

ON SOME COLLECTIONS OF CICADELLIDS (HOMOPTERA : CICADELLIDAE)

B. DATTA AND MAYA DHAR

Zoological Survey of India, Calcutta

ABSTRACT

The present communication deals with the systematic investigation of 23 cicadellid species in 20 genera under 7 subfamilies of Cicadellidae. The specimens examined are deposited in the National Collections of Zoological Survey of India. The material is represented by 14 Oriental and 9 Nearctic species. The study of the fauna under consideration is principally concentrated upon the structural significance of genitalia over and above the colouration, distribution and vectorial status of a few species. Quite a few of the hitherto-existing taxonomical problems of congeneric species could be well resolved by using the distinctive characteristics of so important genital armature, as illustrated in the text.

SYSTEMATIC ACCOUNT

Subfamily CICADELLINAE

1. *Kolla ganessa* Distant, 1918

Distant, 1918, *Fauna Brit. India*. 7 : 8.

(Figs. 1-3)

Material : Palni Hills, South India, 13-15-IX-1923 (Ind. Mus. Coll.).

Length : 6mm. (male)

Vertex with a black, rectangulate spot at apex, subanterior margin with a dark band extending to antennal bases, centrally with three linear bands; clypeus reddish-brown, anteriorly with a black Y-shaped band; pronotum dark brown, anterolaterally with a dark triangular patch; scutellar angles spotted otherwise shiny reddish brown; tegmina at costal margin black, veins dark grey, claval cells darker, abdominal segments black; hind tibiae with black spines.

Genitalia : Connective Y-shaped, aedeagus bulbous at base (figs. 1, 2); style very short (Fig. 1), mesal apical extension conico-acuminate apically, margin infolded giving disc

a sulcate appearance, outer lobe differentiated; male plate (Fig. 1) converging distad, multi-seriate setae on lateral margin; pygofer (Fig. 3) densely spinulate, pygofer hook geniculate subapically, apex sharp.

Morphology : Median length of crown half the length of interocular width; trans-clypeal suture indistinct; pronotal width same as transocular width; pronotal surface finely granulate; scutellar surface rugosissimus; hind femoral setal formula : 2 : 1 : 1.

Distribution : Madras

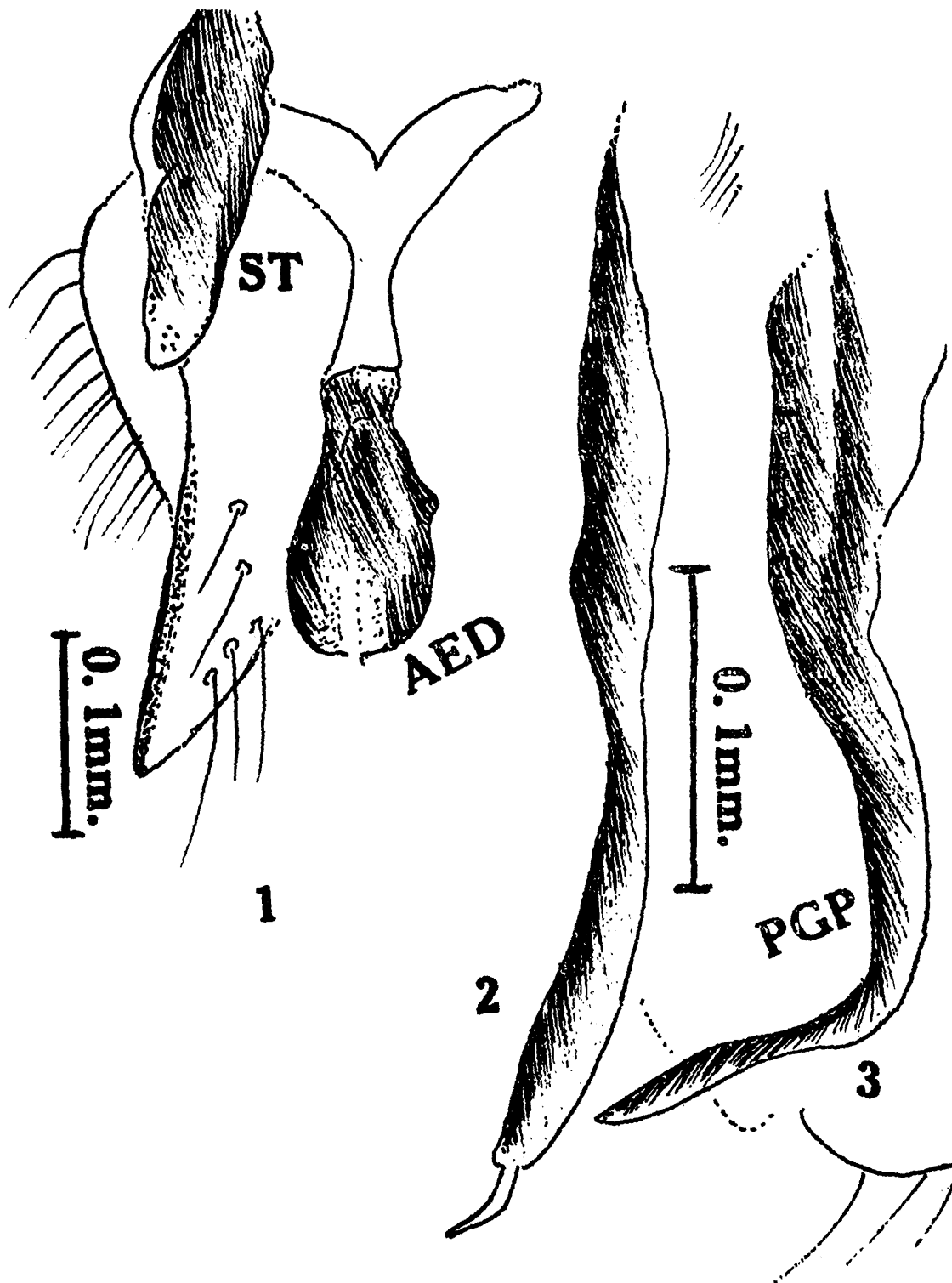
2. *Mileewa margheritae* Distant, 1908

(Figs. 4-5)

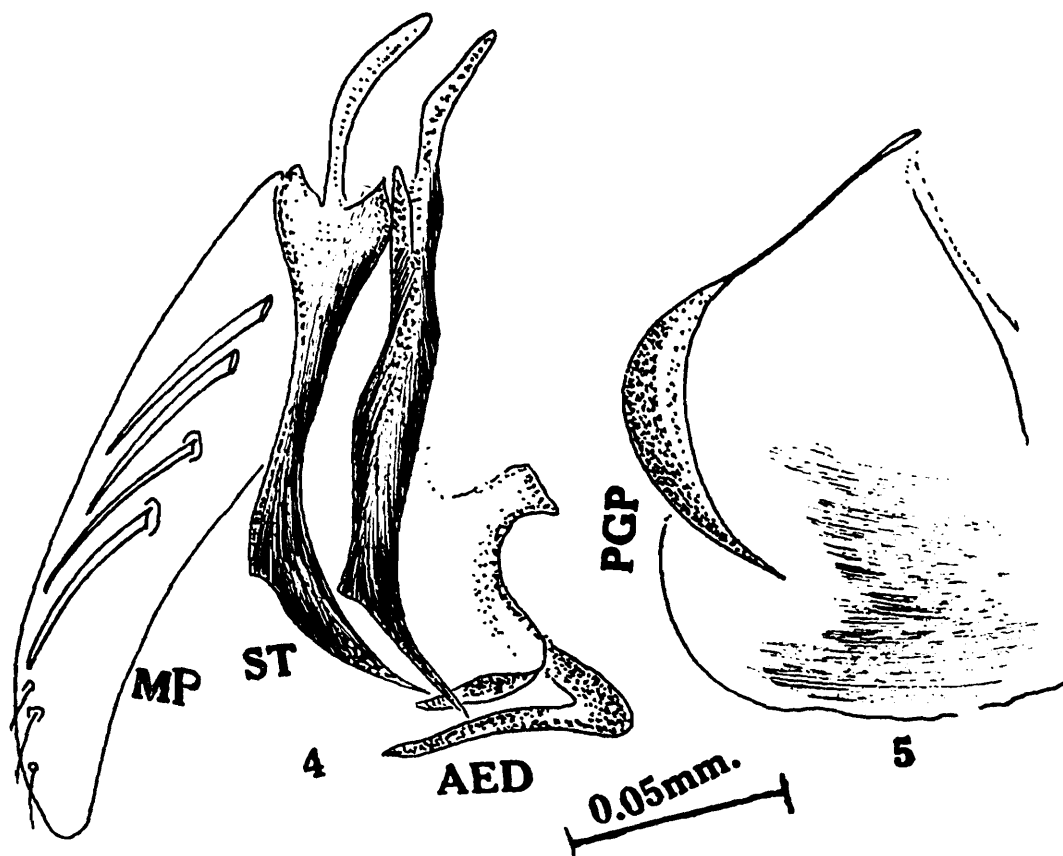
Distant, 1908, *Fauna Brit. India*. 4 : 238.

Material : Mussoore Hills, U. P., VI-1933 (H.S. Pruthi). Vertex, pronotum, anterior half of scutellum and tegmina dark brown; tegmina centrally with an elliptical transparent patch, apical cells with more than two transparent patches, apical margin truncate.

Length : 4.5 mm. (male).



Figs. 1-3. *Kolla ganesha* Dist.
 Aedeagus (Fig. 1), (Fig. 2)
 Style (Fig. 1)
 Male plate (Fig. 1)
 Pygofer (Fig. 3)



Figs. 4-5. *Mileewa margheritae* Dist.
Aedeagus (Fig. 4), Style (Fig. 4), Male plate (Fig. 4), Pygofer (Fig. 5).

Genitalia : Connective rectangulate, aedeagus (Fig. 4) 3/4th flat, with a pair of sharp, foot-like apical processes ; style (Fig. 4) with mesal apical extension elongate, slender, with sharp apex ; male plate (Fig. 4) gradually converging, uniseriate setal arrangement along median margin ; pygofer (Fig. 5) sub-quadrate, robust, pygofer hook arising on postero-mesal margin, strongly arcuate, directed cephalad.

Distribution : Assam, Upper Burma.

3. *Soibanga bella* Walker, 1851
(Figs. 6-7)

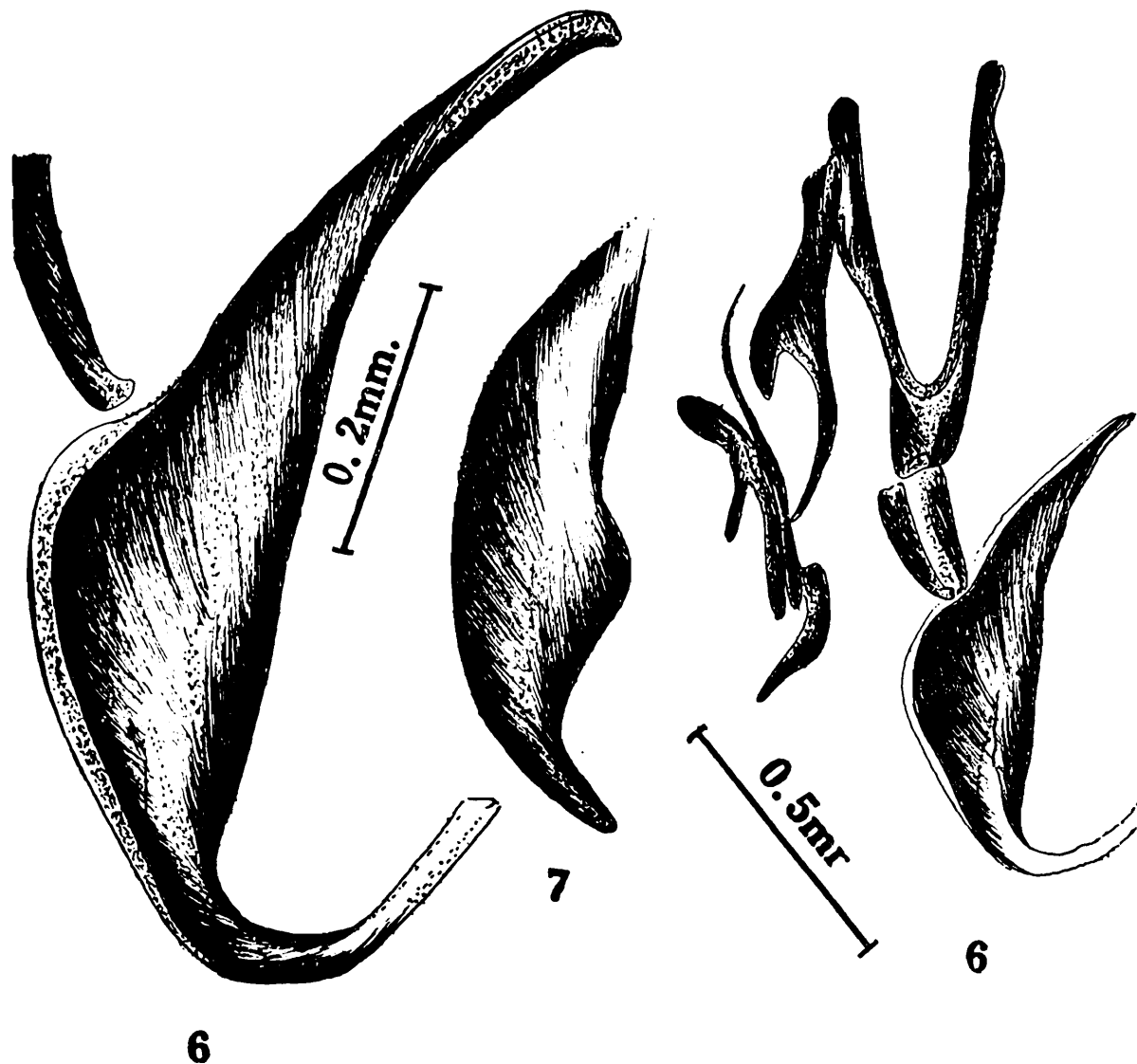
Walker, 1851, *List. Brit. Mus.* 3 : 778.

Material : Nainital, U. P., 9-XII-18 (Ind.

Mus. Coll.). Vertex centrally with a series of creamy-white spots ; face with an oblong creamy-white spot at posterior margin, transverse impression laterally distinct ; pronotum finely rugose, laterally a pair of creamy-white patches ; creamy-white patches on tegmina extending to middle of costal and claval areas ; abdomen ventrally creamy-white ; meta-tibiae densely spinulate, creamy colored.

Length : 5.5 mm. (male).

Genitalia : Connective Y-shaped, arm arcuate at point of union with aedeagal base, aedeagus (Fig. 6) robust, laminate, postero-laterally sinuate ; style (Fig. 6) with mesal apical extension very short, apex beak-shaped ; male plate (Fig. 7) converging distad ; pygofer hook arising latero-basally,



Figs. 6-7. *Soibanga bella* Walk.

Aedeagus (Fig. 6), Style (Fig. 6), Male plate (Fig. 7).

geniculate medially, apex sharply pointed, deeply emarginate.

Distribution : Assam, Sylhet.

Subfamily PENTHIMIINAE

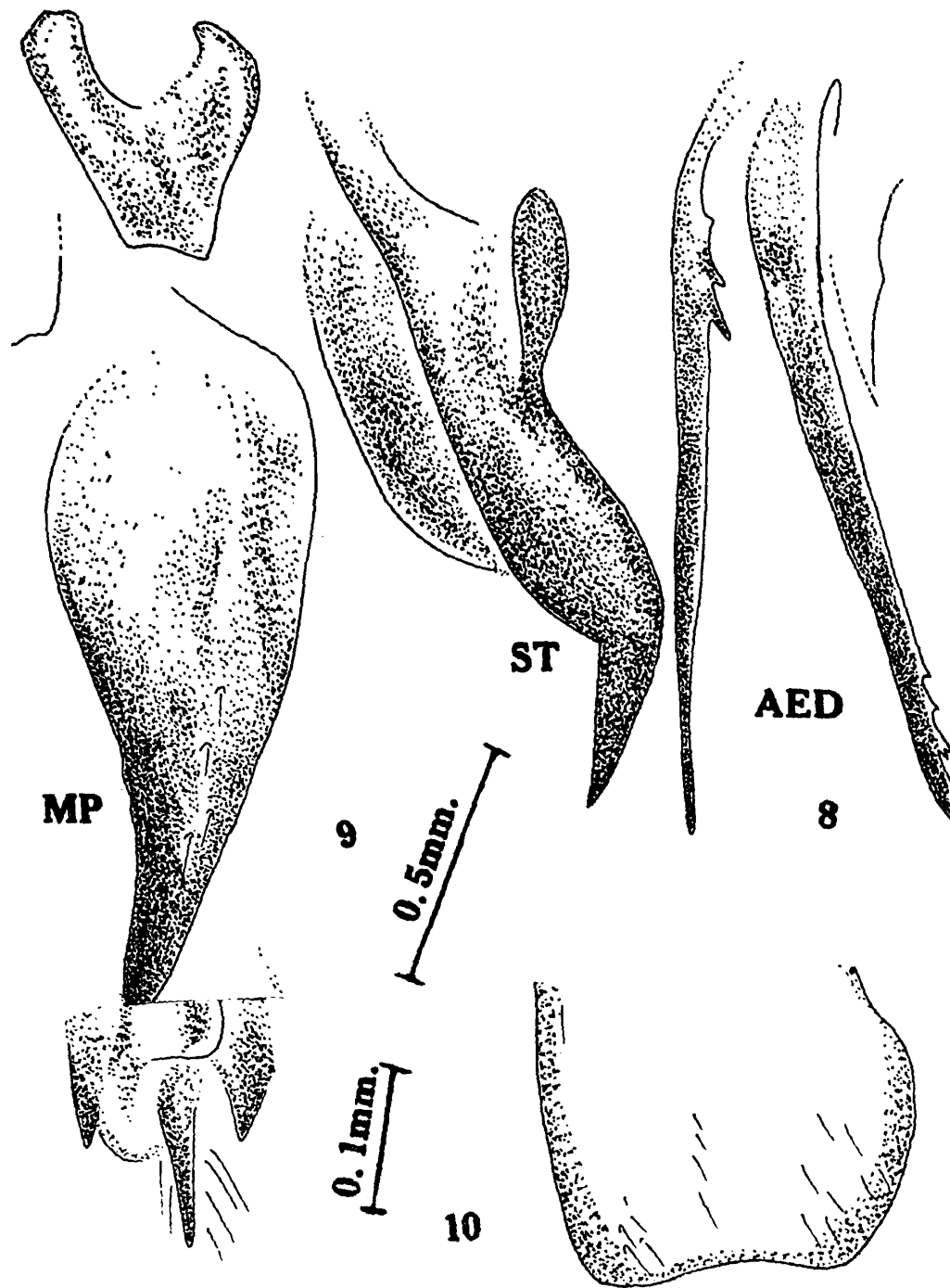
4. *Haranga scutellaris* Distant, 1908

(Figs. 8-10)

Distant, 1908, *Fauna Brit. India*. 4 : 249.

Material : Arunachal Pradesh, 11-III-69 (Ind. Mus. Coll.). Pronotum, scutellum and tegmina piceous; abdominal segments and

spines on legs reddish-brown, shiny; tegmina beyond middle semi-transparent, veins dark brown, claval suture dark reddish at apex. Length: 6 mm (male), 8 mm. (female) Morphology: Median length of crown one and a half times lesser than interocular width, surface of crown pubescent, rugose at anterior half; transclypeal suture indistinctly demarcated; pronotal surface transversely rugous, posterolateral angle angulated; scutellum transversely impressed; tegmina coriaceous, extending beyond abdominal tip;

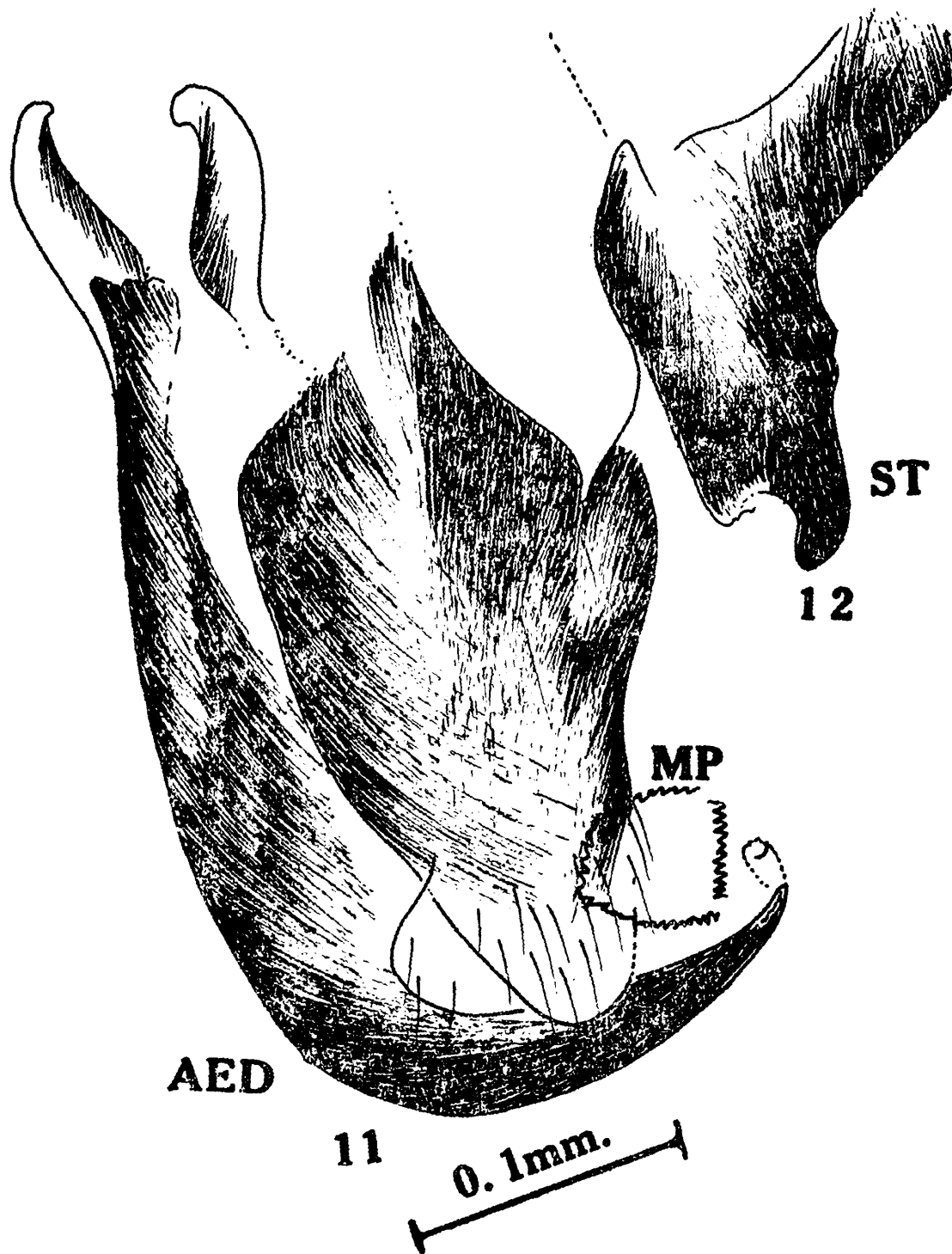


Figs. 8-10. *Haranga scutellaris* Dist.

Aedeagus (Fig. 8), Style (Fig. 9), Male plate (Fig. 9), Pygofer (Fig. 10).

hind femoral setal formula : 2 : 1 : 1 : 1 ;
VIIIth sternite (female) carinate medially,
postero-medially semicircularly notched, later-
ally feebly concavus.

Genitalia : Connective Y-shaped, arm
very short, aedeagus (Fig. 8) broader basad,
gradually re-curved, subapically twisted, apex
pointed, carinate along median axis ; style



Figs. 11-12. *Penthimia scapularis* Dist.
Aedeagus (Fig. 11), Style (Fig. 12), Male plate
(Fig. 11).

(Fig. 9.) with short preapical lobe, aedeagal shaft 3/4th broader, disc set with sparse microsetae, postero-lateral margin distinctly rugulose, apex conico-acuminate, placed at right angle to basal part ; male plate (Fig. 9) concavus laterally, uniseriate setal arrangement, slightly undulated on outer margin ; pygofer (Fig. 10) rectangulate, pygofer hook extending along mesal margin.

Distribution : Assam, Shillong.

5. *Penthimia scapularis* Distant, 1908

(Figs. 11-12)

Distant, 1908, *Fauna Brit. Inia.* 4 : 244.

Material : Haringhata, West Bengal, 14-XII-1962 (G. K. Manna). Vertex rugose ; ocellus close to each eye ; anterior margin of pronotum to facial area pitchy black ; pronotum reddish brown ; scutellum black, rugose ; tegmina beyond middle reddish brown ; apical cells spotted, claval suture black ; thorax ventrally black, femora and metatibiae with blackish tinge.

Length : 6 mm. (male)

Genitalia : Connective Y-shaped, with elongate arm ; aedeagus (Fig. 11) broader basad, strongly re-curved, apex blunt with a cup-shaped structure as figured ; style (Fig. 12) 3/4th laminate, mesal apical extension spanner-shaped ; male plate (Fig. 11) robust, setae multiseriate ; pygofer sub-rectangulate, infolded laterad.

Distribution : Bombay, Assam, Tenasserim, Sikkim.

Subfamily LEDRINAE

6. *Ledra quadricarina* Walker, 1858

(Figs. 13-14)

Walker, 1858, *List. Brit. Mus. Suppl.* p. 249.

Material : Simla Hills, Himachal Pradesh, VIII-IX-1925 (B. Chopra). Robust, body den-

sely rugulose ; vertex, pronotum, wing veins thickly nodulate ; vertex tricarinate, a pair of nodulate structures at base ; tegminal venation reticulate ; abdomen reddish-brown, tibiae densely pubescent.

Length : 13 mm. (male)

Genitalia : Connective U-shaped, aedeagus (Fig. 13) robust, scaphiform, apical 1/5th abruptly tapered, a pair of long, sub-apical processes directed caudad ; style (Fig. 13) robust, mesal apical extension cylindrical, foot-shaped, strongly chitinised ; male plate robust, elongate, postero-laterally infolded ; pygofer (Fig. 14) constricted medially, pygofer hook arising from inner margin.

Distribution : Coorg, Mysore

Economic importance : This species was trapped on a sticky paper during investigation on the cause of spike disease of *Santalum album* (Dover, 1932 : 36, Pruthi, 1934 : 6, Chatterjee, 1939 : 21).

Subfamily APHRODINAE

7. *Anoterostemma ivanhofi* (Lethierry), 1876

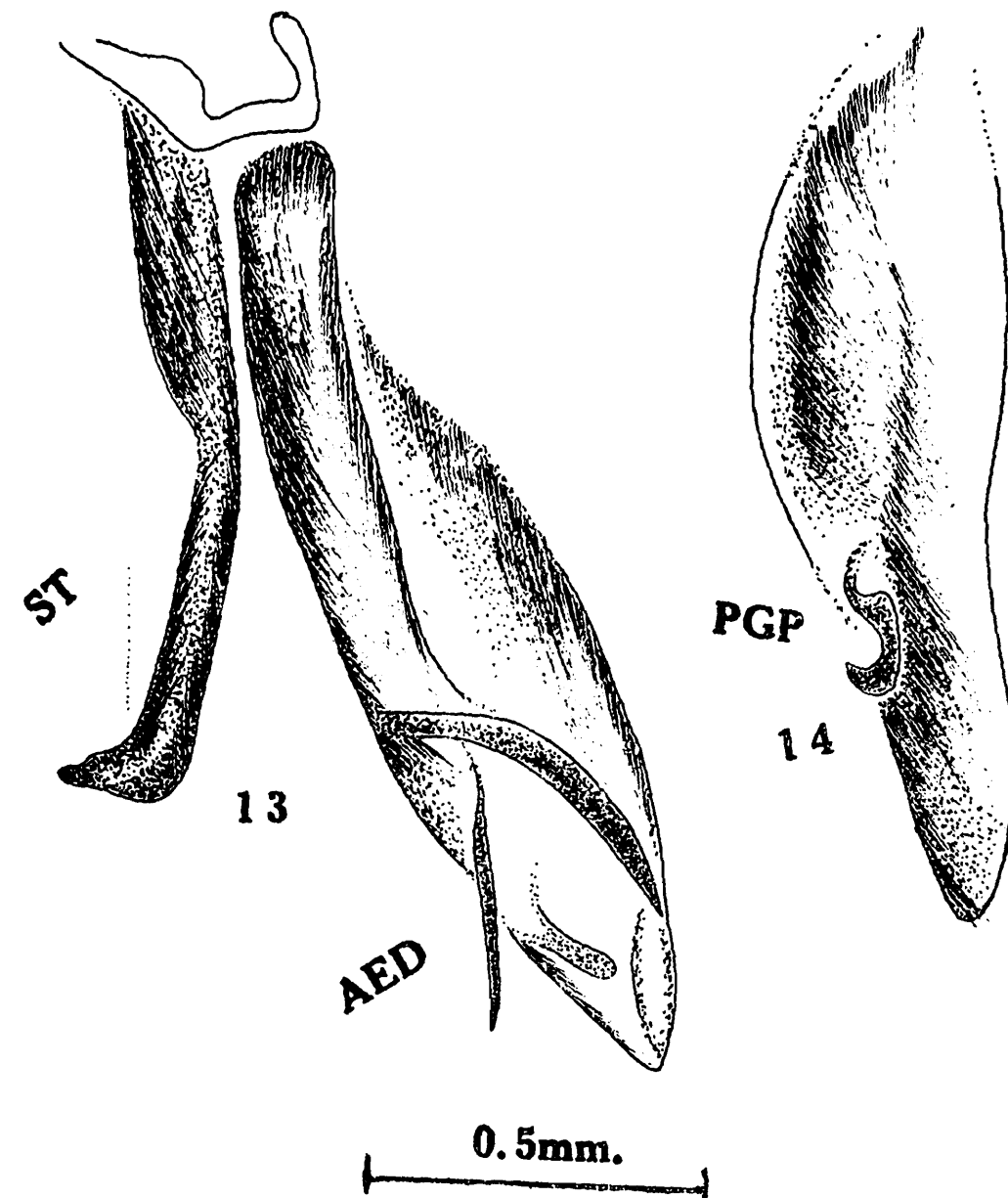
(Fig. 15)

Lethierry, 1876, *Pet. Nouv. Ent.* 2 : 26.

Material : Russia (A. N. K.), exchange material (Ind. Mus. Coll. 2-VI-31). Anterior margin of crown including clypeus dark shiny brown, excluding central and antero-lateral margin, median suture of crown on each side with dark brown patch ; pronotum creamy, disc with dark brown patches ; scutellum with dark brown patches ; scutellum dark brown, shiny.

Length : 4 mm. (male)

Genitalia : Connective Y-shaped, aedeagus (fig. 15) at base funnel-shaped, cylindrical, drawn to a filamentous process ; style (fig. 15) with mesal apical extension distinctly serrate



Figs. 13-14. *Ledra quadricarina* Walk.

Aedeagus (Fig. 13), Style (Fig. 13), Pygofer (Fig. 14).

at posterior part ; male plate sulcate at sagittal half ; pygofer conico-acuminate, a strongly bent hook along mesal margin.

Morphology : Median length of crown half length of interocular width, posterior half densely granulate, foveate on each side of median suture ; ocelli in line with anterior

eye-angles, equidistant from each eye ; clypeal surface densely granulate ; pronotal width greater than transocular width, angulate laterad, disc rugulose ; tegmina shiny, granulate.

Distribution : Ukran, Crimea, Italy

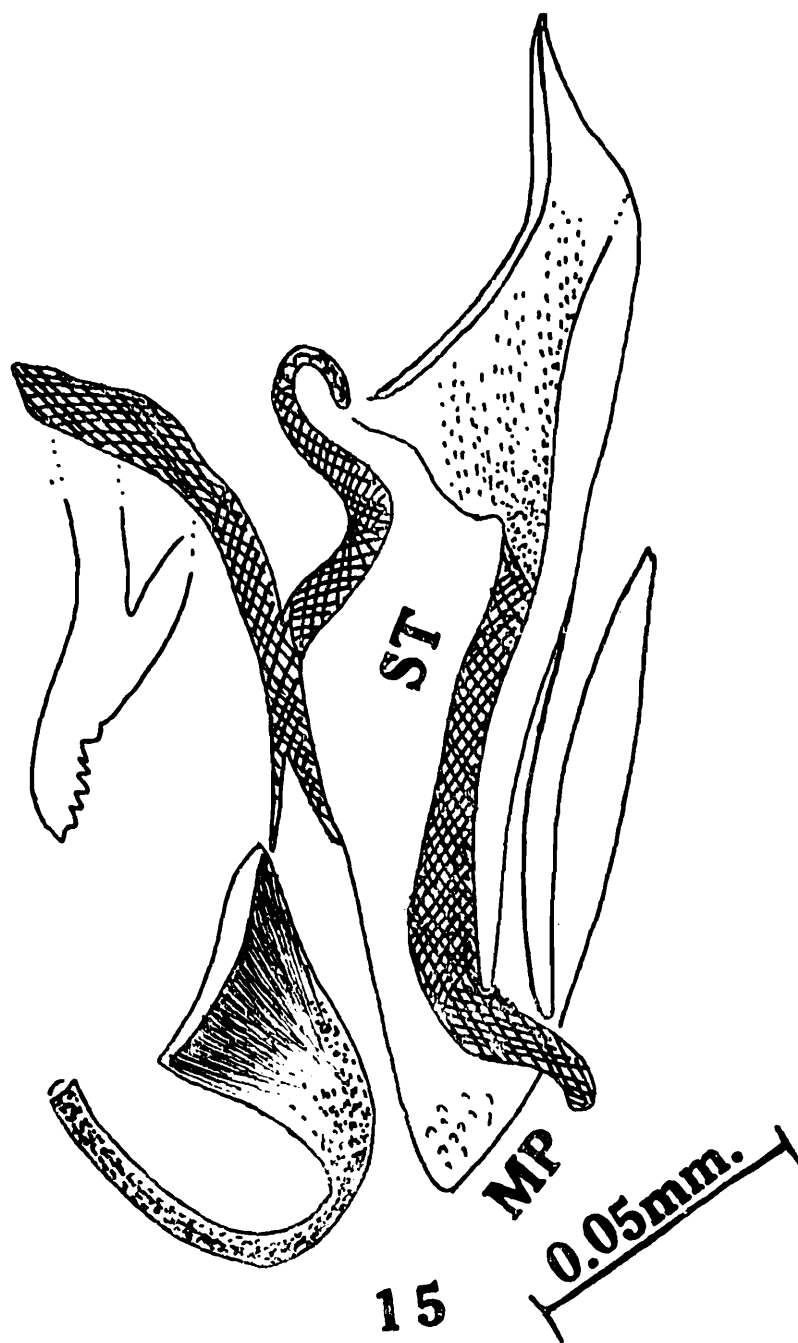


Fig. 15. *Anoterostemma ivanhofii* (Leth)
Aedeagus, Style (Fig. 15).

8. **Gurawa vexillum** Distant, 1908
(Fig. 16)

Distant, 1908, *Fauna Brit. India*. 4 : 263.

Material : Sikkim, 29-III-1975 (Ind. Mus. Coll.).

Vertex subtriangulate, a black band (female) extending from middle of facial area to anterior margin of pronotum, some times absent in male, lateral margin with a pair of black spots on each side, pronotal surface coriaceous ; scutellum with three minute

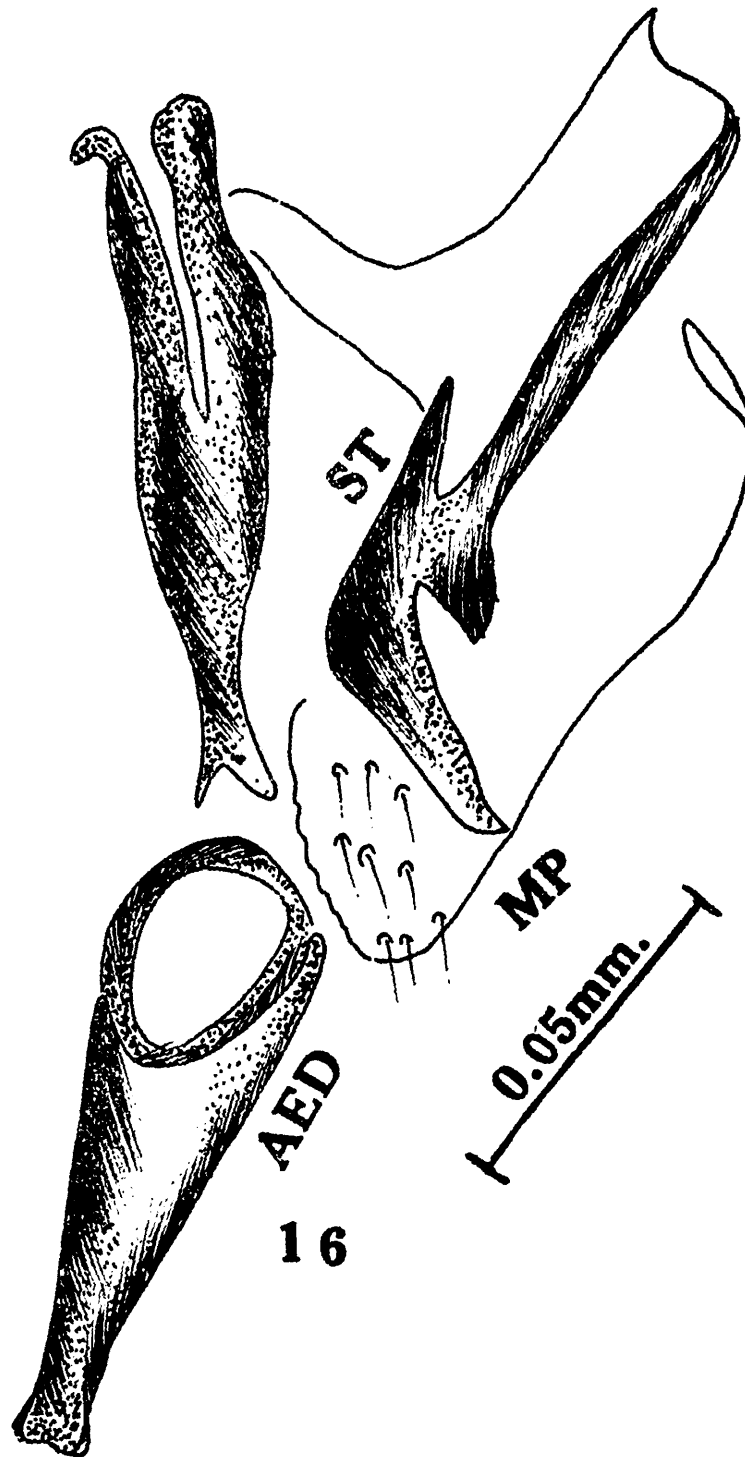


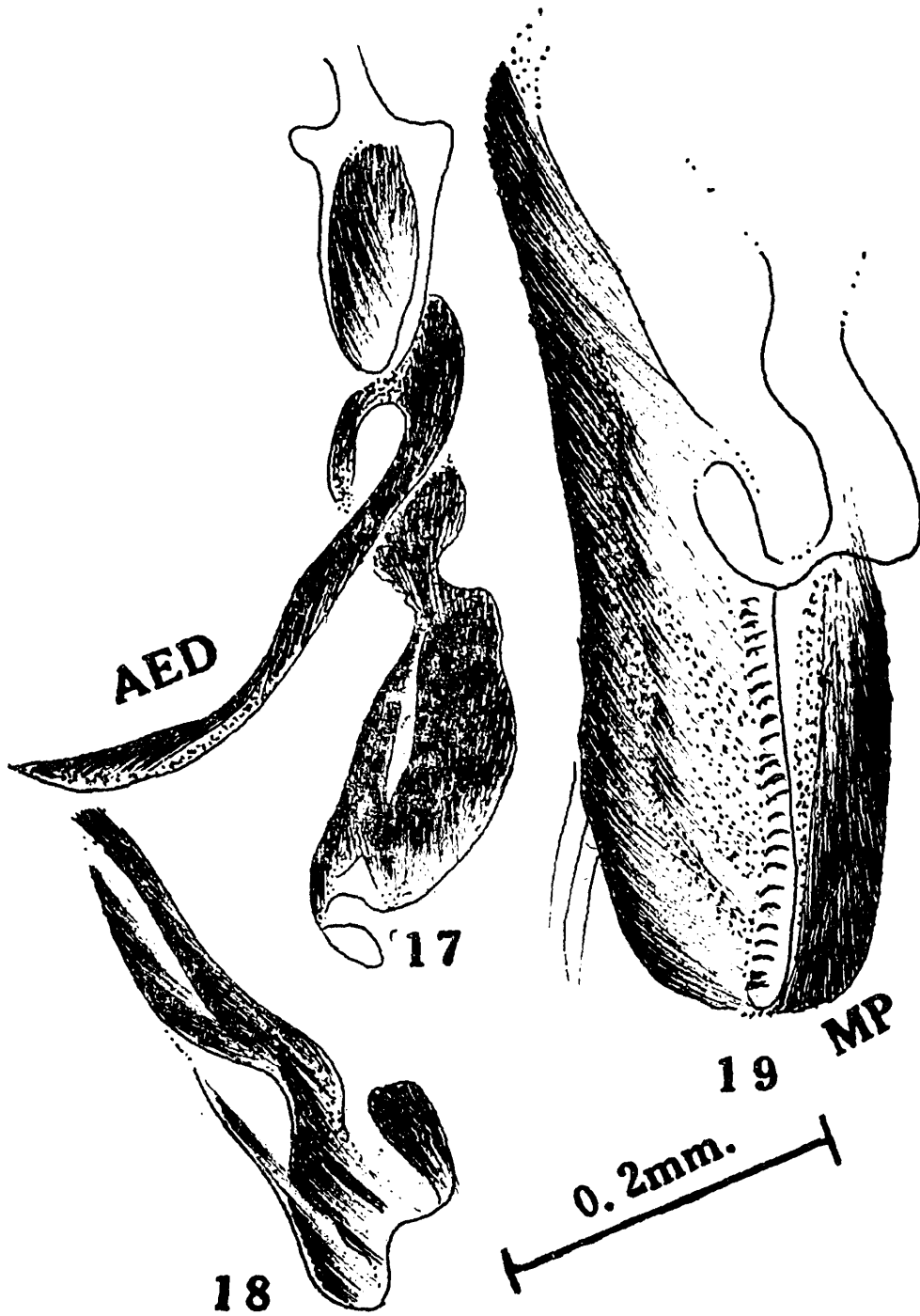
Fig. 16. *Gurawa vexillum* Dist.
Aedeagus, Style, Pygofer (Fig. 16).

black spots ; tegmina semi-transparent, apical cells short ; anterior femora with dark brown bands.

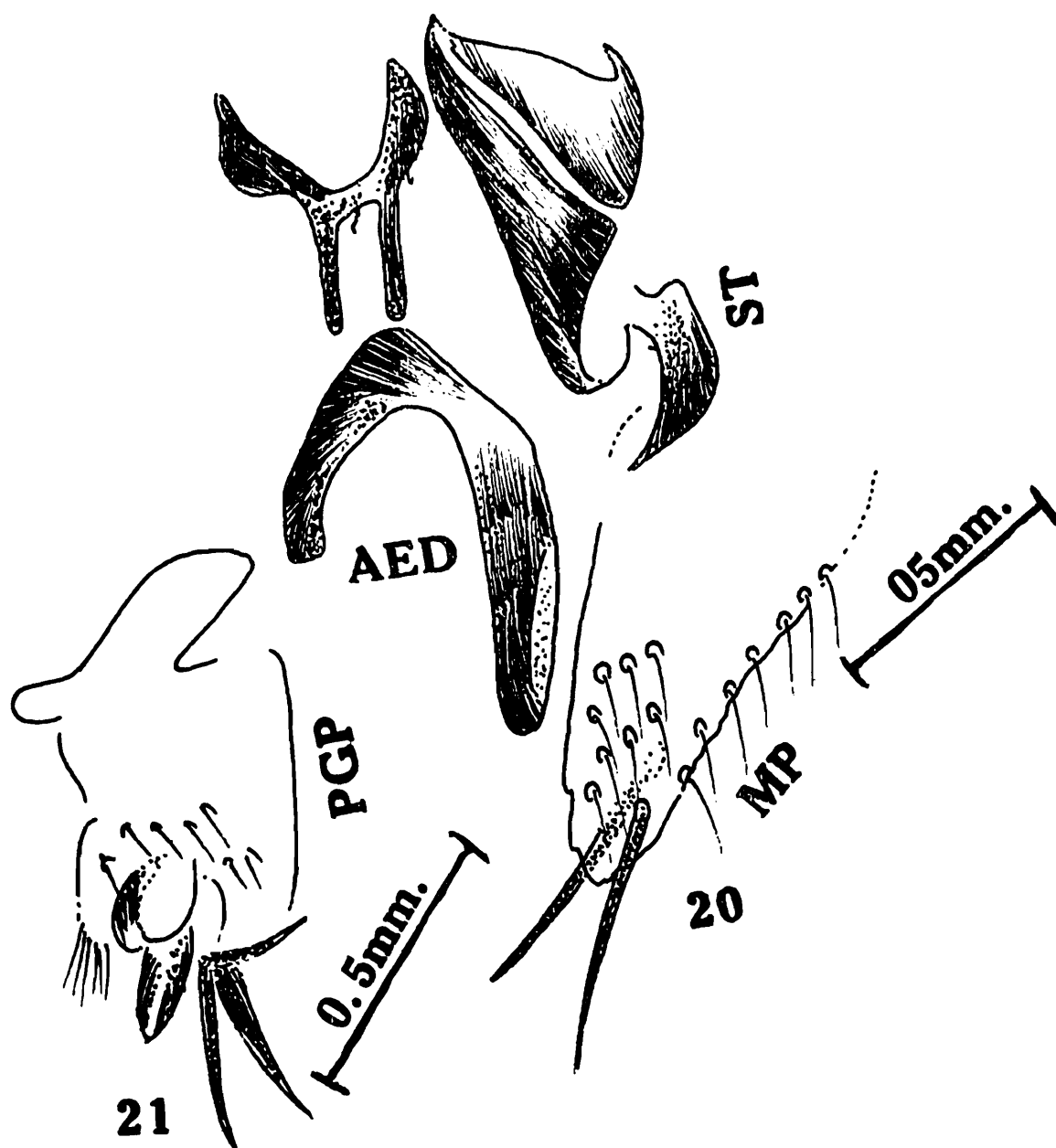
Length : 4 mm. (male), 4.5 mm (female).

Genitalia : Connective Y-shaped, aede-

gus funnel-shaped, attenuate gradually ; style with mesal apical extension deeply emarginate, apex conico-acuminate, medially with a strip of nodulate structures extending upto apex ; male plate short, triangulate, setose ;



Figs. 17-19. *Leofa unicolor* Dist.
Aedeagus (Fig. 17), Style (Fig. 18), Male plate
(Fig. 19).



Figs. 20-21. *Banus oblatu* Dist.

Aedeagus, Style, Male plate (Fig. 20), Pygofer (Fig. 21).

pygofer densely spinulose; anal lobe with a pair of hooks directed cephalad.

Distribution: Sikkim, Madras.

9. *Leofa unicolor* Distant, 1918

(Figs. 17-19)

Distant, 1918, *Fauna Brit. India*. 7: 88.

Material: Harrai, Rewa State, M. P., 17-II-27 (H. S. Pruthi). Vertex subtriangulate,

face with dark brown stripes; pronotum, scutellum dark reddish brown, sometimes with patches; tegmina with a series of transverse reddish spots; legs reddish brown.

Length: 4 mm. (female), 3 mm. (male).

Genitalia: Connective U-shaped, aedeagus (fig. 17) short, apical margin truncate, shaft elongate, twisted; style (fig. 18) with mesal apical extension emarginate at apical margin,

densely rugulose ; male plate (fig. 19) setose on lateral margin, thickly dentate ; pygofer quadrate, a short, re-curved hook arising posteromesally, directed cephalad ; seventh sternite (female) projected at posteromesal margin, apex truncate, surface, densely spinulate.

Distribution : South India

Subfamily EUSCELINAE

10. **Banus oblatu**s Distant, 1908

(Figs. 20-21)

Distant, 1908, *Fauna Brit. India*. 4 : 353.

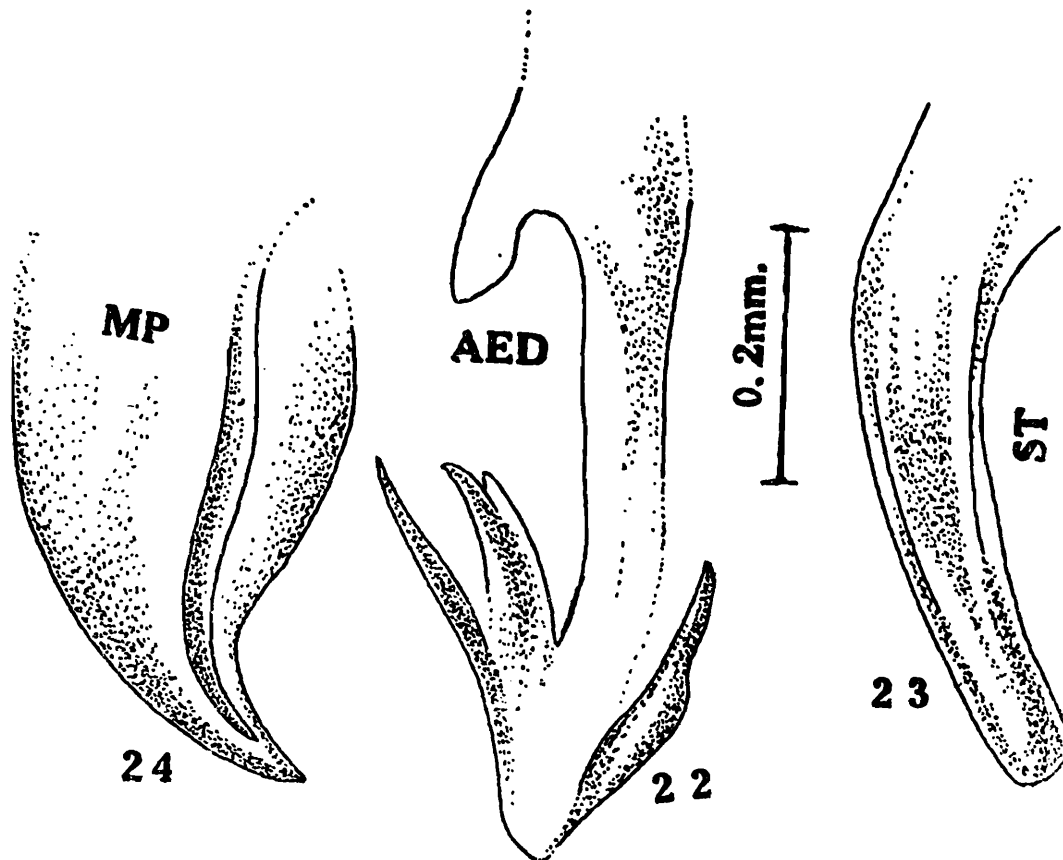
Material : Paradeniya, Ceylon, XI-1910
(Ind. Mus. Coll.)

Vertex subtriangulate, posterior margin deeply emarginate, disc with black spots ; tegmina reddish brown, apical cells with dark brown patches (male) ; legs reddish brown.

Length : 4.5 mm (male)

Genitalia : Connective Y-shaped, aedeagus (fig. 20) with a pair of subapical processes, directed cephalad ; style (fig. 20) with mesal apical extension attenuate gradually ; male plate (fig. 20) subtriangulate, setae multi-seriate laterad ; pygofer (fig. 21) sub-quadrate disc with macrosetae.

Distribution : Tennasserim, Burma



Figs. 22-24. *Calonia signata* (Ball)
Aedeagus (Fig. 22), Style (Fig. 23), Male plate (Fig. 24).

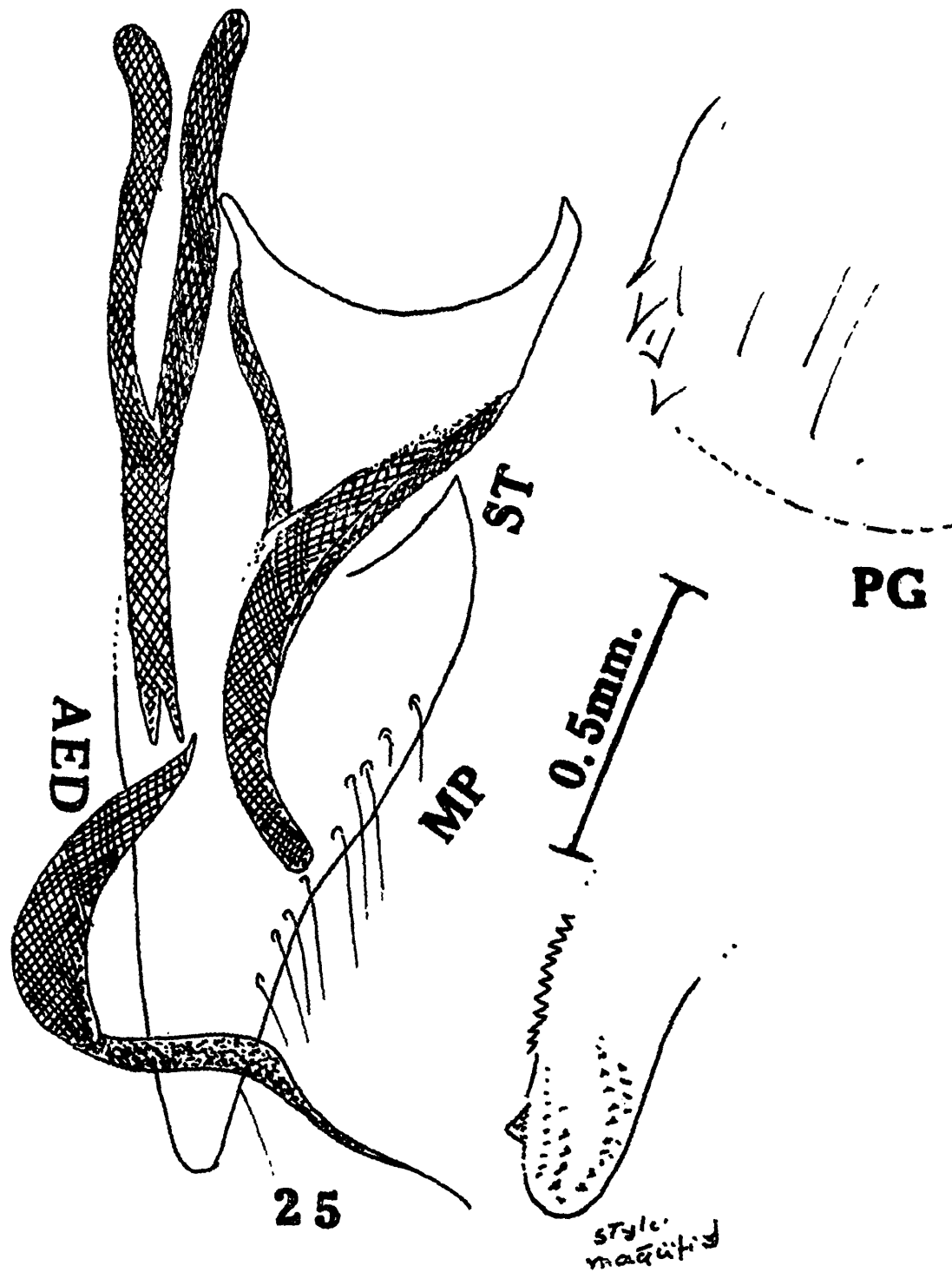


Fig. 25. *Chlorotettix unicolor* (Fitch)
Aedeagus, Style, Male plate (Fig. 25).

11. *Calonia signata* (Ball), 1902

(Figs. 22-24)

Ball, 1902, *Canad. Ent.* 34 : 56

Material : Los Angeles, California, (C. F. Baker), no date.

Vertex angulate, with arched bonds at anterior margin ; pronotum rugulose, with a pair of bands ; scutellar angles spotted with a pair of median bands ; legs dark brown.

Length ; 5 mm (male).

Morphology : Median length of crown half the length of interocular width ; pronotal width equal to transocular width of head, lateral margin smoothly curved ; scutellum medially sulcate.

Genitalia : Connective Y-shaped, aedeagus (Fig. 22) with a short apodeme, two pairs of terminal processes, directed cephalad ; style (Fig. 23) with mesal apical extension strongly curved along median axis, apex truncate ; male plate (Fig. 24) triangulate, setae uniseriate laterally ; pygofer hook robust, beak-shaped.

Distribution : California.

12. *Chlorotettix unicolor* (Fitch), 1851

(Fig. 25)

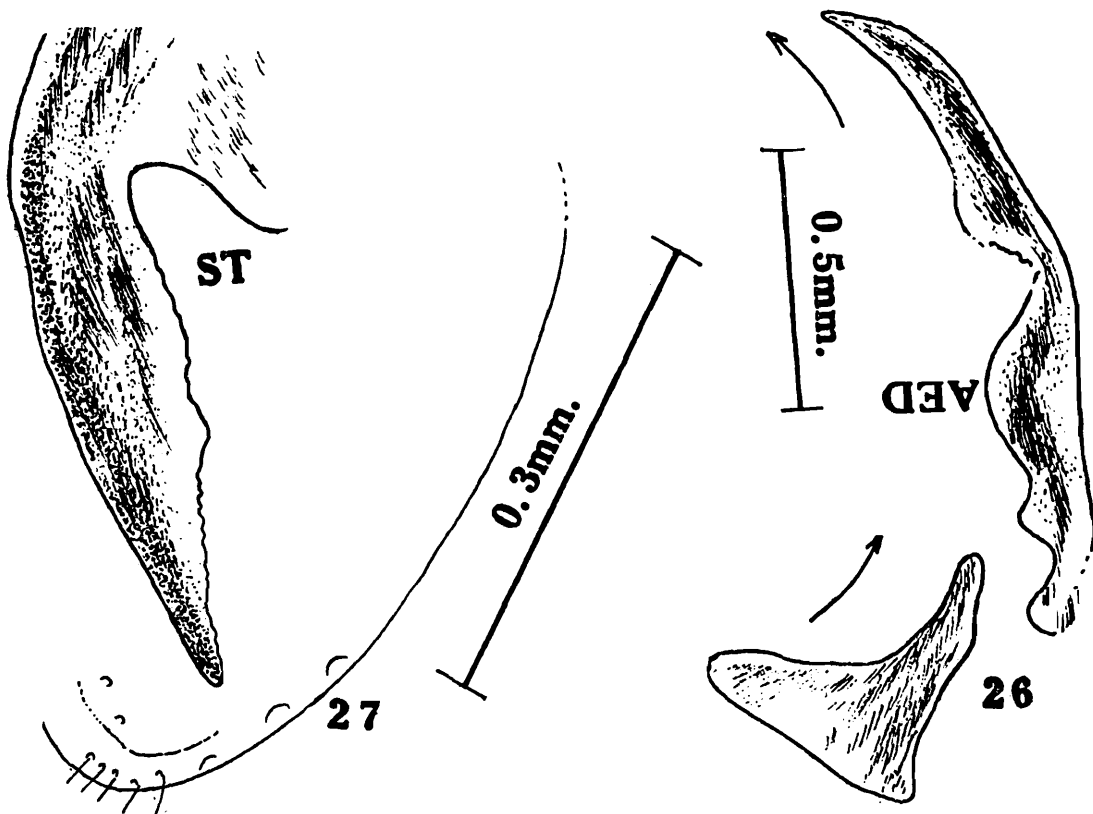
Fitch, 1851, *State Cabinet. Nat. Hist. Ann. Rept.* 4 : 58.

Material : Montreal, Canada, VII-1926 (P. W. Oman). Vertex subtriangulate ; pronotum indistinctly rugulose ; facial area with blackish tinge ; legs pale brown.

Length : 7 mm. (male)

Genitalia : Connective Y-shaped, oval at base, with a pair of terminal filamentous processes ; style with mesal apical extension laterally serrate, subapically tumid, densely spinulate ; male plate with uniseriate setal arrangement laterally, connivent distad ; pygofer latero-medially with short spurs, disc with macrosetae.

Distribution : Manitoba, Staten Island, Columbia.



Figs. 26-27. *Togacephalus distinctus* Mots.
Aedeagus (Fig. 26), Style, Male plate (Fig. 27).

13. **Togacephalus distinctus** (Motschulsky),
1859
(Figs. 26-27)

Motschulsky, 1859, *Etud. Ent.* 8 : 112.

Material : Imphal Valley, Manipure, 10-13-IX-1945 (Ind. Mus. Coll.). Vertex subtriangulate, anterior margin piceous, intercepted by a series of creamy-brown spots; pronotum, scutellum reddish-brown; wing semi-transparent; tibiae with dark spots.

Length : 3 mm. (male), 3.5 mm. (female)

Genitalia : Aedeagus (Fig. 26) elongate, shaft slender, subapically notched, pointed apex; style (Fig. 27) broader basad, geniculate, mesal apical extension serrate on outer margin, densely rugulose, apex pointed; male plate (Fig. 27) sub-quadrate, setae uniseriate on lateral margin.

Distribution : Formosa, Korea.

14. **Deltocephalus gopii** Pruthi, 1936
(Figs. 28-29)

Pruthi, 1936, *Mem. Ind. Mus. II* : 127.

Material : Holotype. No. 5419/H7, allotype. No. 5420/H7 (Ind. Mus.) Calcutta, Murree Hills, Punjab, 1936 (Pruthi).

Vertex with a dark brown band extending upto inner margin of eyes; face including clypeus piceous with yellowish striations (male), facial area with alternate yellowish and dark brown lateral bands intercepted by creamy white longitudinal lines (female); sometimes outer margin of each eye with a black spot; tegmina with oblong dark brown patches; abdomen black; prothoracic femur banded dark brown (male).

Length : 4 mm. (male) incl. tegmina.

Genitalia : Connective U-shaped, aedeagus (fig. 28) linear, baculiform, uniform along

length; style (fig. 28) short, apex foot-shaped; male plate triangulate, setal arrangement uniseriate on lateral margin; pygofer (fig. 29) sub-quadrate, disc densely spinulate; apex bifid, anal hook distinct, stouter one dentate.

Distribution : Punjab.

15. **Deltocephalus pulicaris** (Fallen), 1806
(Figs. 30-31)

Fallen, 1806, *Svenska Vetensk. Akad. Nya Handl.* 27 : 21.

Material : Butler Collection (purchased), no date and locality.

Vertex with fine central suture, pronotum castaneous, shiny; facial area piceous; inner margin of each eye bordered dark brown; pronotum spotted at anterior margin.

Length : 4 mm, (male).

Genitalia : Connective U-shaped, aedeagus (fig. 30) with beak-shaped apex, subapically serrate along central line; style (fig. 31) laminate, mesal apical extension baculiform, strongly chitinised; male plate (fig. 31) rugulose transversely, setae uniseriate on lateral margin, a tuft of setae at apex; pygofer with spinulate apex.

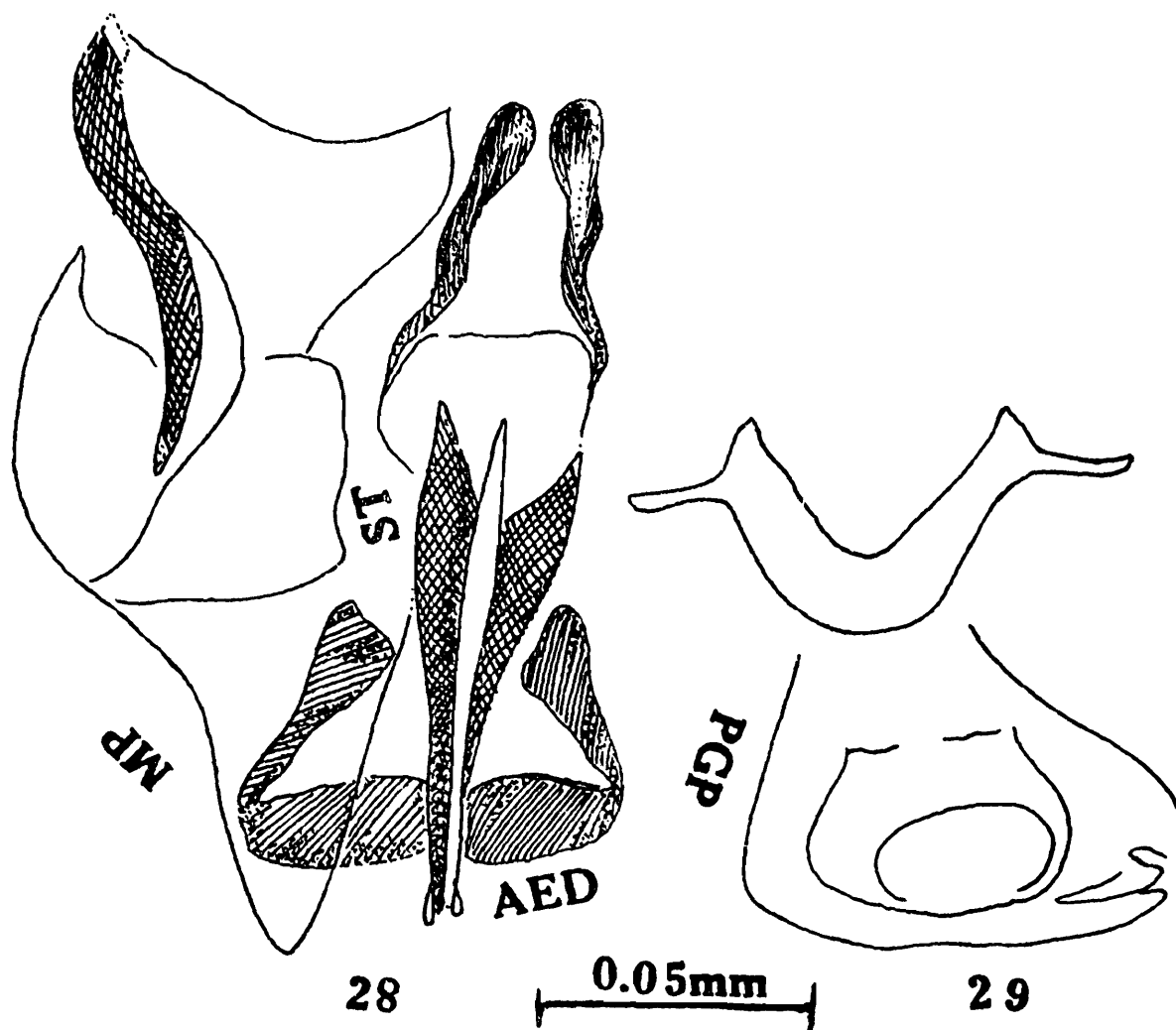
Distribution : Algeria, Moravia, Kiev, Siberia.

16. **Penehularia acuticephala** Beamer, 1934
(Figs. 32-33)

Beamer, 1934, *Pan-Pacific. Ent.* 10 : 43.

Material : Montana, U. S. A. (P. W. Oman). Vertex snout-shaped, ventrolateral margin bordered piceous; pronotum rugulose, with three creamy bands; tegmina dark brown.

Length : 9 mm. (male).



Figs. 28-29. *Deltocephalus gopii* Singh-Pruthi
Aedeagus, Style (Fig. 28), Pygofer (Fig. 29).

Morphology : Median length twice interocular width, central carina extending upto anterior pronotal margin ; ocelli placed in a shallow depression ; clypeus granulate, pronotal disc rugulose.

Genitalia : Connective Y-shaped, aedeagus (fig. 32) with a distinct basal apodeme, a pair of subterminal processes directed cephalad ; style (fig. 33) at apex with irregular denticulations ; male plate (fig. 33) with uniseriate setae laterad, mesal margin spinulate ; pygofer (fig. 32) densely spinulose at caudal margin.

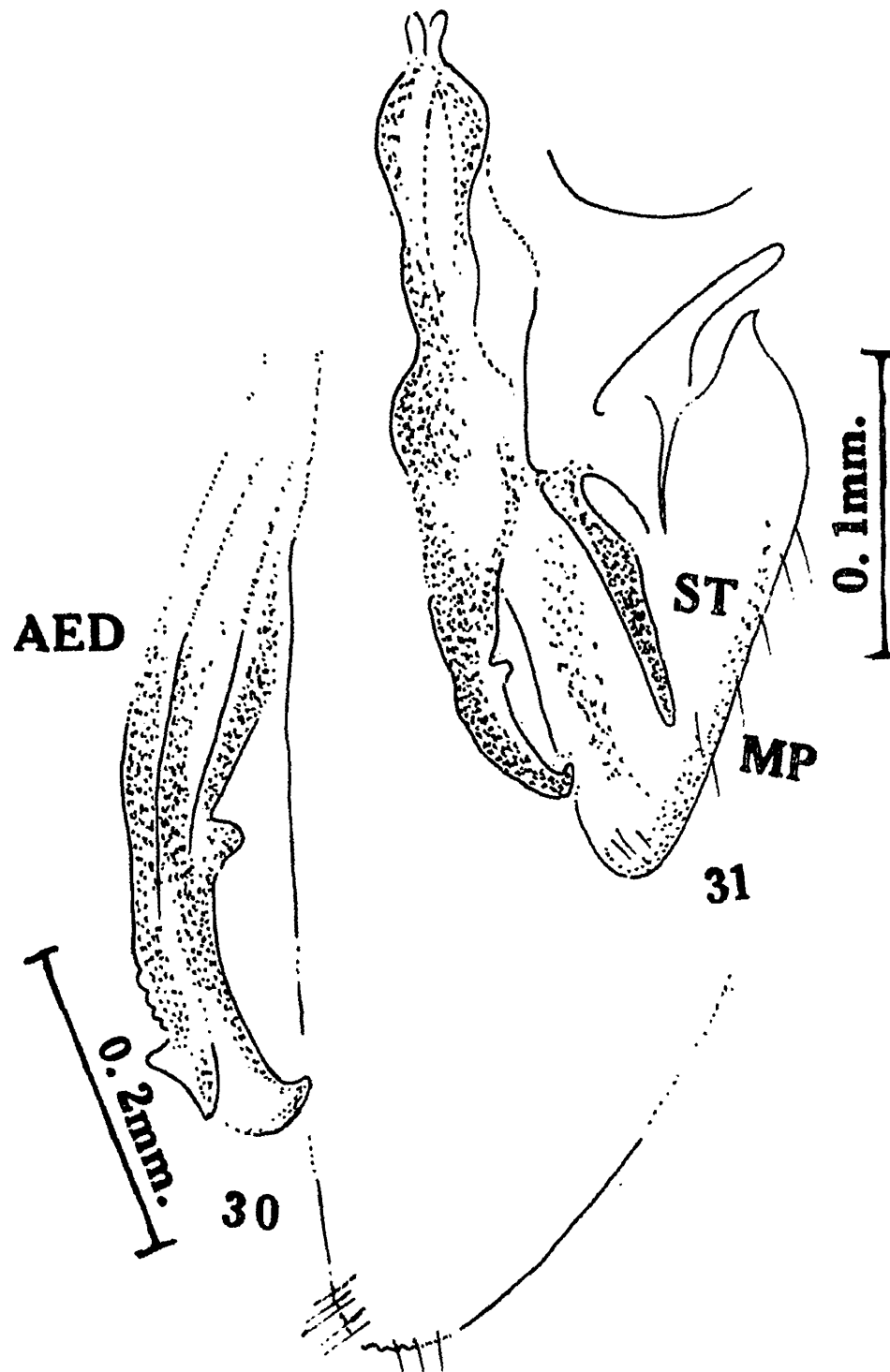
Distribution : California.

17. *Stirellus obtutus* (Van Duzee), 1892
(Figs. 34-35)

Van Duzee, 1892, *Canad. Ent.* 24 : 115.

Material : Mississippi, U.S.A., Nov. 1894 (C. F. Baker).

Vertex with a pair of sub-rectangulate dark brown spots, facial area ivory-creamy colour, laterally striped, a black patch at posterior margin ; pronotum with a pair of spots, anterior margin granulated (female), posterior margin banded brown, rugulose (male) ; scutellum at base spotted ; tegmina with a linear dark brown marking, apical cells dark



Figs. 30-31. *Deltocephalus pulicaris* Fallen
Aedeagus (Fig. 30), Style, Pygofer (Fig. 31).

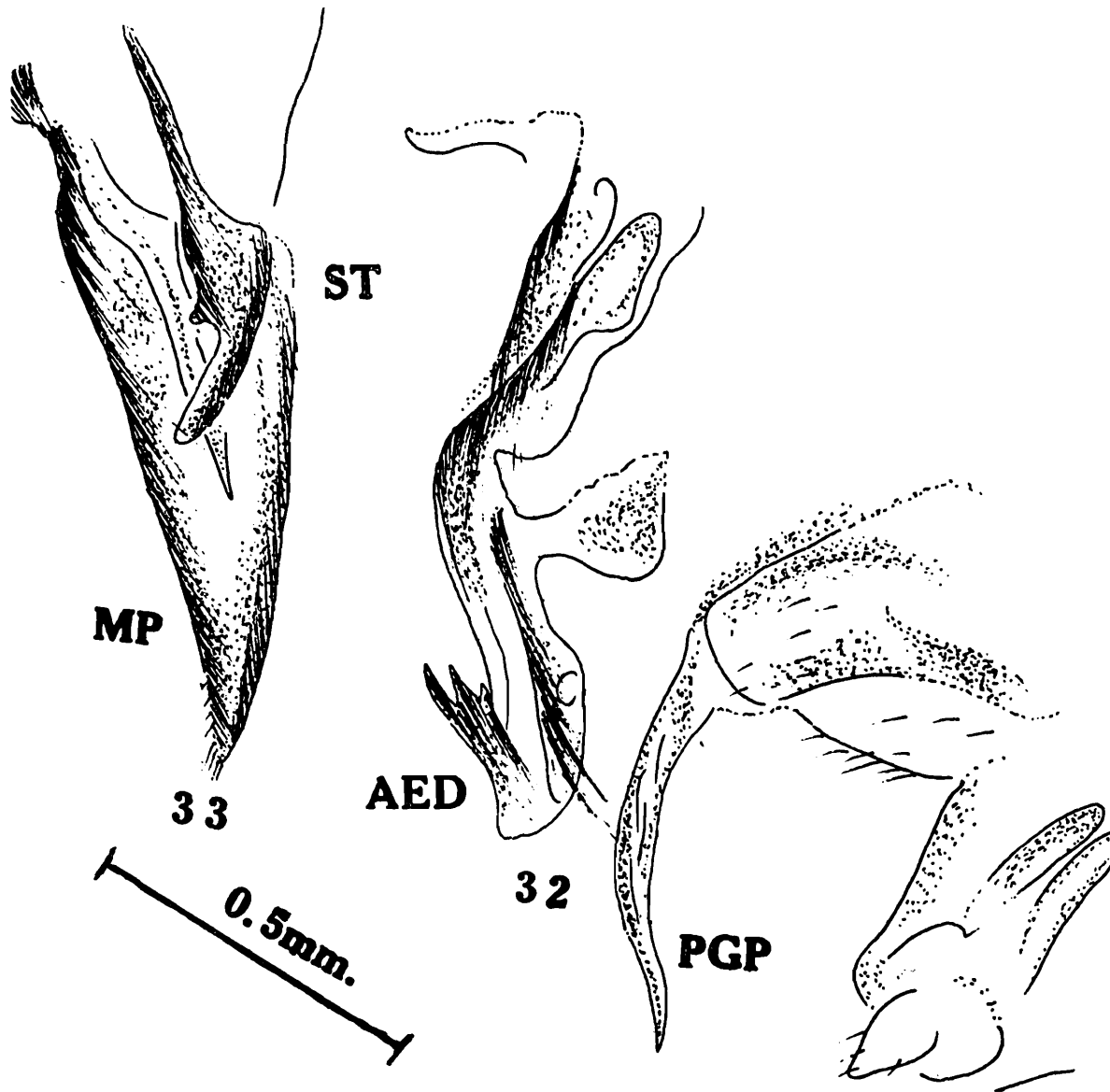
brown; abdominal segments with alternate brown and sanguineous bands.

Length : 3 mm. (male), 3.7 mm (female).

Morphology : Median length of crown equal to interocular width, surface granulate, anterior margin subconical; clypeal area flat;

pronotal width equal to transocular width, laterally angulate, posterior margin concavus, surface wrinkled; scutellum with a transverse median-sulcus; posterior tibiae densely spinulate.

Economic importance : The species is



Figs. 32-33. *Penehularia acuticephala* Beamer
Aedeagus, Pygofer (Fig. 32), Style, Male plate
(Fig. 33).

recorded as spreading Mosaic and streak virus diseases to rose plants (Brierley, 1940 : 648).

Distribution : Mississippi, Minnesota, Missouri, Cuba, Arizona, Texas, Illinois Florida, Maryland.

18. *Texananus superbus* (Van Duzee), 1892
(Figs. 36-37)

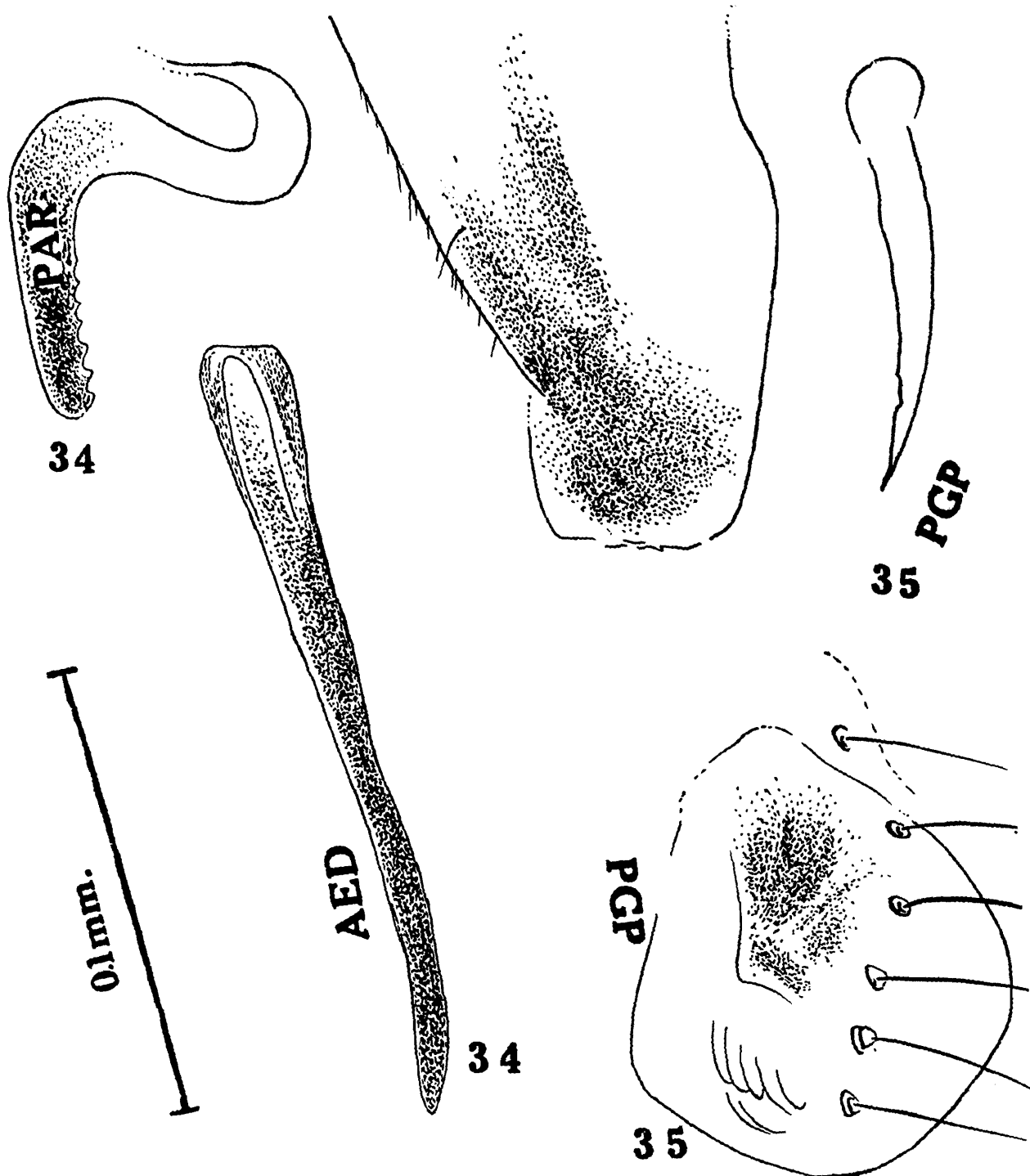
Van Duzee, 1892, *Trans. Amer. Ent. Soc.* 19 : 81.

Material : California, Hot Spring, 2-V-1927 (E. R. L.).

Vertex including facial area mottled with black pigments and creamy-white spots ; pronotum and scutellum creamy-white with blackish tinge ; scutellum with a pair of linear bands on transverse furrow ; tegmina ornamented with dark brown markings, series of ivory-colored spots along commissure ; first femora banded.

Length : 6 mm (male).

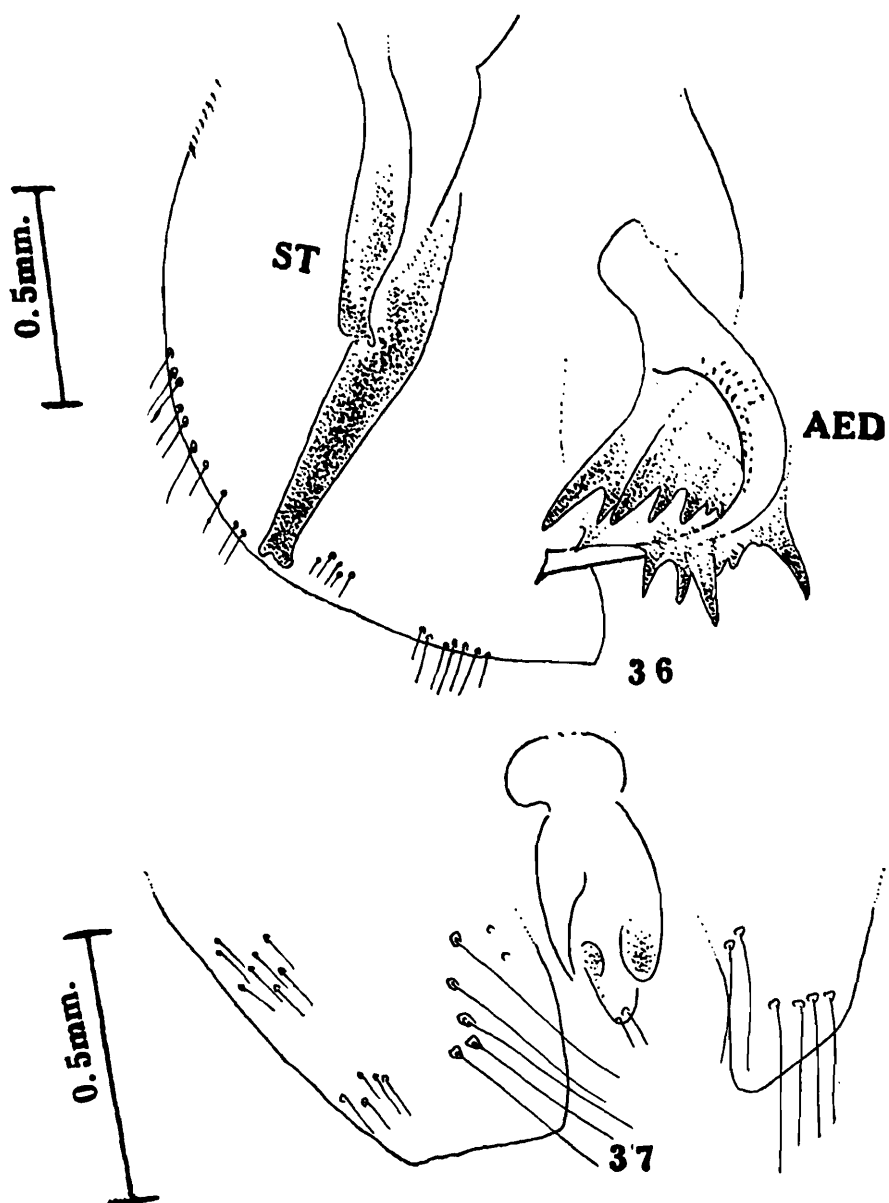
Genitalia : Connective with broader arms ; aedeagus (figs. 36) broader basad, finely



Figs. 34-35. *Stirellus obtutus* (Van Duz)
Aedeagus, Style, Male plate (Fig. 34), Pygofer
(Fig. 35).

serrate, nodulate, apex with a short pointed process; style (fig. 36) densely nodulate, postero-apical margin serrate, apical margin notched; male plate (fig. 36) marginally with multiseriate setal arrangement; pygofer (fig. 37) disc with long setae beyond middle.

Morphology: Crown half the length of interocular width, foveate at posterior margin, finely granulate; pronotal width equal to transocular width; scutellum indistinctly carinate, granulate; hind femoral setal formula: 2 : 1 : 0.



Figs. 36-37. *Texananus superbis* Van Duz
Aedeagus, Style, Male plate (Fig. 36), Pygofer
(Fig. 37).

Distribution : Arizona, Colorado, Florida, Alabama.

Subfamily TARTESSINAE

19. *Tartessus ferrugineus* (Walker), 1851

(Fig. 38)

Walker, 1851, *List. Brit. Mus.* 3 : 865.

Material : Baratang, South Andaman, 17-III-1964 (B. S. Lamba)

Vertex angularly-rounded, apex narrower, sulfur-yellow, extreme anterior margin black ; pronotum, scutellum, abdomen golden-yellow ; sternal plates laterally black, tegmina bronzy-yellow, veins dark brown, costa beyond middle blue-black, abdomen black.

Length : 8 mm. (male), 10.5mm. (female).

Genitalia : Aedeagus with an well-deve-

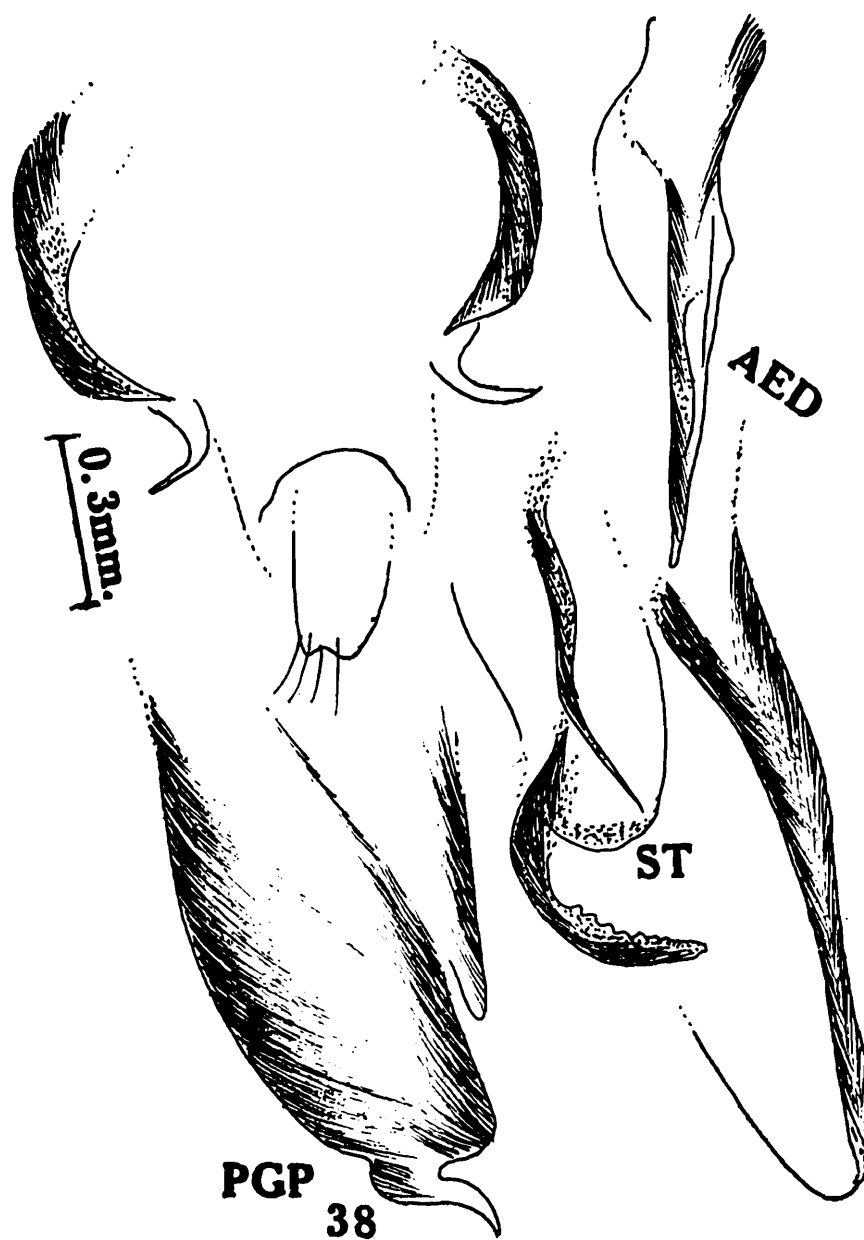


Fig. 38. *Tartessus ferrugineus* (Walk)
Aedeagus, Style, Male plate, Pygofer (Fig. 38).

loped basal apodeme, linear, latero-basally serrate, attenuate gradually; style 3/4th broader, mesal apical extension arched, margin nodulate; male plate with a tuft of microsetae at subapical area; pygofer rectangulate, a short, stout hook arising posteromesally, directed laterad; anal hooks bifid, outer one elongate, inner one slenderer, arcuate, pointed,

Economic importance: The species is recorded as pest on citrus and on subtropical fruits.

Distribution: Java, Borneo, Philippine Islands.

20. *Tartessus ferrugineus* Walk. var. a
(Fig. 39)

Material: Kiaano, Formosa (no data)

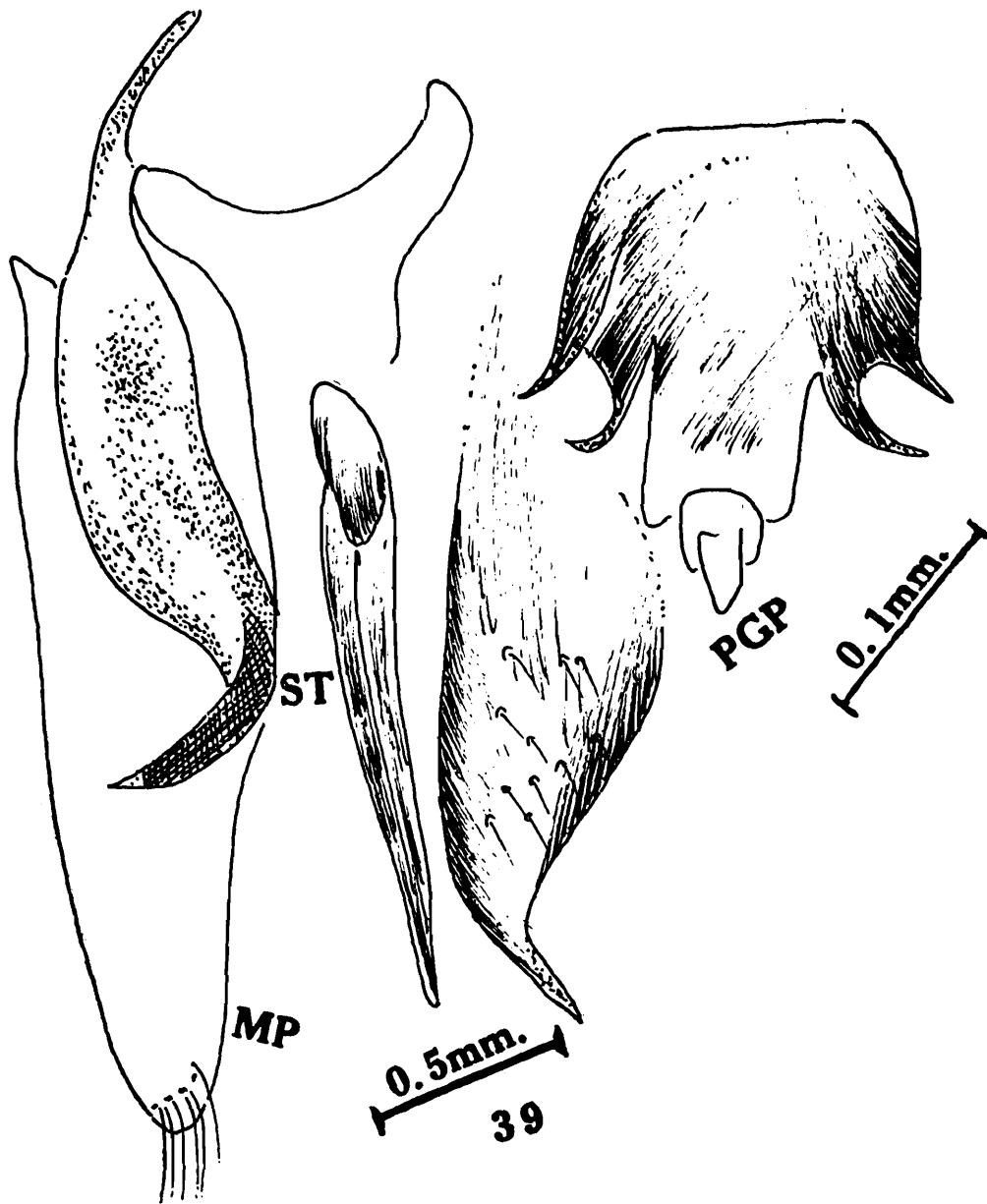


Fig. 39. *Tartessus ferrugineus* var. a.
Aedeagus, Style, Male plate (Fig. 39).

(Ind. Mus. Coll.). Clypeus with a pair of spots, costal margin without any linear dark blue patches.

Length : 7 mm. (male).

Genitalia : Connective Y-shaped, aedeagus linear, pointed apically ; style 2/3rd broader, mesal apical extension pointed at apex ; a series of nodules along subapical margin ; male plate subtriangulate, apex with

a tuft of setae ; pygofer beak-shaped apically, a short hook arising close to apex ; anal hooks stout, inner one spanner-shaped.

Remarks : The species is considered as variety owing to having spots on clypeal area, and without any patches on costal margin.

21. *Tartessus ferrugineus* Walk. var. b
(Fig. 40)

Material : Kusaru, Formosa (Ind. Mus. Coll.)

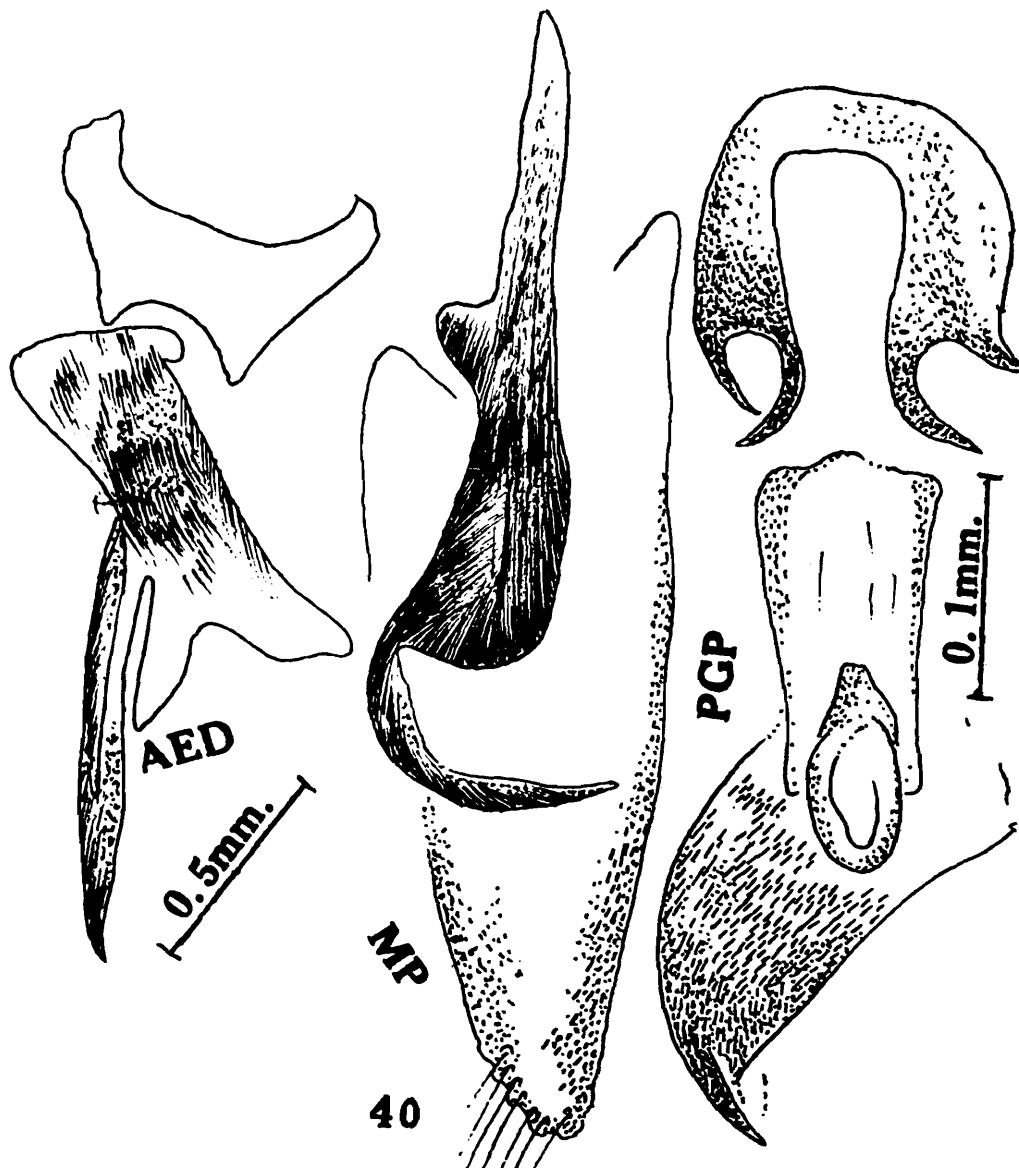


Fig. 40. *Tartessus ferrugineus* var. b.
Aedeagus, Style, Pygofer (Fig. 40).

The species is being recorded as var. b. because of two dark bands on anterior margin of vertex and spotted clypeus.

Length : 8 mm. (male), 9mm. (female).

Genitalia : Connective Y-shaped, apical margin emarginate ; aedeagus with developed apodeme, cylindrical, apex drawn out to a pointed structure ; style with strongly geniculate mesal apical extension, gradually sharply attenuate ; male plate subtriangulate ;

pygofer hook arising posterolaterally ; anal hook spanner-shaped.

Subfamily NIONINAE

22. *Nionia palmeri* Van Duzee, 1891

(Fig. 41)

Material : Washington, 26-V-31 (P. W. Oman).

Body dark black including facial area ;

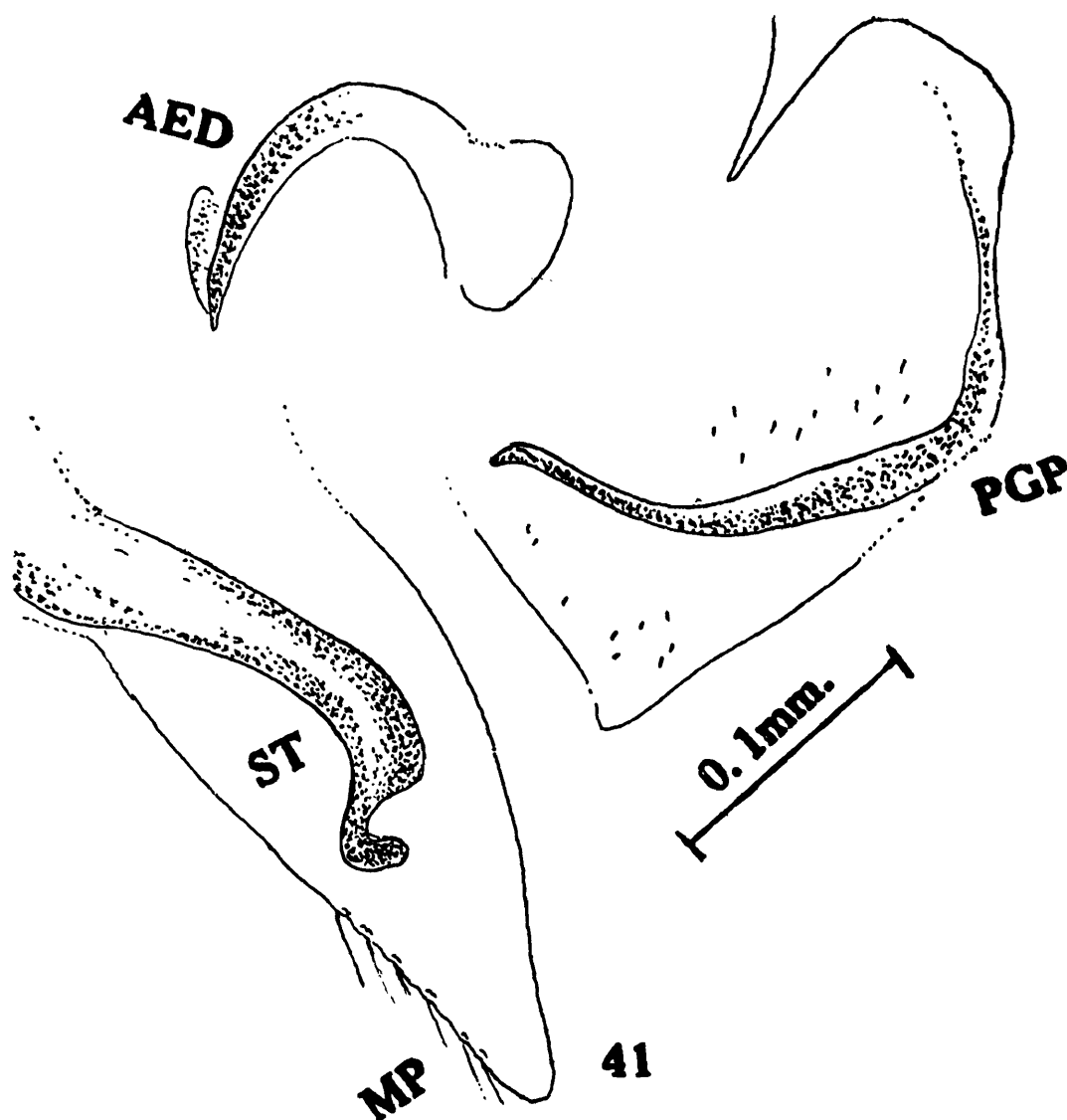


Fig. 41. *Nionia palmeri* Van Duz
Aedeagus, Style, Male plate, Pygofer (Fig. 41).

tegmina piceous, punctate, apical cells dark brown.

Length : 3.5 mm. (male).

Genitalia : Connective Y-shaped, proximally with 2 pairs of short, pointed spurs ; aedeagus arcuate lengthwise, linear, apex acuminate, beak-shaped, subapically bulging ; style with beak-shaped mesal apical extension ; male plate marginally with a row of filamentous setae ; pygofer subquadrate, pygofer hook arising laterobasally, disc with a set of microsetae.

Morphology : Median length of crown 1/5th of interocular width, crown, clypeal surface pitted ; ocelli closer to eyes ; pronotal and scutellar surface punctate ; hind femoral setal formula : 2 : 1 : 0 ; tegminal veins with linear punctations.

Distribution : Staten Island, New York, Kansas.

Subfamily AGALLINAE

23. *Aceratagallia* (Sub. gen. *Ionia*) *triunata*
(Ball), 1933

(Fig. 42)

Ball, 1933, *Brooklyn Ent. Soc. Bul.* 28 : 226.

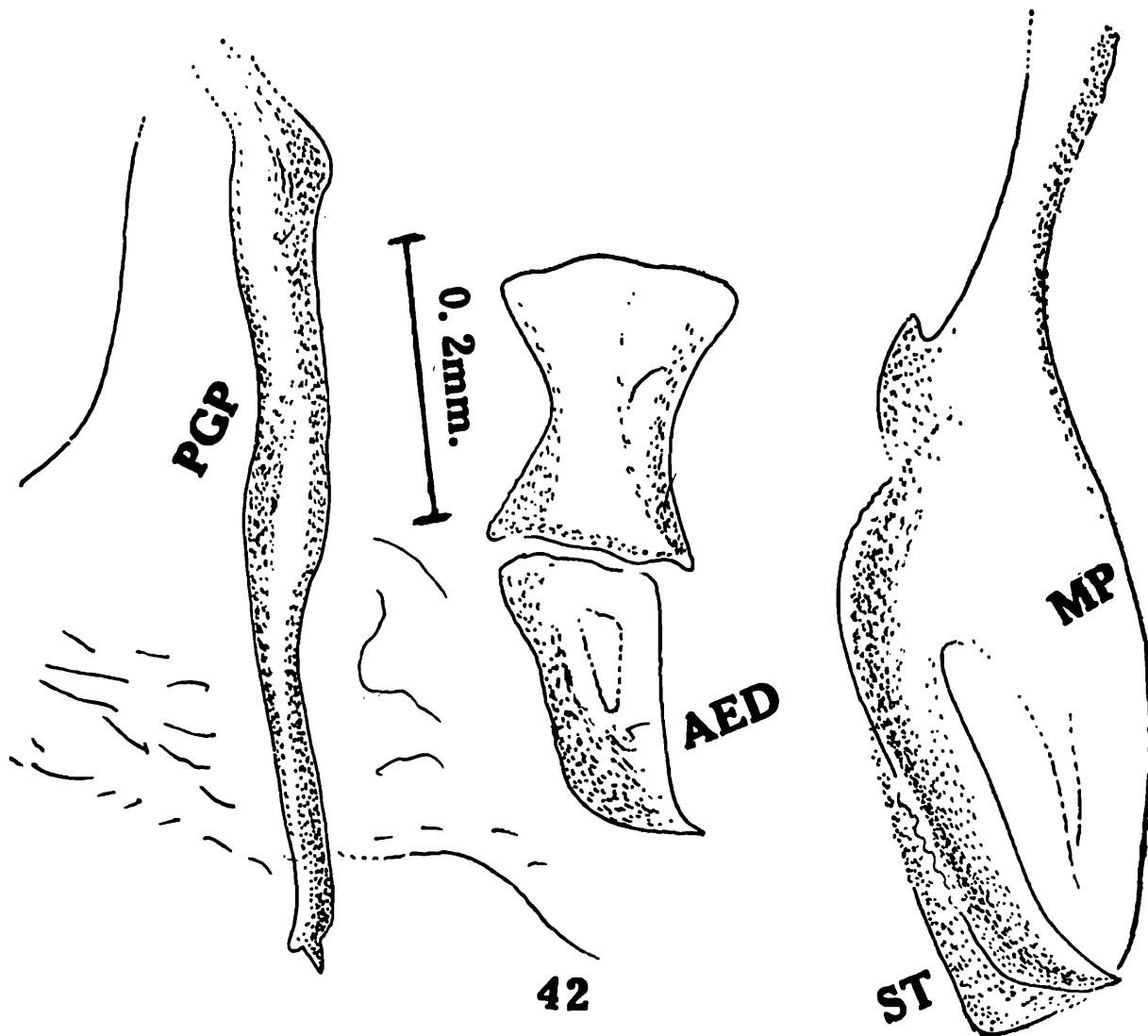


Fig. 42. *Aceratagallia triunata* (Ball)
Aedeagus, Style, Male plate, Pygofer (Fig. 42).

Material : Sabino, Can, AR/2, 22-VI-33
(P. W. Oman).

Vertex, pronotum, tegmina and legs castaneous.

Length : 2 mm. (male).

Morphology : Median length of crown half interocular width, surface pitted, clypeal surface granulate; pronotal surface rugulose, sparsely punctate; scutellar granulate at anterior half, posterior half rugulose; tegmina granulated, hind femoral setal formula: 2 : 1 : 0.

Genitalia : Connective rectangulate, aedeagus as figured; style robust, mesal apical extension geniculate basad, mesal margin dentate; male plate laterally infolded; pygofer medially with a long linear hook, a short spur at apex.

Distribution : Arizona, North America.

ACKNOWLEDGEMENT

The authors are grateful to Dr. B. K. Tikader, Director, Zoological Survey of India, for kindly providing all the laboratory facilities.

REFERENCES

- BALL, E. D. 1902. Some new Bythoscopidae from British Columbia and the Southwest. *Canad. Ent.* 34 : 303-313.
- de MOTSCHULSKY, V. I. 1859. Homoptera. In *Insectes des Indes Orientales, et de contrées Analogues. Etud. Ent.* 8 : 25-118.
- DISTANT, W. L. 1908. Rhynchota-Homoptera. The Fauna of British India including Ceylon and Burma. *Fauna Brit. India.* 4 : 501 p. p.
- PRUTHI, H. S. 1936. Studies on Indian Jassidae (Homoptera). Part-III. Description of some new genera and species, with first record of some known species from India. *Mem. Ind. Mus.* 11 : 101-131.
- VAN DUZEE, E. P. 1892. North American Homoptera. *Canad. Ent.* 24 : 113-117.
-

