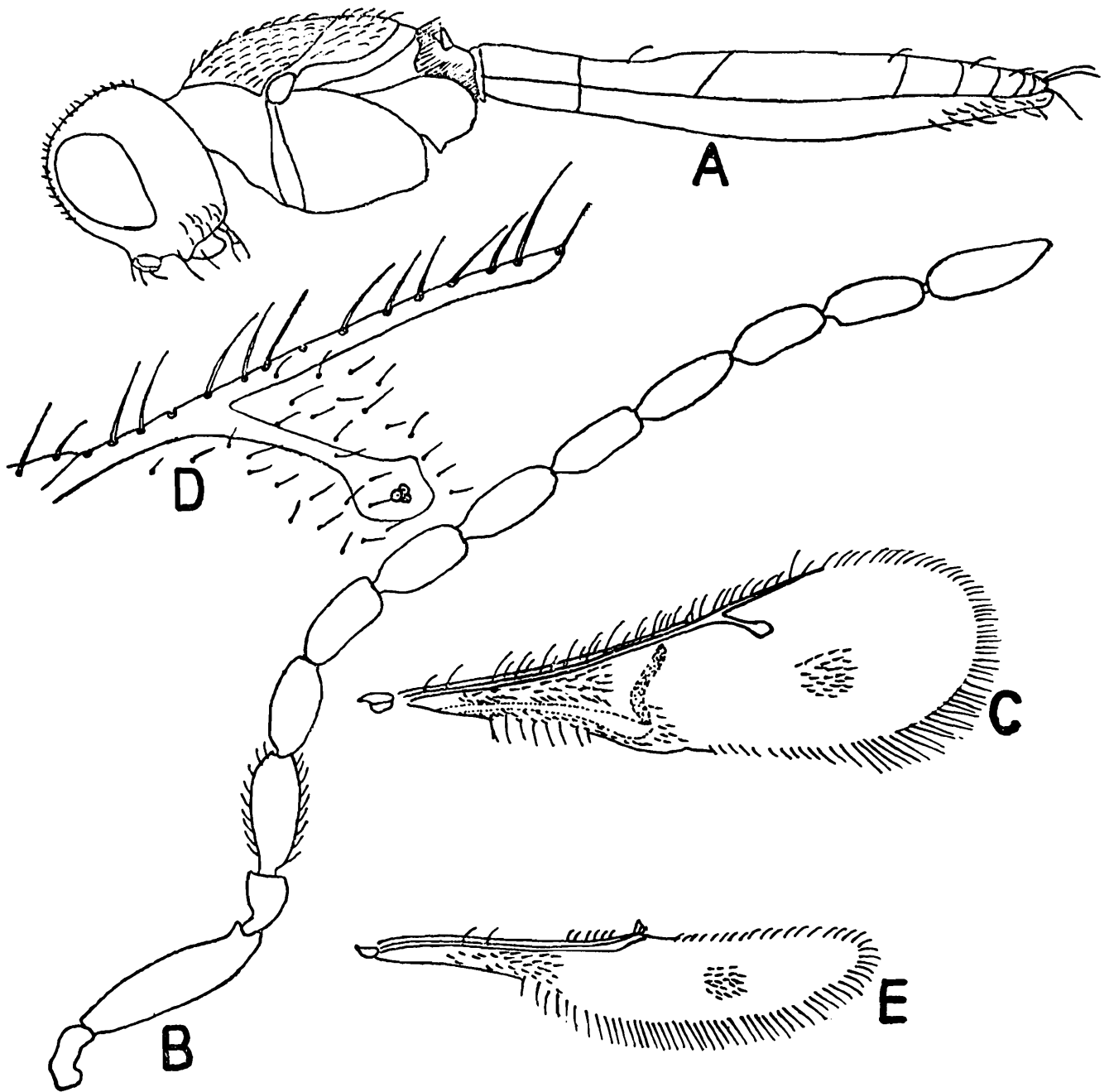


Fig. 2. *Probaryconus dunensis* n. sp. Male: A, body in profile; B, antenna; C, fore wing; D, stigmal vein; E, hind wing.

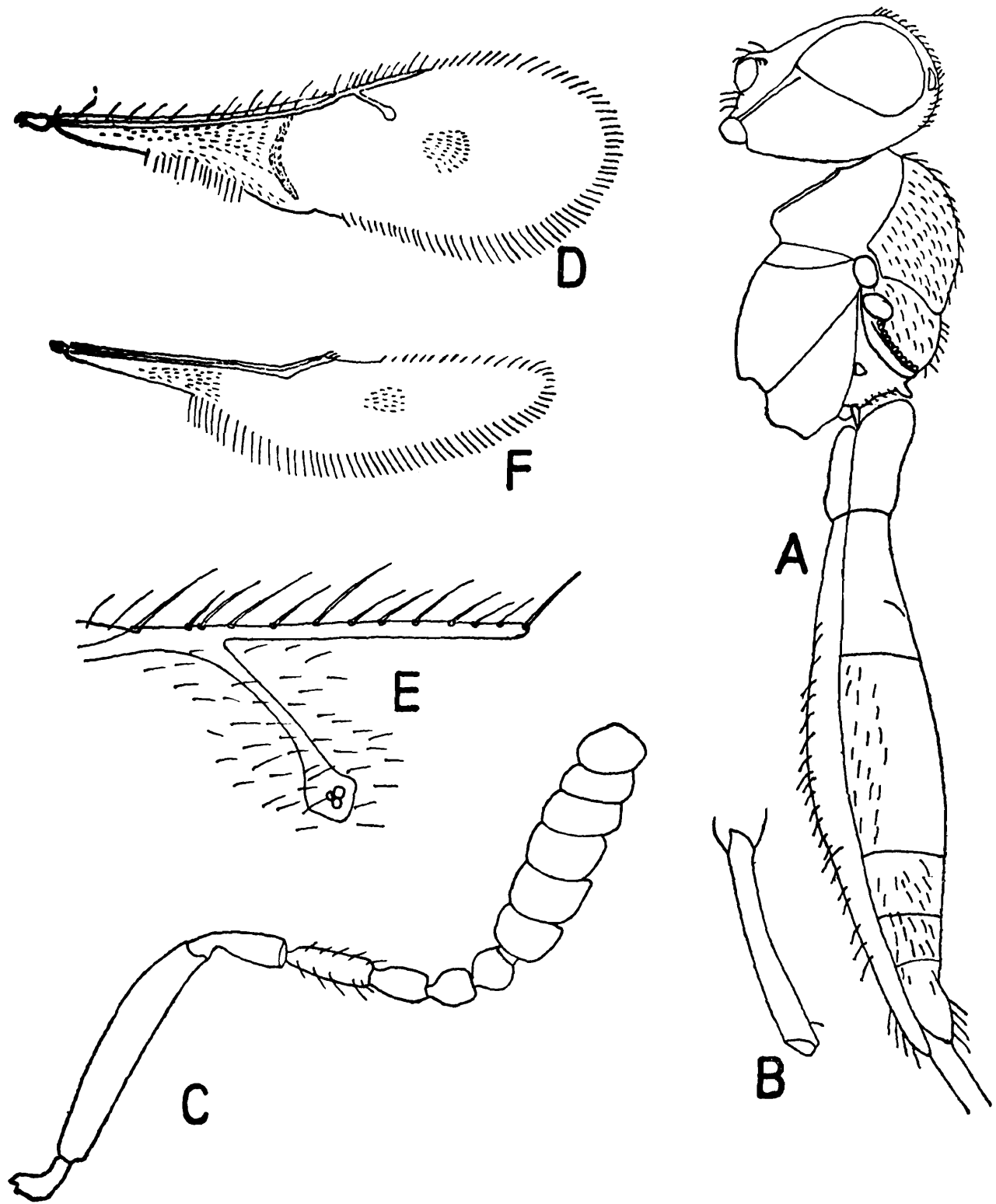


Fig. 3. *Probatyconus dunensis* n. sp. Female : A, body in profile ; B, ovipositor ; C, antenna ; D, fore wing ; E, stigmal vein ; F, hind wing.

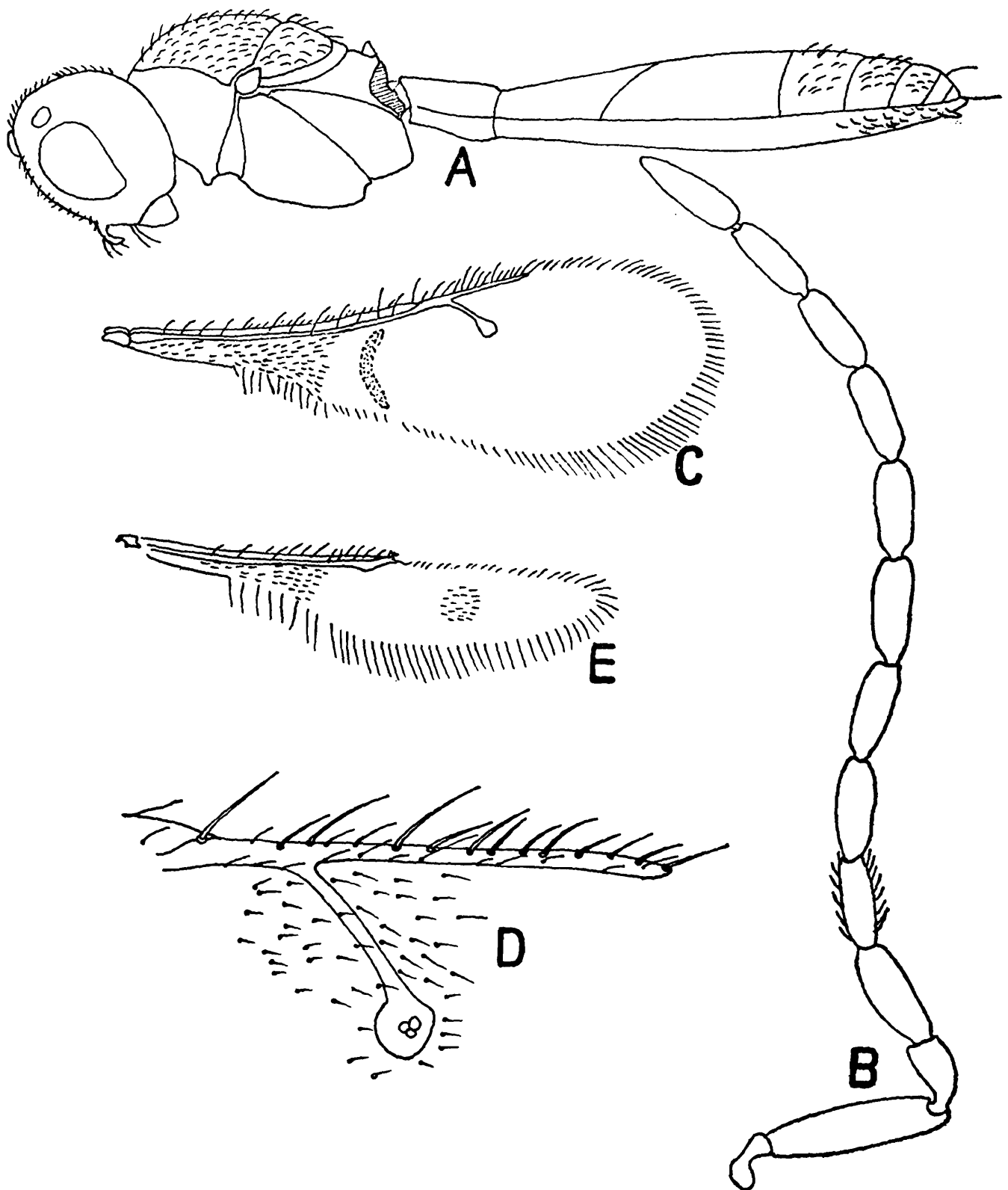


Fig. 4. *Probaryconus garhwalensis* n. sp. Male : A, body in profile ; B, antenna ; C, fore wing ; D, stigmatal vein ; E, hind wing.

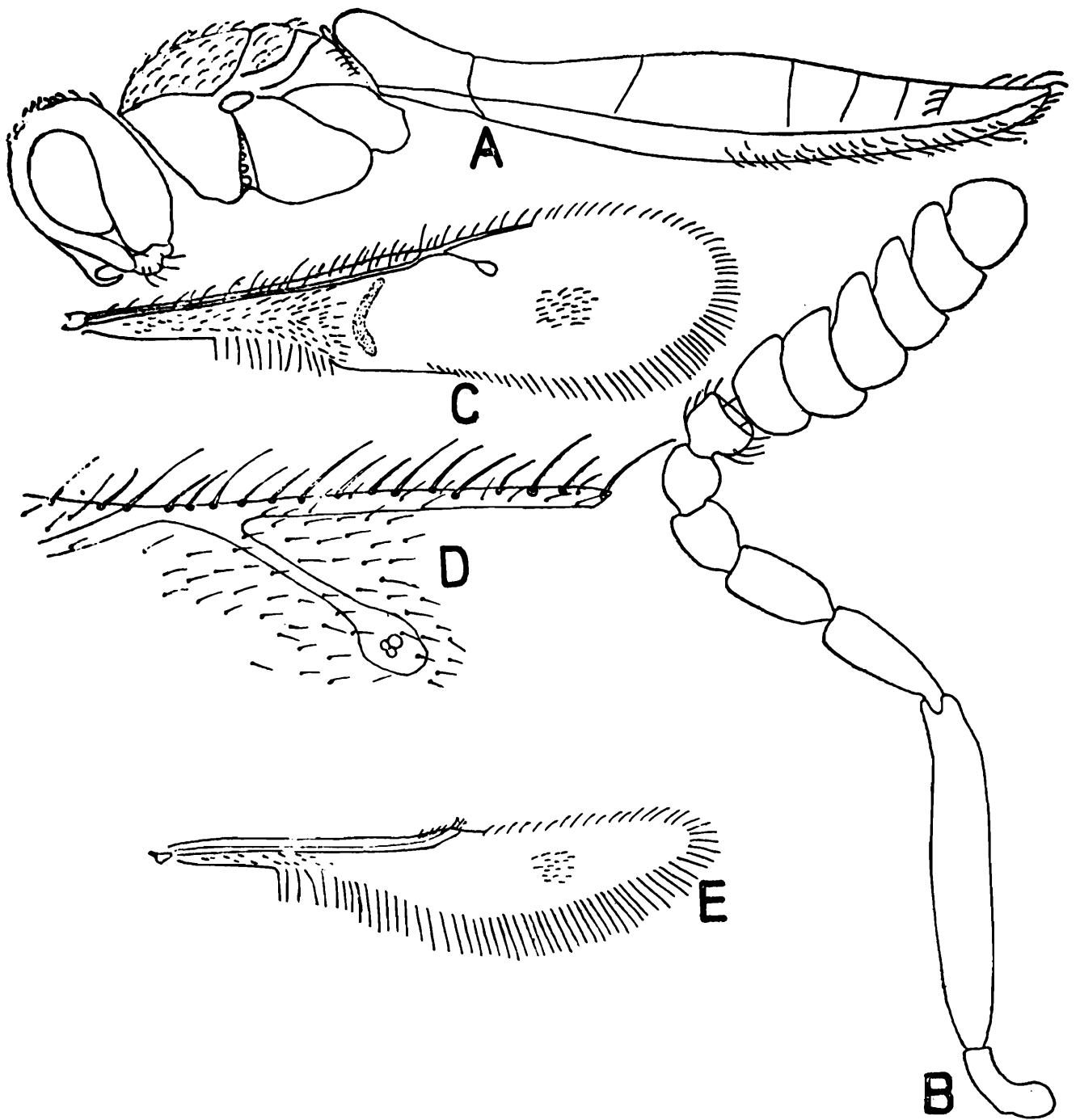


Fig. 5. *Paridris dunensis* n. sp. Female : A, body in profile ; B, antenna ; C, fore wing ; D, stigmal vein ; E, hind wing.

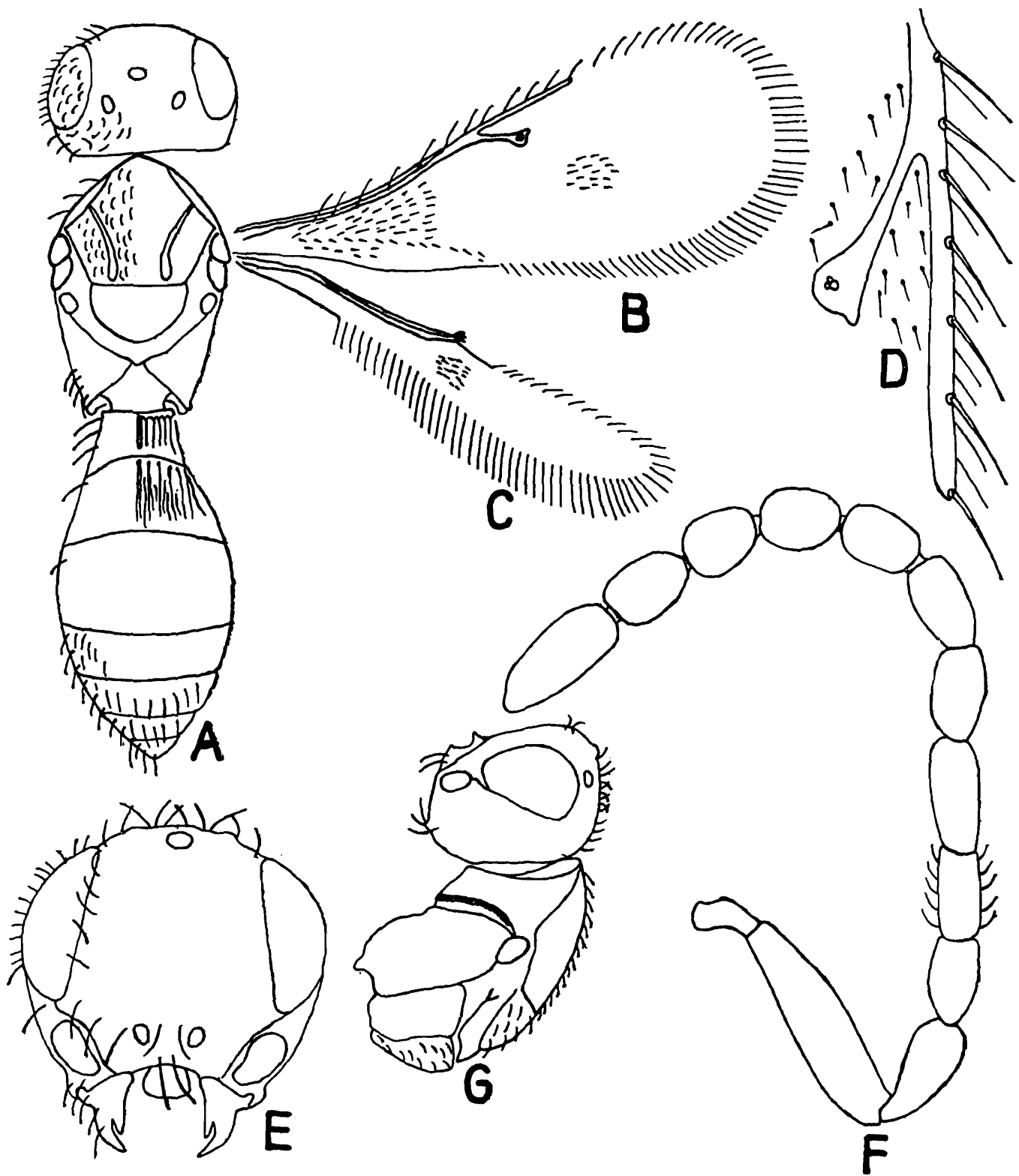


Fig. 6. *Palpoteleia indica* n. sp. Male : A, body from above ; B, fore wing ; C, hind wing ; D, stigmal vein ; E, head from in front ; F, antenna ; G, head and mesosoma in profile.

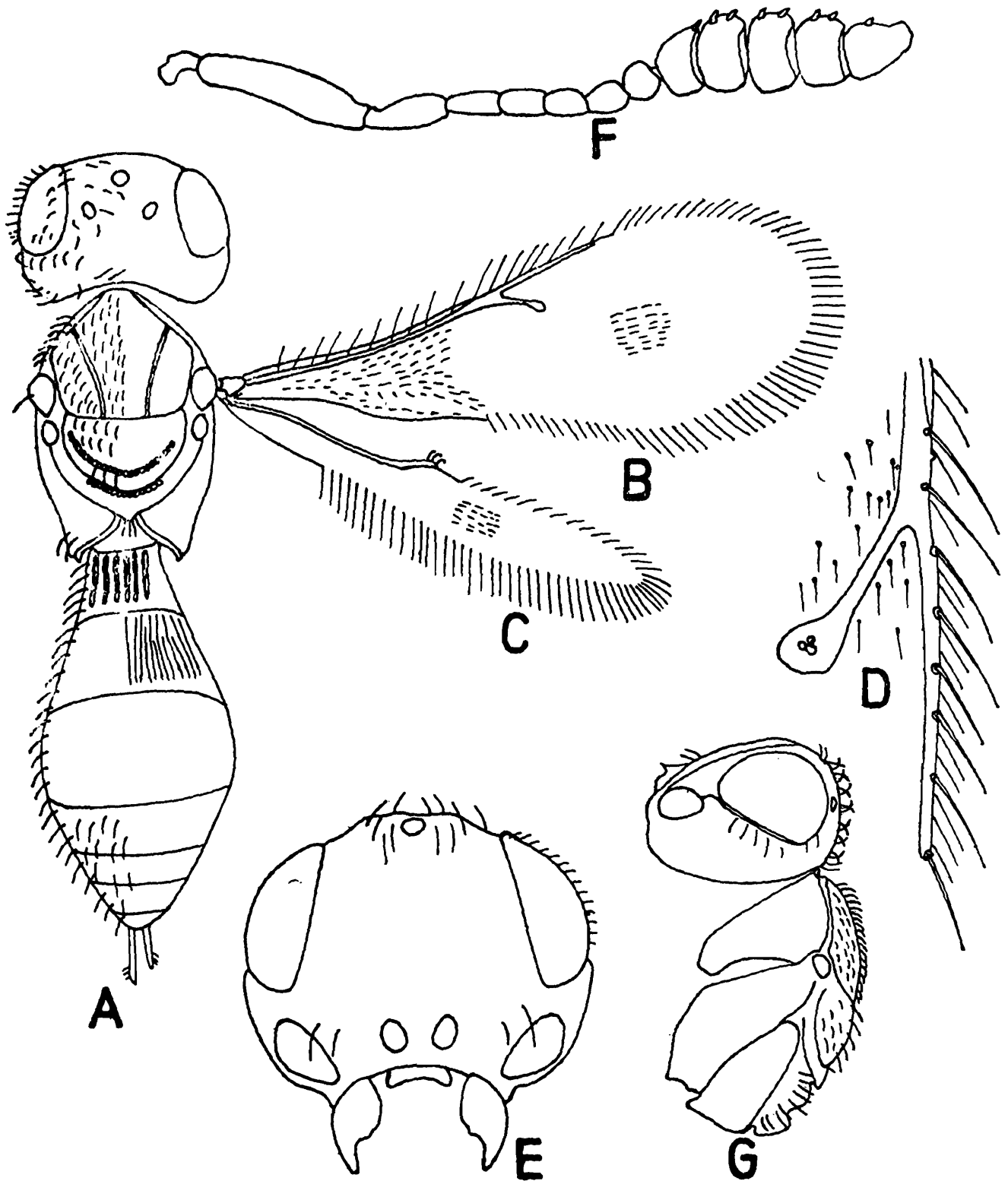


Fig. 7. *Palpoteleia indica* n. sp. Female : A, body from above ; B, fore wing ; C, hind wing ; D, stigmal vein ; E, head from in front ; F, antenna ; G, head and mesosoma in profile.

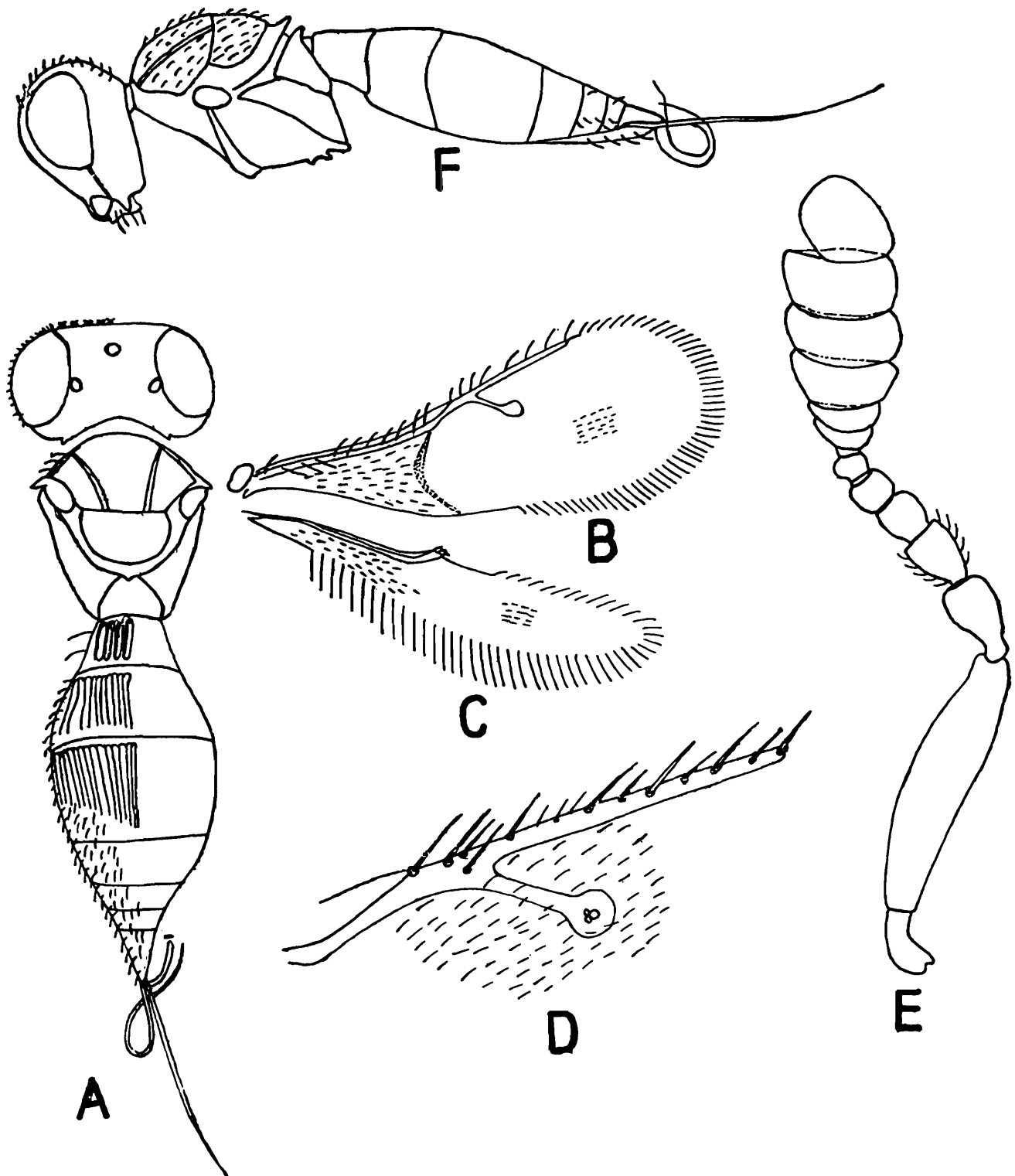


Fig. 8. *Opisthacantha dunensis* n. sp. Female : A, body from above ; B, fore wing ; C, hind wing ; D, stigmal vein ; E, antenna F, body in profile.

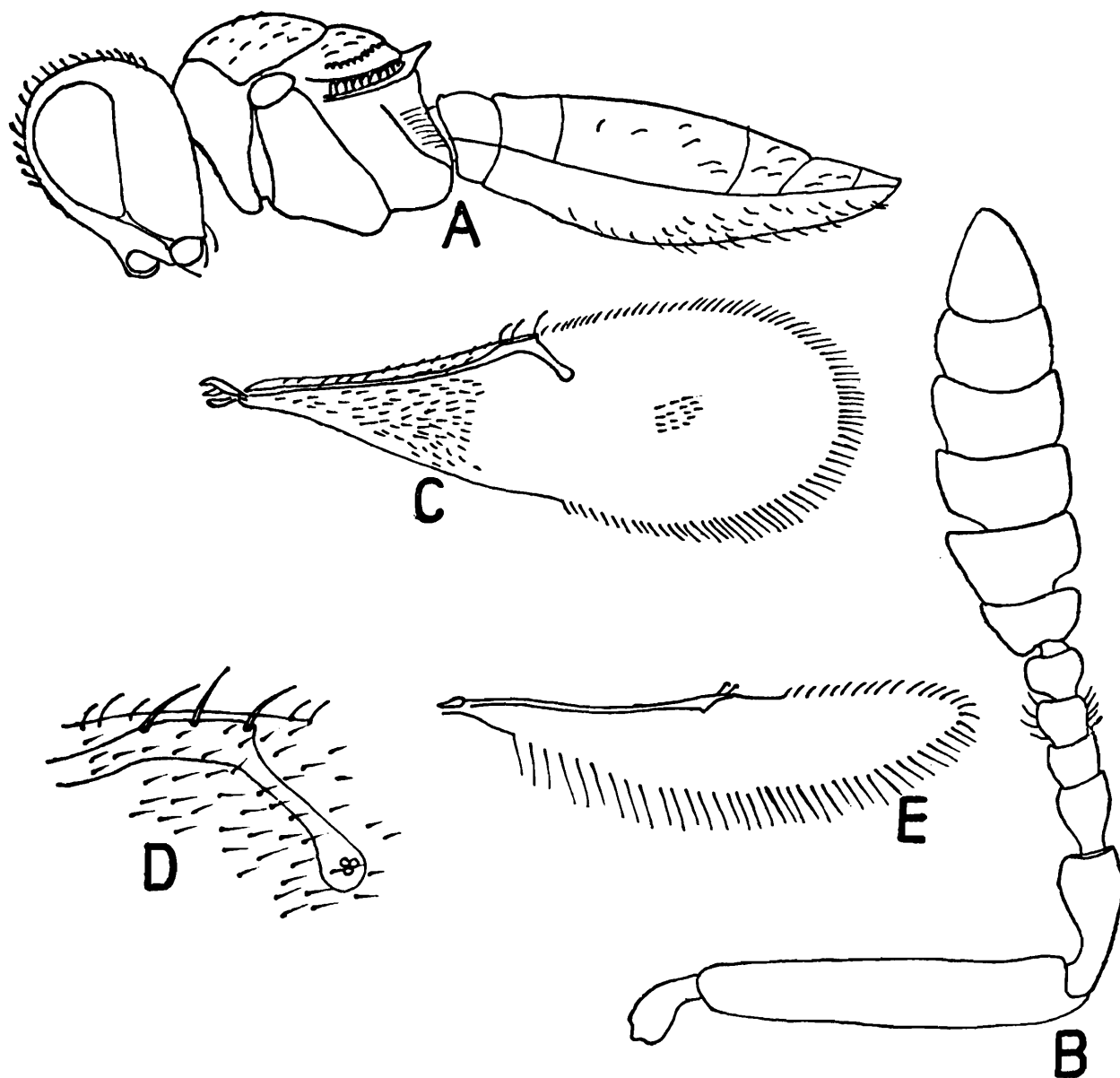


Fig. 9. *Psilanteris uttaranchalensis* n. sp. Female : A, body in profile ;
B, antenna ; C, fore wing ; D, stigmal vein ; E, hind wing.

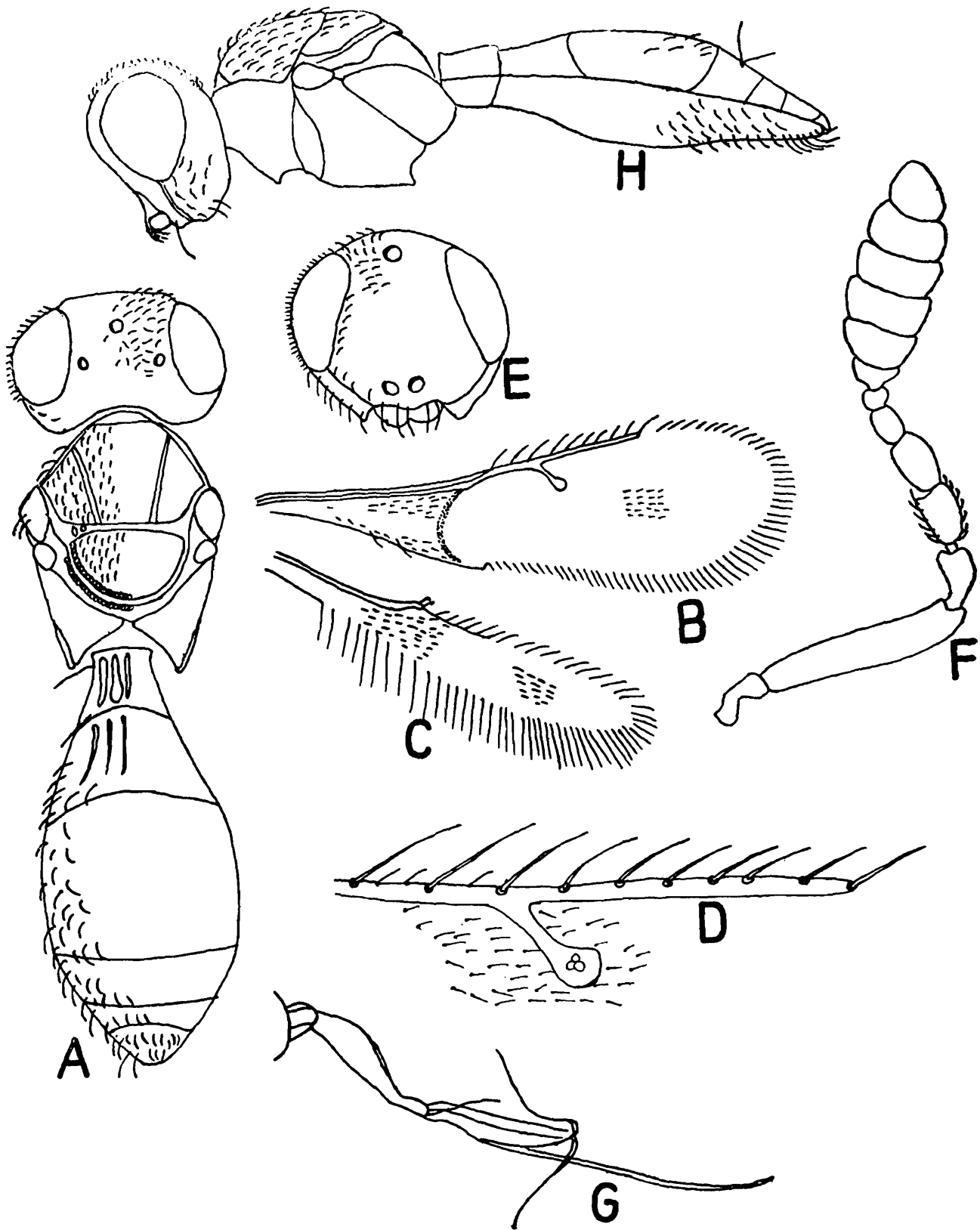


Fig. 10. *Duta indica* n. sp. Female : A, body from above ; B, fore wing ; C, hind wing ; D, stigmal vein ; E, head from in front ; F, antenna ; G, ovipositor ; H, body in profile.

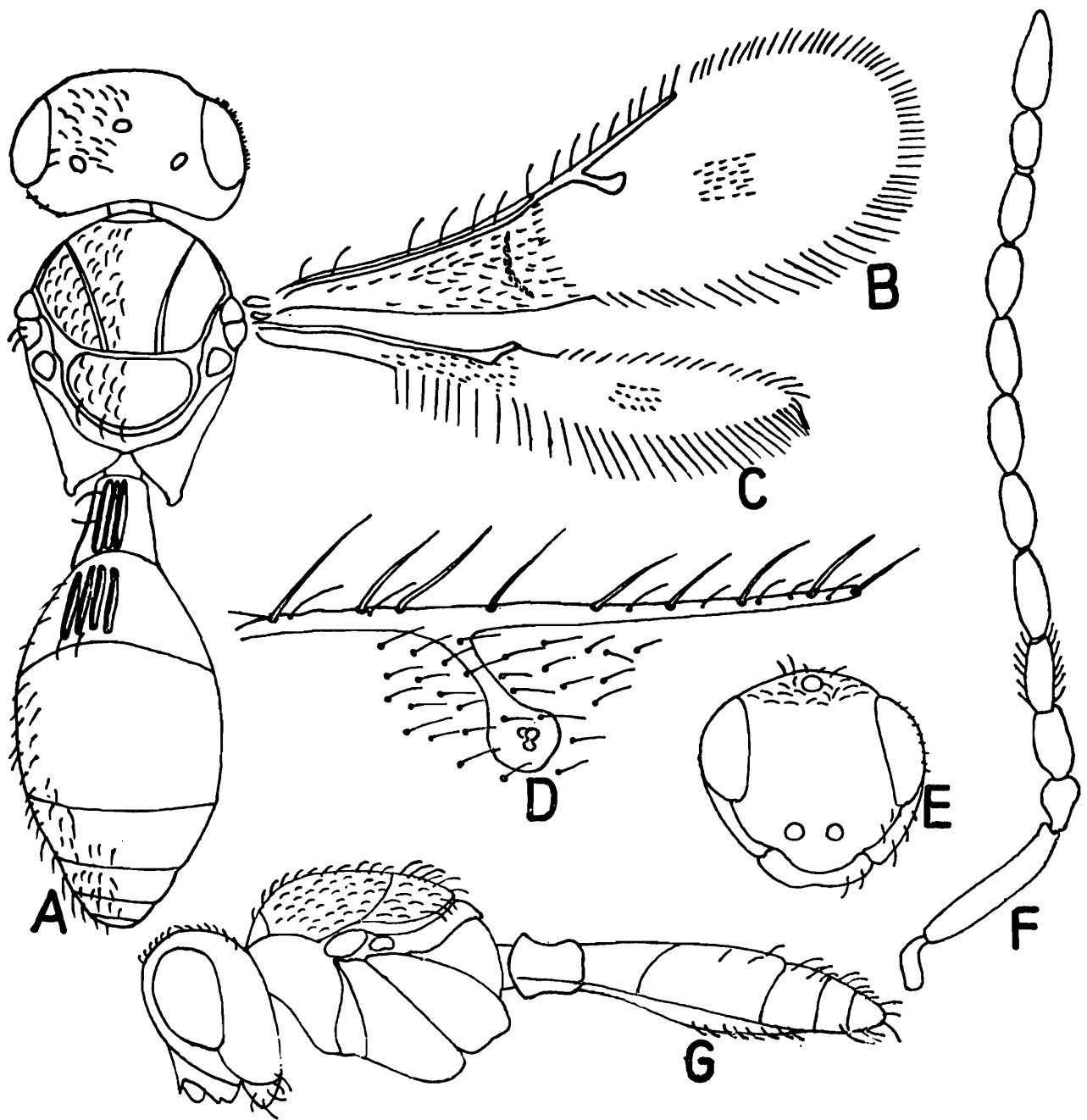


Fig. 11. *Duta indica* n. sp. Male : A, body from above ; B, fore wing ; C, hind wing ; D, stigmal vein ; E, head from in front ; F, antenna ; G, body in profile.

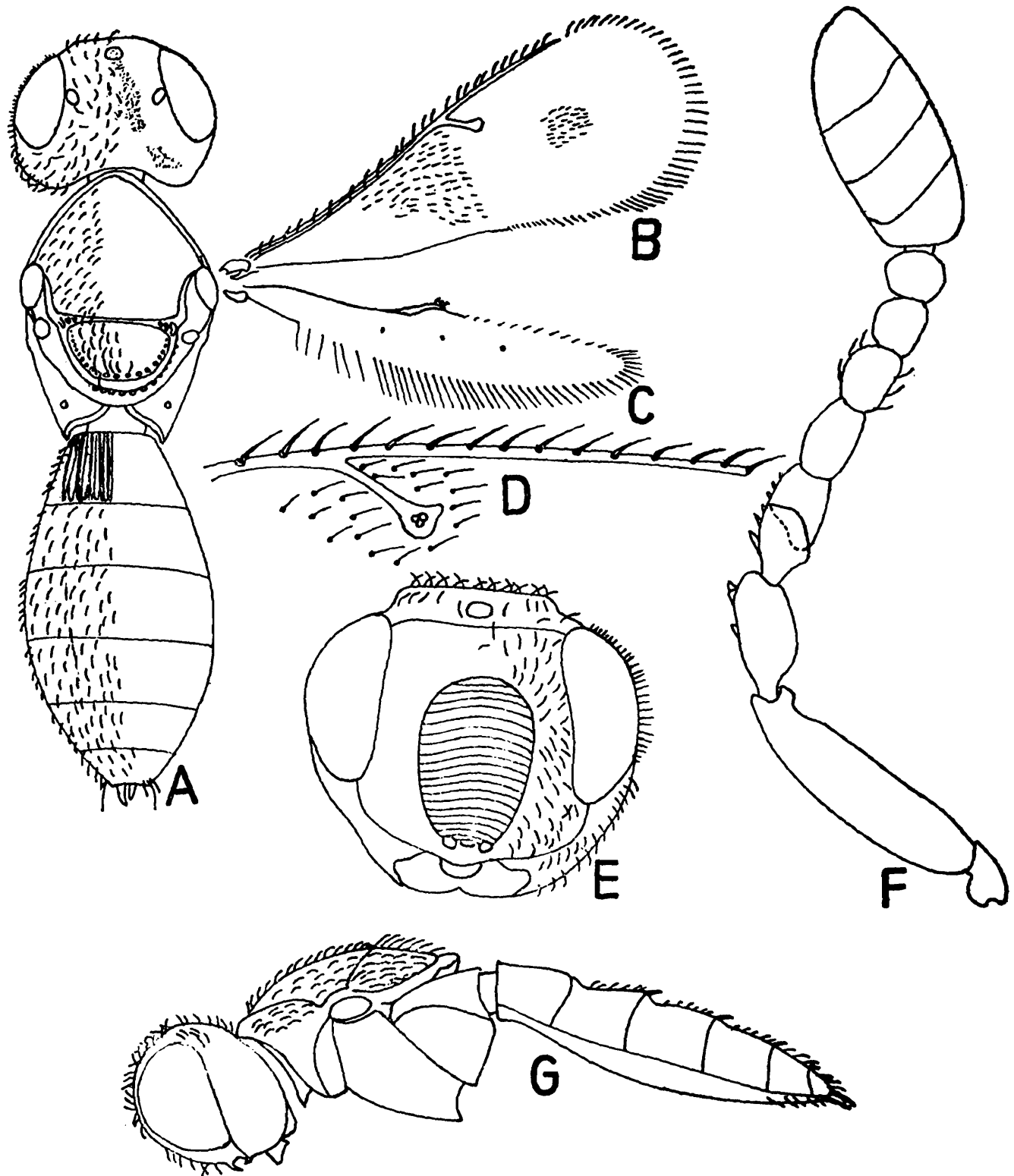


Fig. 12. *Cremastobaeus indicus* n. sp. Female : A, body from above ; B, fore wing ; C, hind wing ; D, stigmal vein ; E, head from in front ; F, antenna ; G, body in profile.

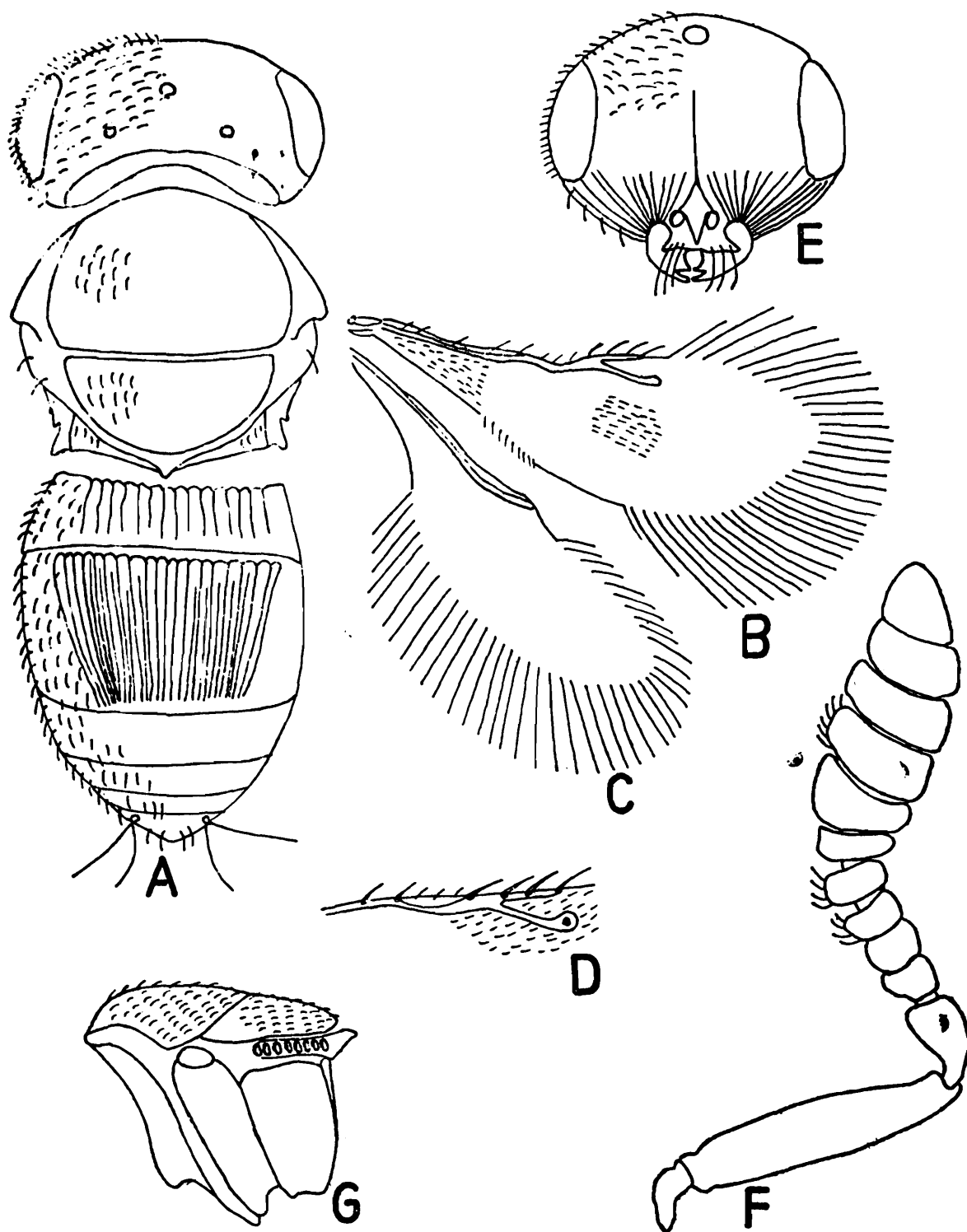


Fig. 13. *Mirotelenomus indicus* n. sp. Female : A, body from above ; B, fore wing ; C, hind wing ; D, stigmal vein ; E, head from in front ; F, antenna ; G, mesosoma in profile.

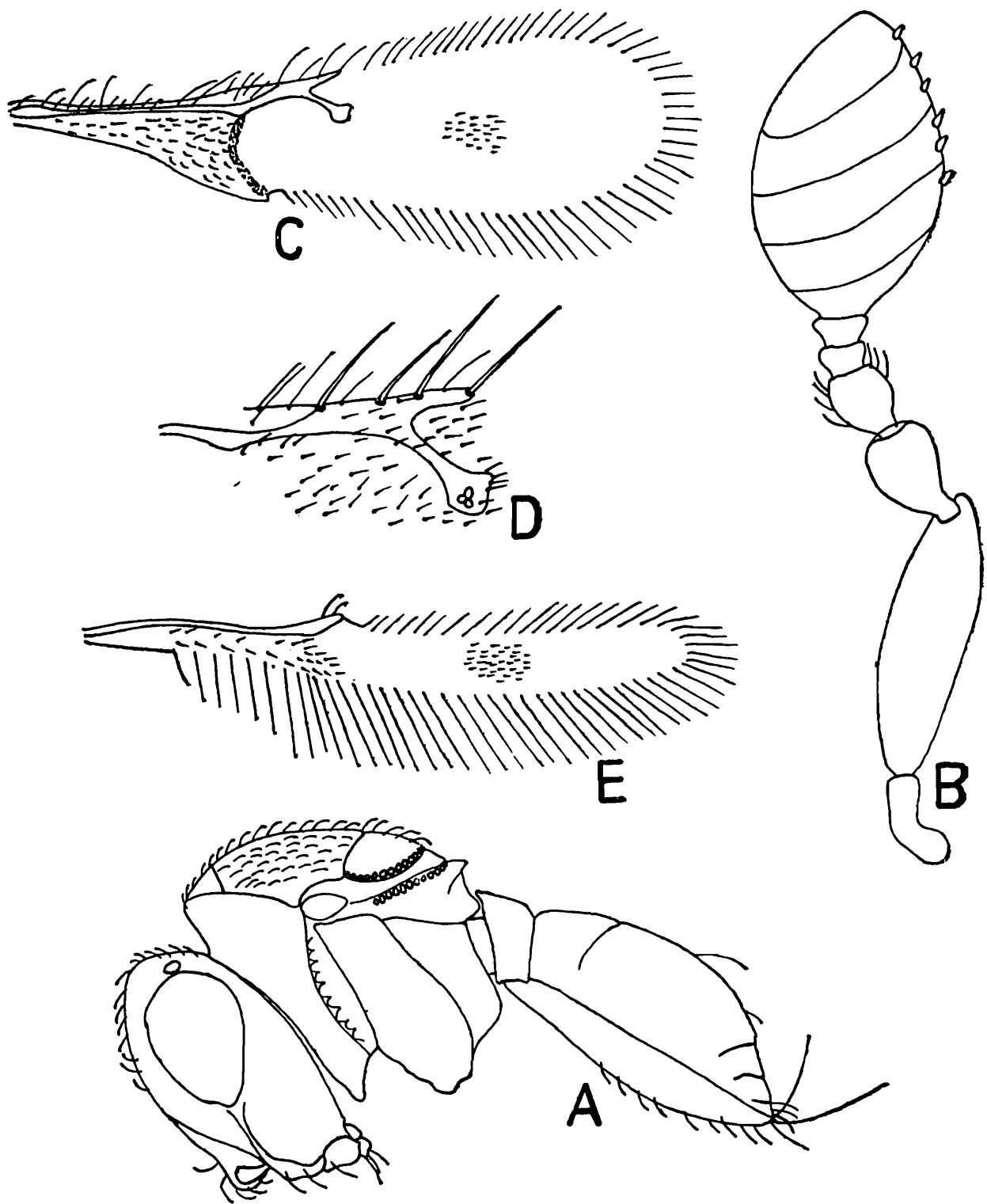


Fig. 14. *Microthoron dunensis* n. sp. Female: A, body in profile; B, antenna; C, fore wing; D, stigmal vein; E, hind wing.

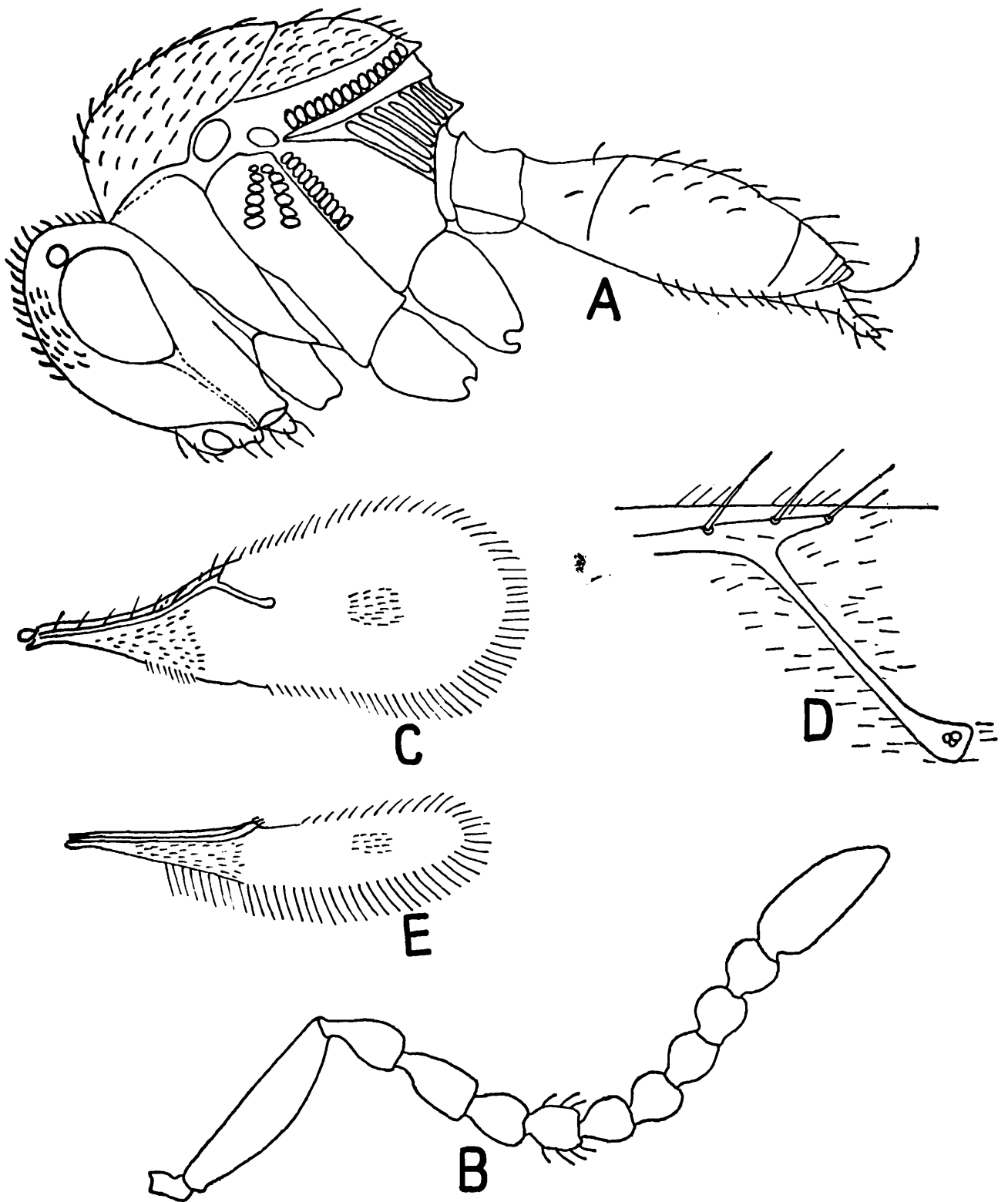


Fig. 15. *Idris sanctijohani* Mukerjee, Male : A, body in profile ; B, antenna ; C, fore wing ; D, stigmal vein ; E, hind wing.

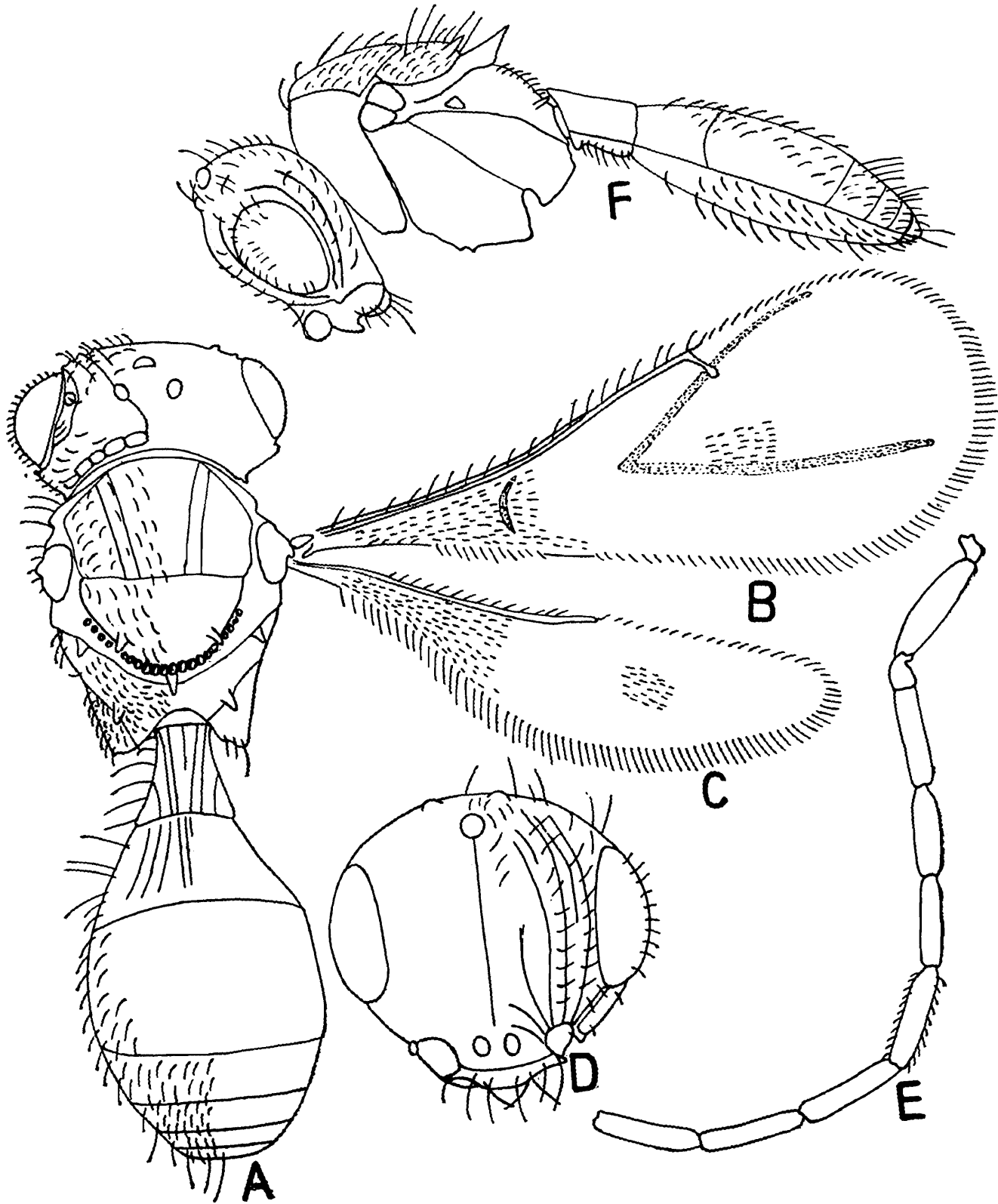


Fig. 16. *Neoscelio orientalis* n. sp. Male : A, body from above ; B, fore wing ; C, hind wing ; D, head from in front ; E, antenna ; F, body in profile.

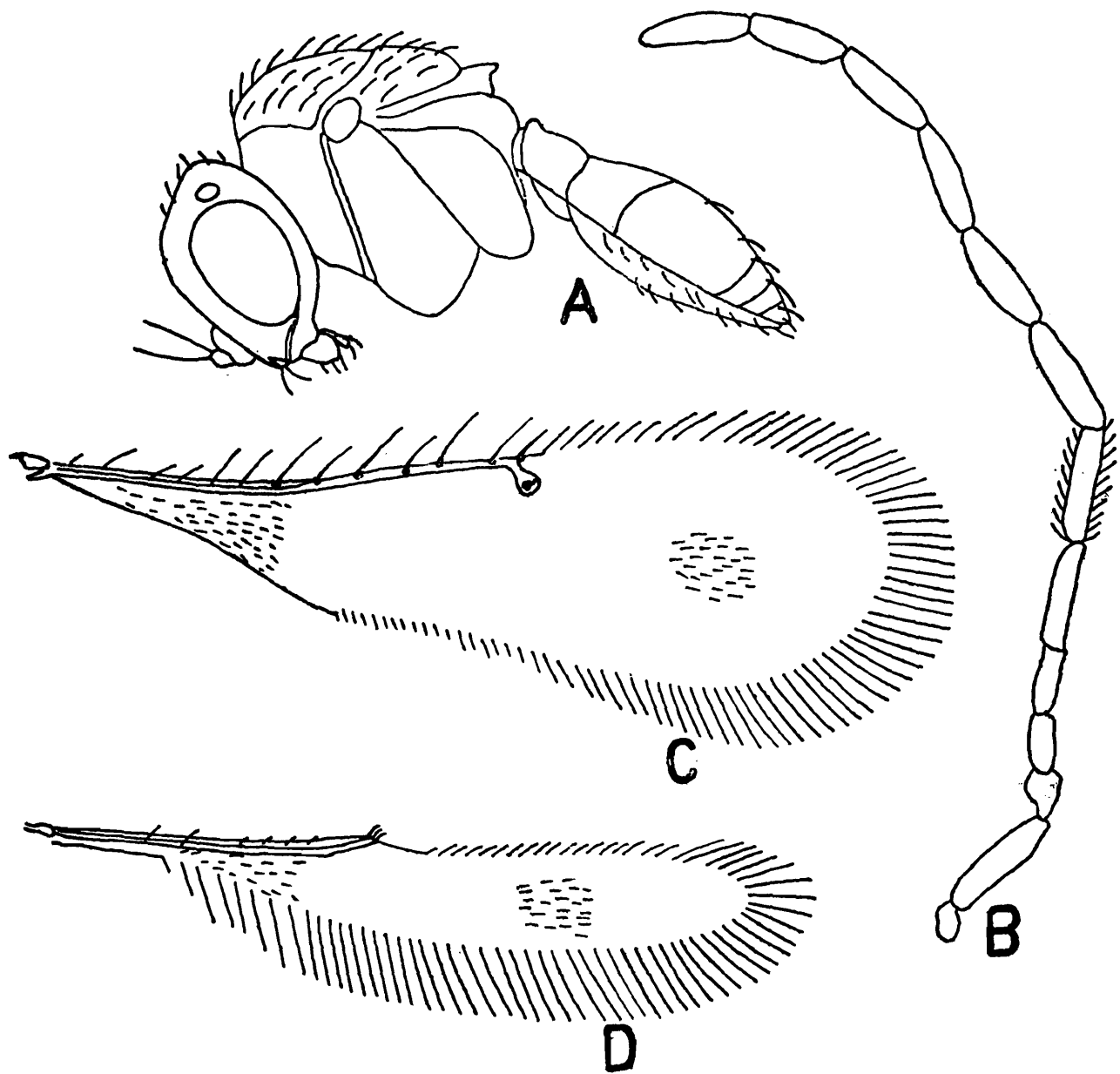


Fig 17. *Trimorus dunensis* n. sp. Male : A, body in profile ; B, antenna ; C, fore wing ; D, hind wing.

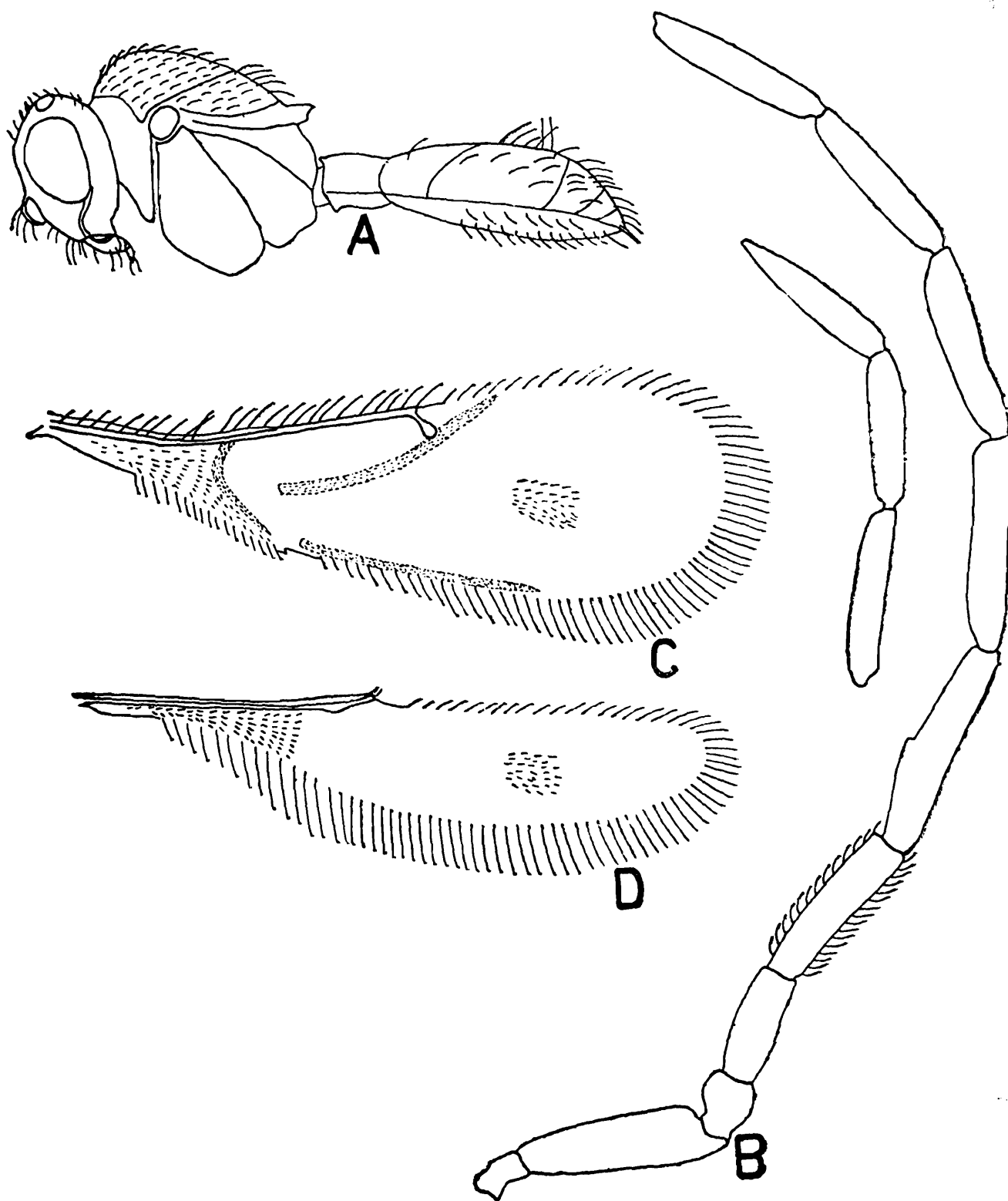


Fig. 18. *Trimorus garhwalensis* n. sp. Male : A, body in profile ; B, antenna ; C, fore wing ; D, hind wing.

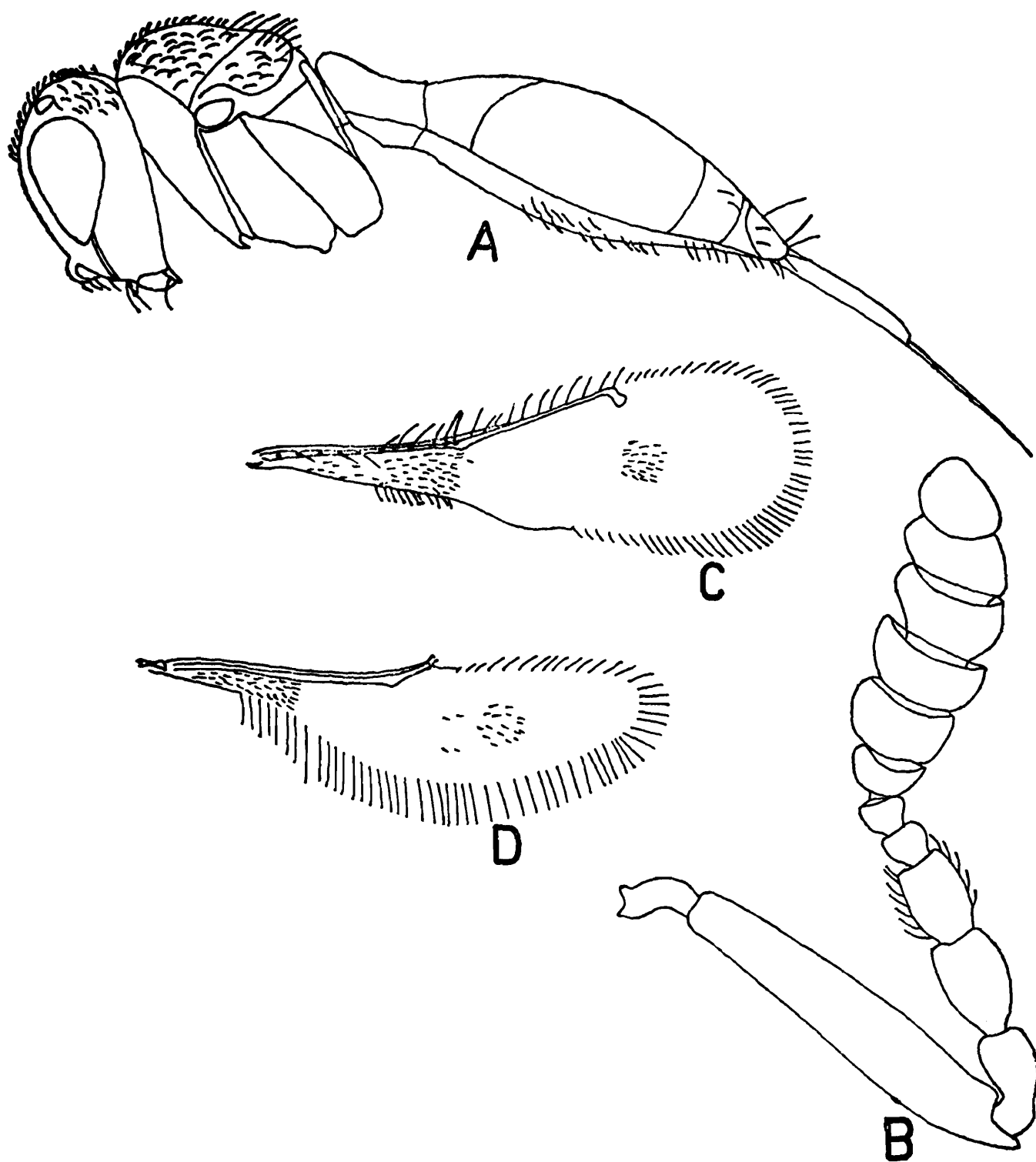


Fig. 19. *Trimorus tuberculatus* n. sp. Female: A. body in profile; B, antenna; C, fore wing; D, hind wing.

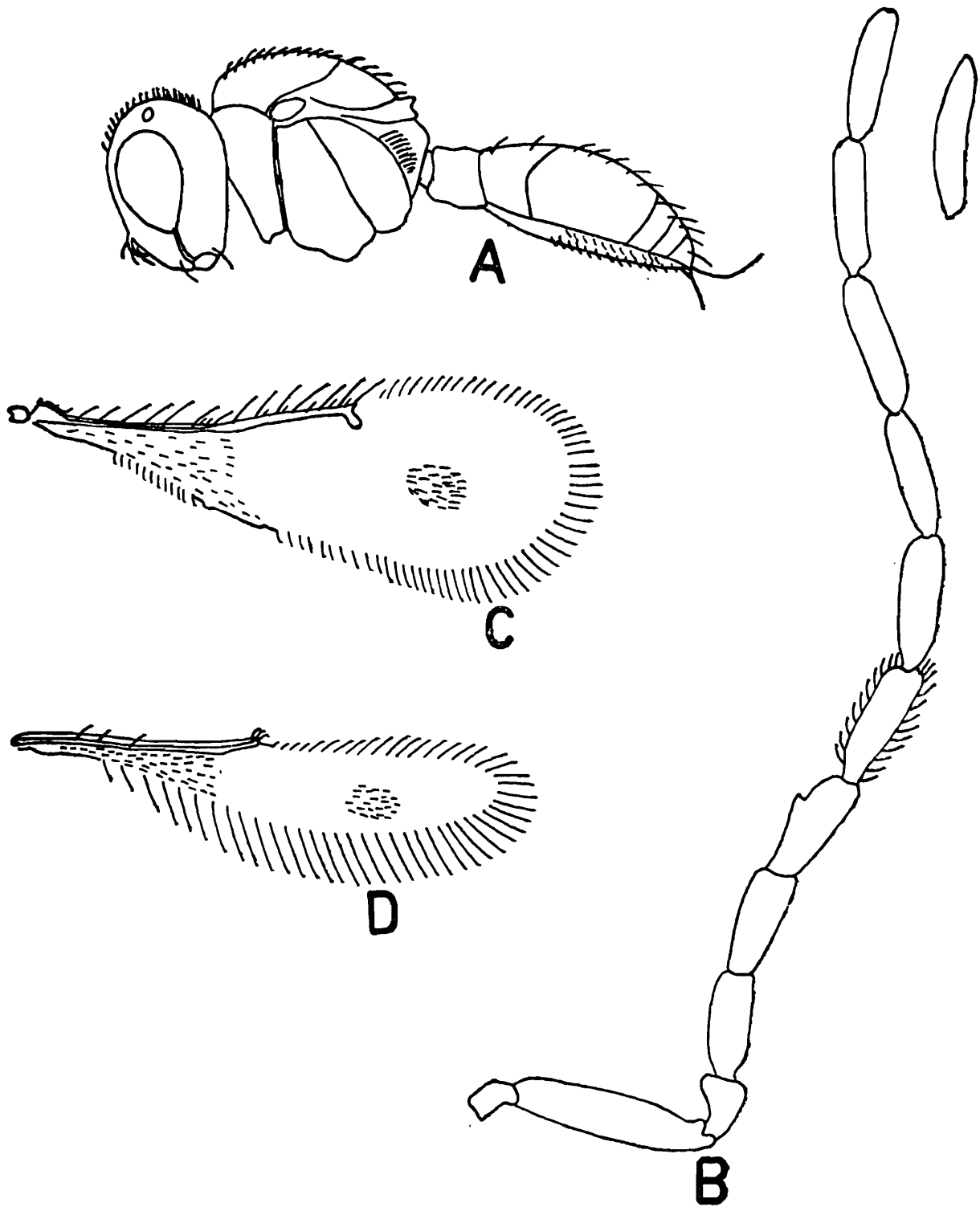


Fig. 20 *Trimorus uttaranchalensis* n. sp. Male : A, body in profile ; B, antenna ; C, fore wing ; D, hind wing.

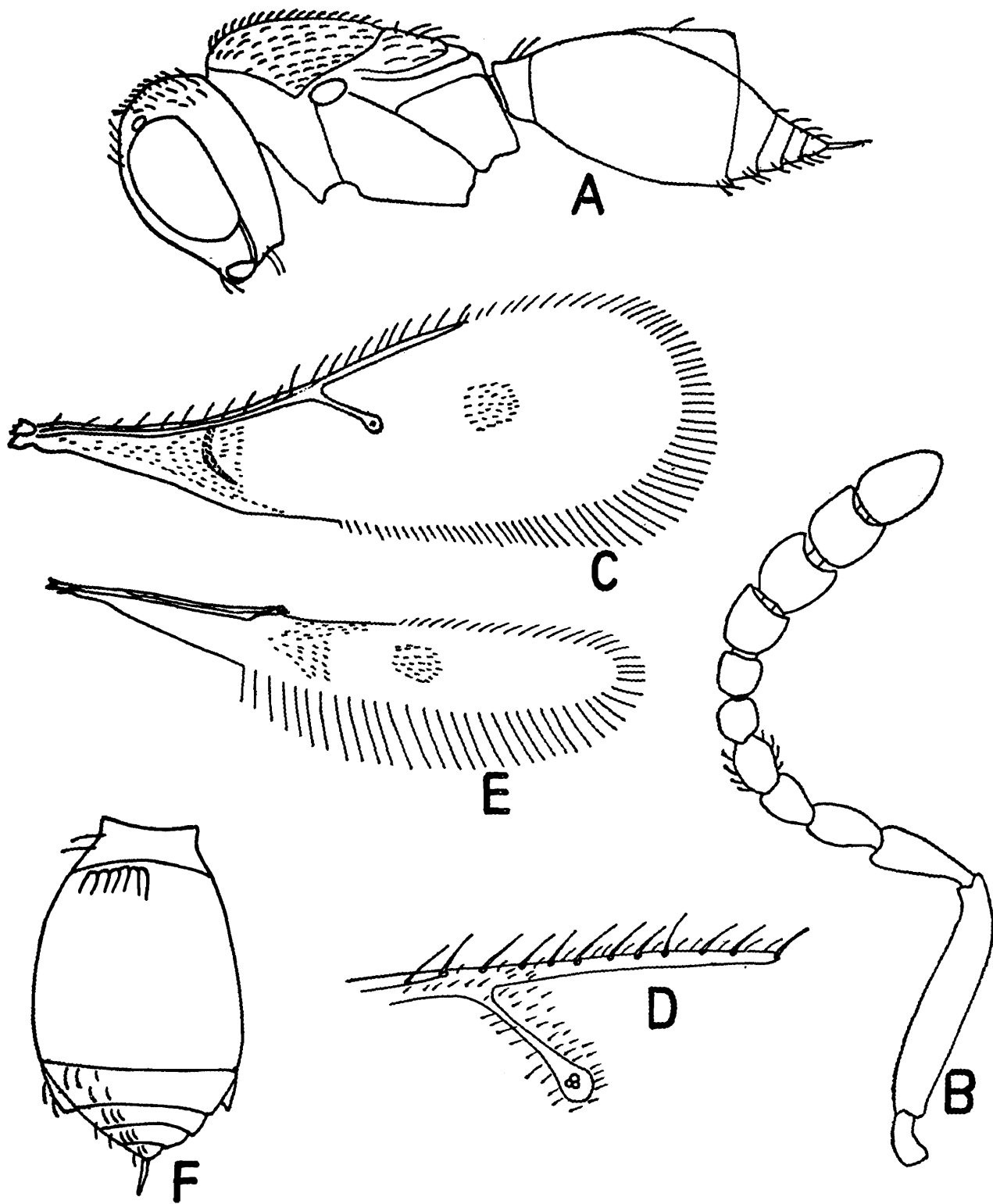


Fig. 21. *Telenomus chamoliensis* n. sp. Female : A, body in profile ; B, antenna ; C, fore wing ; D, stigmal vein ; E, hind wing ; F, metasoma from above.

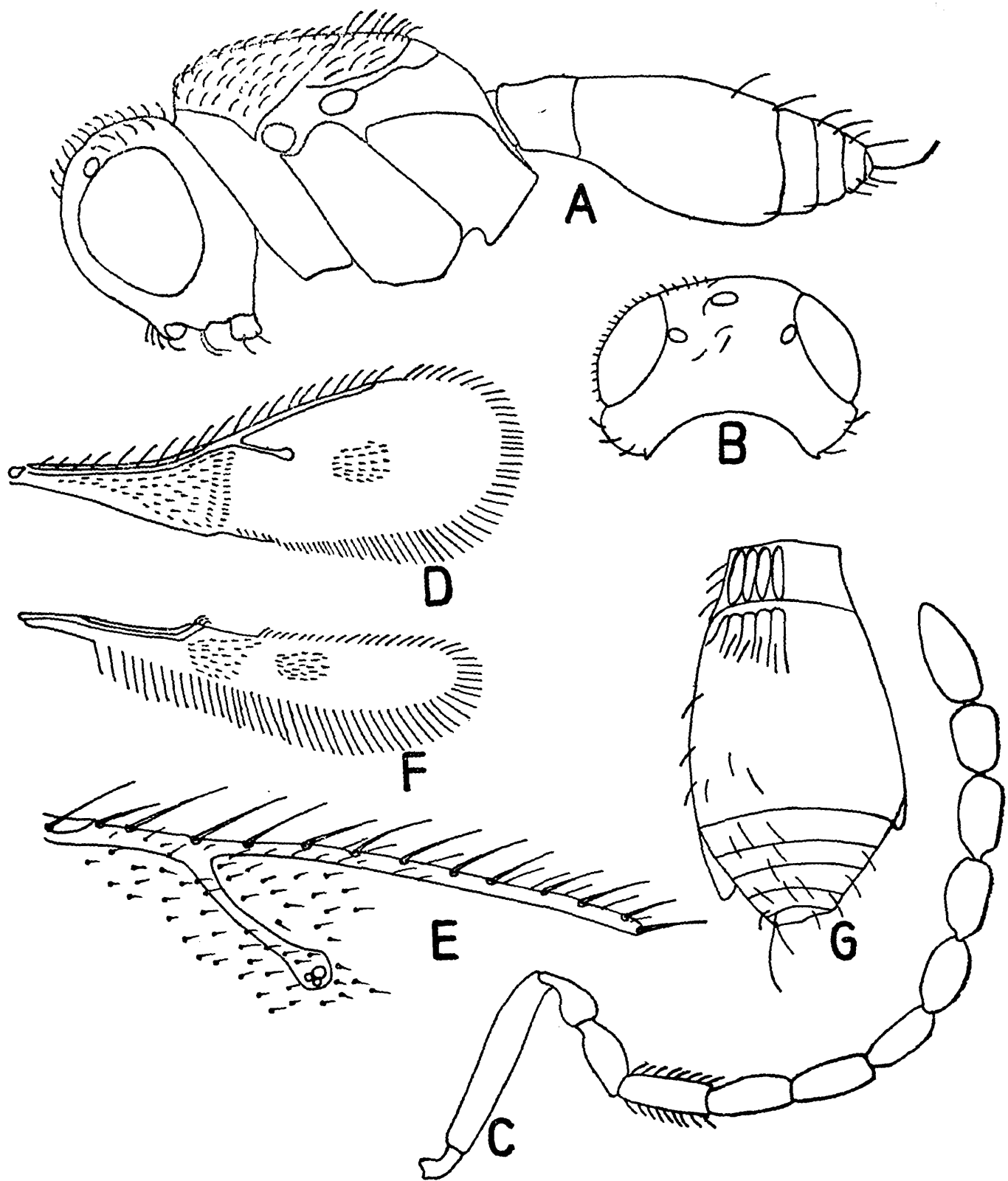


Fig. 22. *Telenomus dunensis* n. sp. Male : A, body in profile ; B, head from above ; C, antenna ; D, fore wing ; E, stigmatal vein ; F, hind wing ; G, metasoma from above.

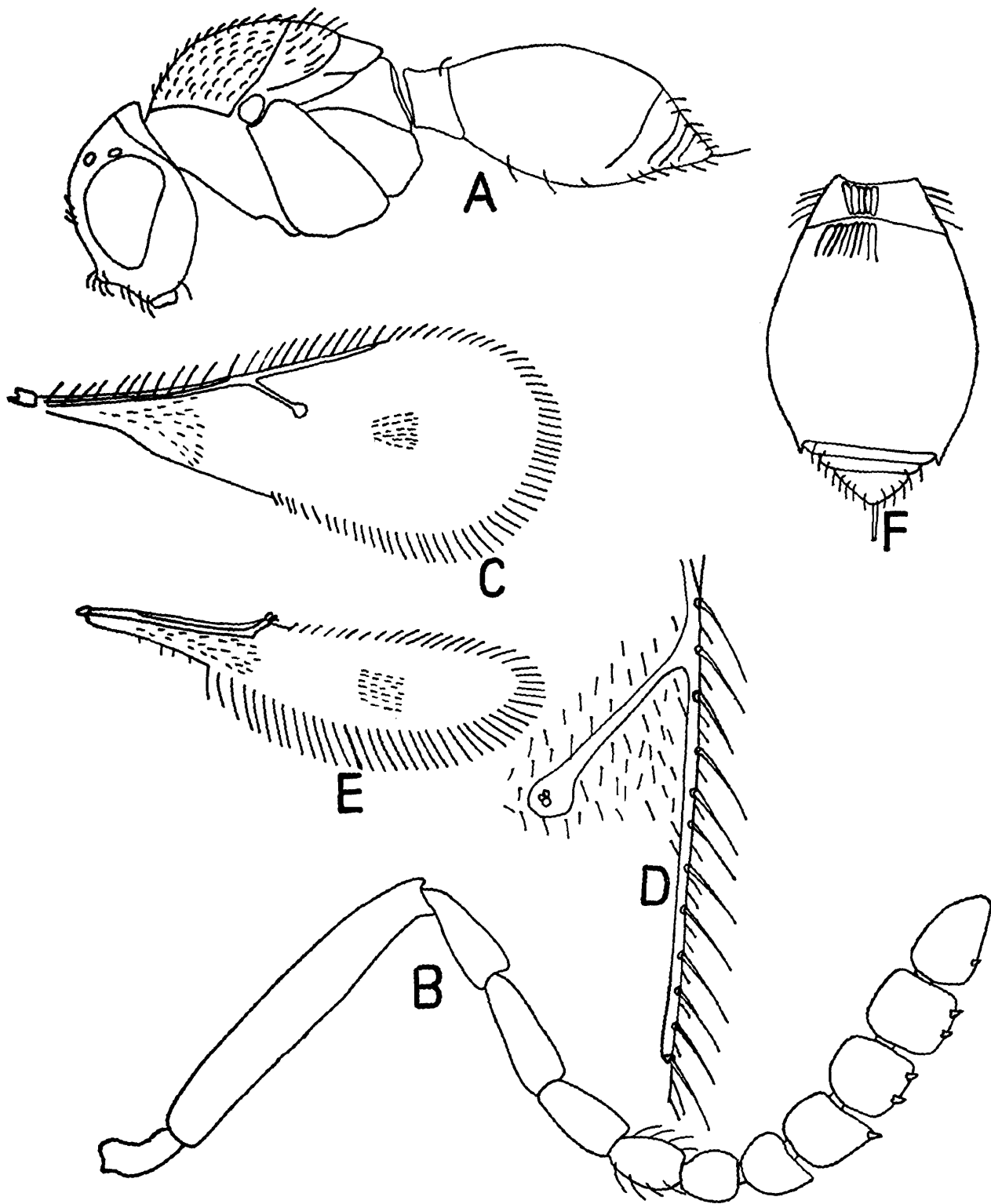


Fig. 23. *Telenomus pauriensis* n. sp. Female : A, body in profile ; B, antenna ; C, fore wing ; D, stigmal vein ; E, hind wing ; F, metasoma from above.

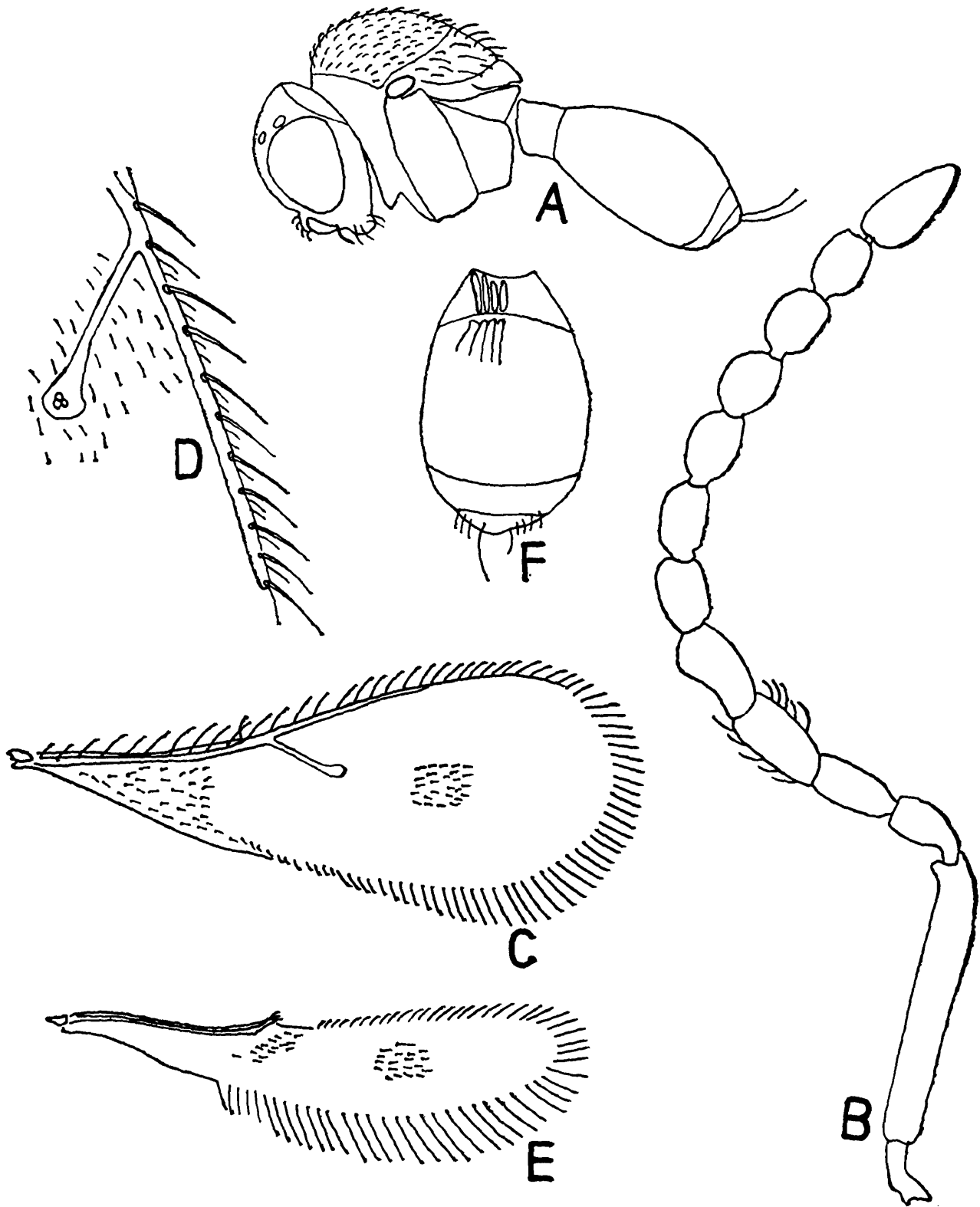


Fig. 24. *Telenomus pauriensis* n. sp. Male: A, body in profile; B, antenna; C, fore wing; D, stigmal vein; E, hind wing; F, metasoma from above.

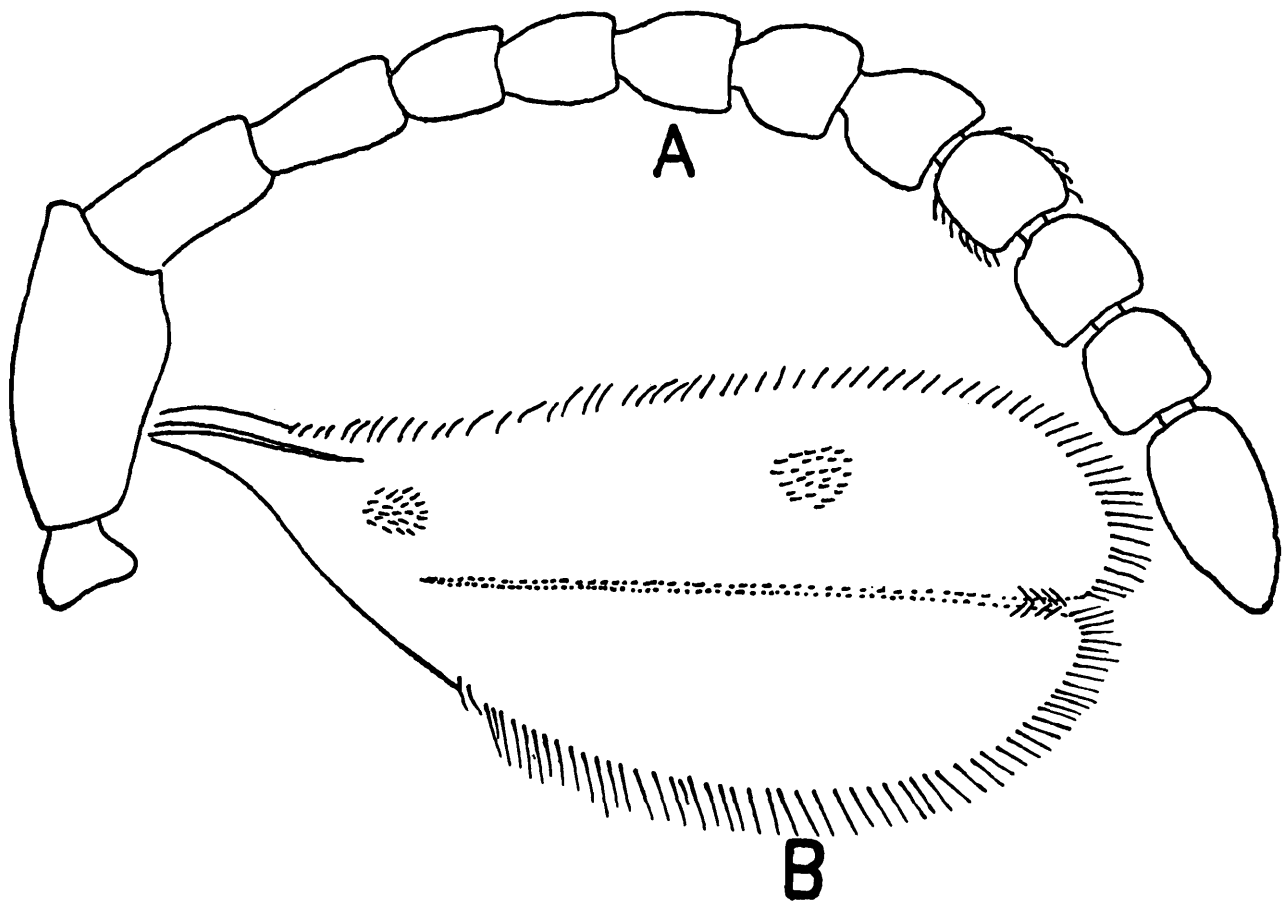


Fig. 25. *Psilus srinagari* n. sp. Female : A, antenna; B, fore wing.