

TAXONOMIC STUDIES ON THE MEMBRACIDS COLLECTED FROM SILENT
VALLEY, KERALA (INSECTA : HOMOPTERA)

G. THIRUMALAI

Zoological Survey of India, Southern Regional Station, Madras

AND

K. S. ANANTHASUBRAMANIAN

Department of Zoology, Loyola College, Madras.

ABSTRACT

A new genus, *Neocentrus* and four other new species of Membracidae collected from Silent Valley, Kerala, are described.

(Key words : Taxonomy, Silent Valley Membracidae).

The material which forms the subject of the present study includes four new species and a new genus of Membracidae collected during a multidisciplinary expedition to the Silent Valley, Kerala (April-May 1980), sponsored by the Department of Science and Technology, in which the senior author has also participated. It is doubtless that more species of membracids, hitherto unknown, are likely to be discovered in future surveys to from this valley of faunistically little explored forests.

Subfamily Centrotinae.

Tribe Leptocentrini.

Genus Lanceonotus Capener 1968.

Lanceonotus malabaricus sp. nov.
(Fig. 1)

Female ; General colour shining brown ; vertex brown, twice as wide as long, finely punctate with silvery hairs, upper margin slightly arched, lower margin obliquely rounded to frontoclypeus ; eyes reddish ; subglobose ; ocelli silvery white, small, nearer to eyes than to each other and situated slightly above the centro-ocular line ; frontoclypeus dark brown, extending to three-fourths of its length beyond lower margins of vertex, hairy, tip broadly rounded. Pronotum shining black, strongly punctate, with short sparse silvery hairs, metopidium slightly oblique from its base, about 1.7 times as wide as high, supraocular callosities black, not divided, nearly rounded, humeral angles dark brown, prominent ; suprahumeral horns jet black, broadbased, tricarinate, about 1.4 times as long as distance between their bases, sparsely pilose with silvery hairs, viewed from sides strongly obliquely curved backwards, viewed from above directed lateral upto three-fourths of their length and then turned backwards, viewed from front

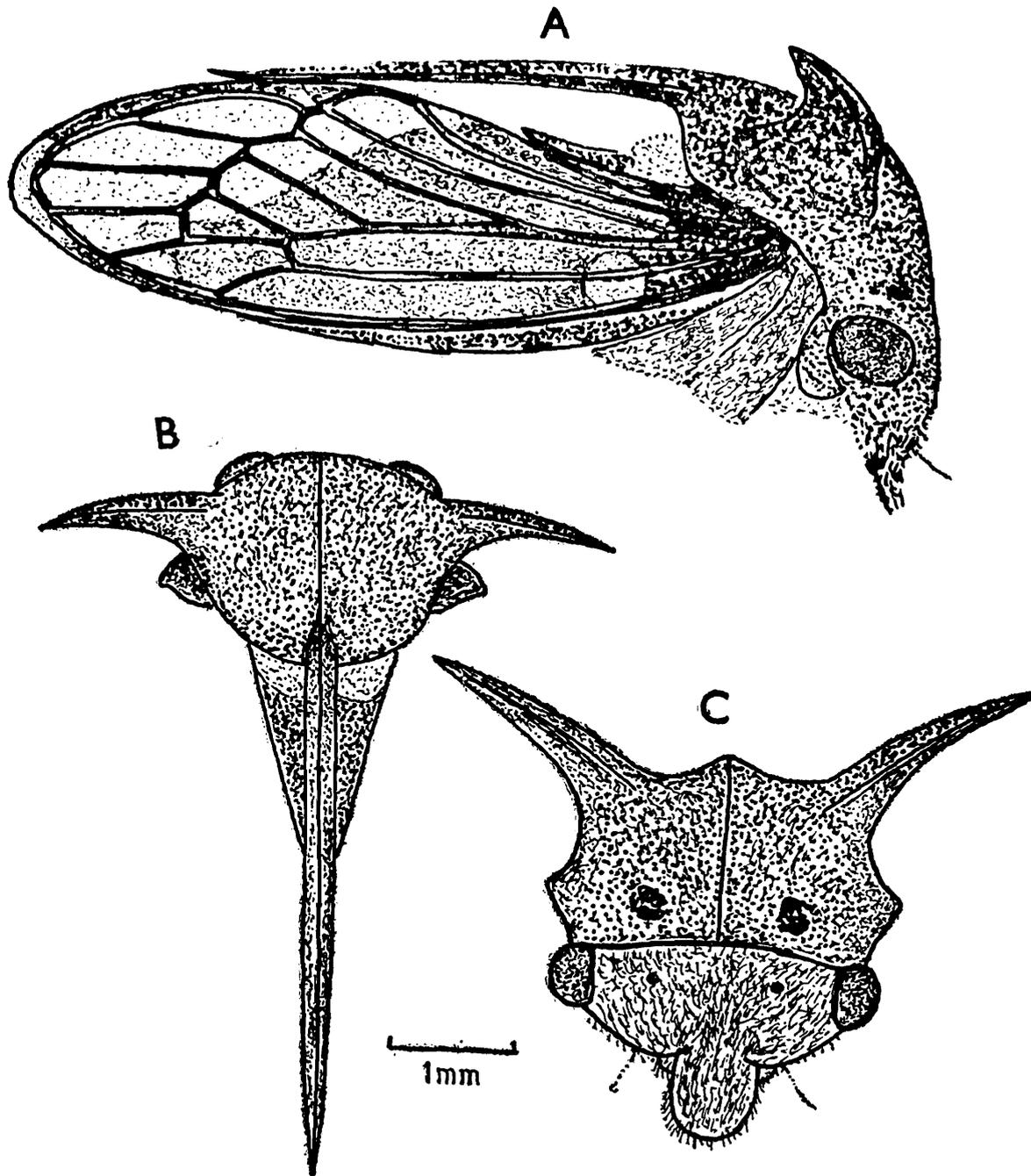


Fig. 1. *Lanceonotus malabaricus* sp. nov.

A. Lateral view of female. B. Dorsal view of Pronotum. C. Frontal view.

directed obliquely outwards and upwards, tips acute ; posterior process emerging from the posterior regions of disc, well remote from scutellum, directed horizontally and gradually tapering to the tip, impinging on the margins of the tegmina and passing beyond the anal angles as far as the middle of fifth apical cell, tip slightly elevated, ventral carina pitch black ; scutellum 1.5

times longer than wide, basal one-fourth white tomentose, tip emarginate, black ; lateral aspects of pterothorax cretaceously sericeous. Tegmina brownish, thrice as long as wide, basal fifth black and coriaceous, apical limb moderately wide, inner margin opposite to 4th and 5th apical cells black, first apical cells wedge-shaped, nearly 3.5 times as long as its greatest width, 2nd dis-

coidal cell larger than first. Abdomen black. Tarsi light brown, rest of the legs brown.

Measurements : Length from frontal margin to the tips of tegmina 7.5 mm., to the tip of posterior process 5.8 mm. ; width across tips of suprahumeral horns 5 mm., at humeral angles 2.8 mm., at eyes 2.5 mm.

Male : Similar to female in general colouration and size, but the suprahumeral horns are shorter and more slender.

Measurements : Length from frontal margin to tips of tegmina 7.4 mm., to tip of posterior process 5.7 mm. ; width across tips of suprahumeral horns 3.5 mm., at humeral angles 2.75 mm., at eyes 2.5 mm.

Material examined : Holotype female, two male paratypes, collected from Kumattamthodu, Silent Valley, Kerala, 880 metres height ; collected by *Dr. R. S. Pillai and party*, 22.iv.1980. zsi/srs. Reg. No. I/H.

This species is closely related to *cinnamomi* Ananthasubramanian with which it resembles in the general colouration of body, eyes and in the position of ocelli, but differs in the shorter posterior process, which impinges on the tegminal inner margin, longer suprahumeral, scutellum longer than wide, and in the broader apical limbus.

***Telingana majuscula* sp. nov.**
(Fig. 2)

Male : General colour piceous black : vertex dark brown, thrice as wide as long, sprinkled with long thickly crowded golden hairs, upper margin of vertex more or less planate, lower margins obliquely continued to frontoclypeus ; eyes large, subglobose, marooned with black ; ocelli shining black, conspicuous, near to eyes than to each other and situated well above the centro-ocular line ; frontoclypeus dark brown, extending

three-fourths of its length beyond lower margins of vertex, long thickly hairy, tip rounded, frontoclypeal lobes distinct. Pronotum piceous black, strongly granulate, with long golden hairs thickly crowded at bases of horns and around suprahumeral callosities ; metopidium vertical, convex, about 1.3 times as wide as high, supra-ocular callosities black, entire, humeral angles black ; suprahumeral horns black, robust, with long, golden pilosity, 2.75 times as long as distance between their bases, viewed from sides directed forwards and strongly recurved, viewed from above centrally and laterally carinate and strongly recurved, viewed from front directed obliquely upwards and outwards, lateral and posterior surfaces planate. Posterior process emerging obliquely behind disc and vertically from posterior margins, basally curved and directed almost horizontally caudad high above scutellum and tegmina, slender and gradually acuminate to a sharp tip which reaches as far as the 4th apical cell of the tegmina. Scutellum triangular, almost as long as wide, base swollen and densely covered with white tomentum, apical two-thirds almost planate, punctate with sparse pilosity, tip with a U-shaped emargination, apices acute. Tegmina nearly 3.5 times as long as wide, brownish amber hyaline, basal fifth and costal area coriaceous, punctate, dark ; costal radial, median, cubital, 1st and 2nd apical cells and three-fourths of discoidal cells dark brown, punctate, apical limbus moderately broad, bronzy, tip acutely rounded ; R1 oblique, first apical cell based on radial sector, about 6 times as long as greatest width, 2nd discoidal twice as long as 1st ; legs black except tarsi which are light brown.

Measurements : Length from frontal margin to tips of tegmina 7.1 mm., to tip of posterior process 5.7 mm. ; width across tips of suprahumeral horns 5 mm., at humeral angles 3 mm., at eyes 2.4 mm.

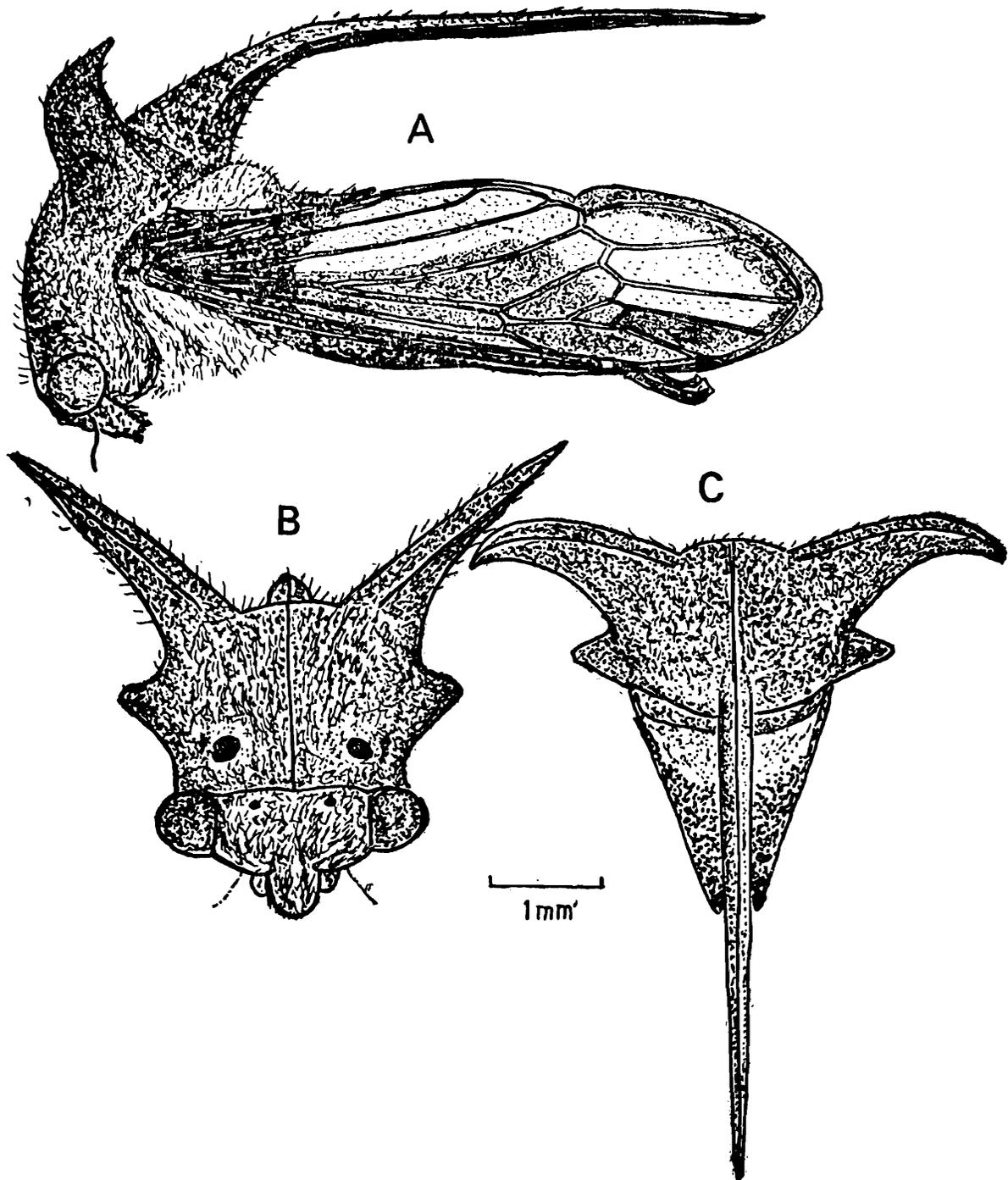


Fig. 2. *Telingana majuscula* sp. nov.

A. Lateral view of male. B. Frontal view. C. Dorsal view of Pronotum

Female : Unknown.

Material examined : Holotype male from the road leading to Valiyaparathodu, Silent Valley, Kerala, 920 metres height ; collected

by Dr. R. S. Pillai and party, 23.iv.1980.
Reg. No. zsi/srs I/H.

Remarks : *Telingana majuscula* is closely allied to *capistrata* Distant in the general colouration of the body and tegmina and in

the nature of the posterior process which is high above scutellum and tegmina, but differs in the shape of the frontoclypeus, in the non-arched horizontal posterior process and scutellum as wide as long.

Neocentrus gen. nov.

This genus may be distinguished by the absence of suprahumeral horns, the somewhat declivous short posterior process emerging more or less horizontally from the posterior margin of pronotum, almost contiguous with scutellum, its apex scarcely passing the apex of claval area and never reaching the claval suture, and the long, narrow first apical cell of tegmina based on the very short radial sector.

Head vertical, about thrice as wide across extremities of eyes as length of vertex; upper margin very weakly arcuate and sinuate, situated on the centro-ocular line; frontoclypeus declivous, distinctly broader than length, tip broadly rounded, frontoclypeal lobes moderately prominent with sutures indistinct. Pronotum convex, median carina percurrent, metopidium more than twice as wide as high, obliquely curving backwards to disc, humeral angles moderately developed, blunt; suprahumeral horns absent; posterior process short, declivous, emerging from the posterior margin of pronotum more or less horizontal, almost contiguous with scutellum, strongly tricarinate, rather slender, apex sharp, scarcely passing the entire length of clavus, never reaching the claval suture. Scutellum triangular, wider than long, weakly convex, apex emarginate, Tegmina nearly three times as long as wide, without pterostigma, with five apical and two discoidal cells, R1 oblique to subcosta, first apical cell about seven times as long as its greatest width and based on the radial sector; radial sector very short, apical limb moderately broad. Hind wings with four apical cells.

Type of the genus *Neocentrus rufus* sp. nov.

3. Neocentrus rufus sp. nov.

(Fig. 3)

As in generic description, with the following additional characters:

Female: General colour dull brown. Vertex brown, finely punctate with long golden hairs; eyes dull brownish; ocelli jet black; frontoclypeus extending two-thirds of its length beyond lower margins of vertex, covered with long adpressed golden hairs. Pronotum coarsely punctate with long adpressed golden pilosity; supraocular callosities divided; posterior process long sparsely hairy, dorsally keeled, a little elevated from scutellum, and then contiguous with the inner tegminal margin, posterior three-fourths black. Tegmina yellowish brown, basal fifth coriaceous, veins thick, reddish brown, 1st discoidal cell more or less elliptical, somewhat shorter than 2nd discoidal, R 2+3, M1 and M2 slightly curved. Abdomen black with shades of brown, ovipositor jet black; legs black upto middle of tibia, rest light brown.

Measurements: Length from frontal margin to tips of tegmina 7.3 mm., to tip of posterior process 4.2 mm.; width across tips of humeral angles 3.6 mm., at eyes 3.2 mm.

Male unknown.

Material examined: Holotype female, collected from Silent Valley, Kerala, halfway to Valiyaparathodu, Alt. 1000 metres; collected by Dr. R. S. Pillai and party, 27.iv.1980. Reg. No. zsi/srs I/H.

Tribe Tricentrini Ahmad and Yasmeen 1974.

Genus *Tricentrus* Stal 1866.

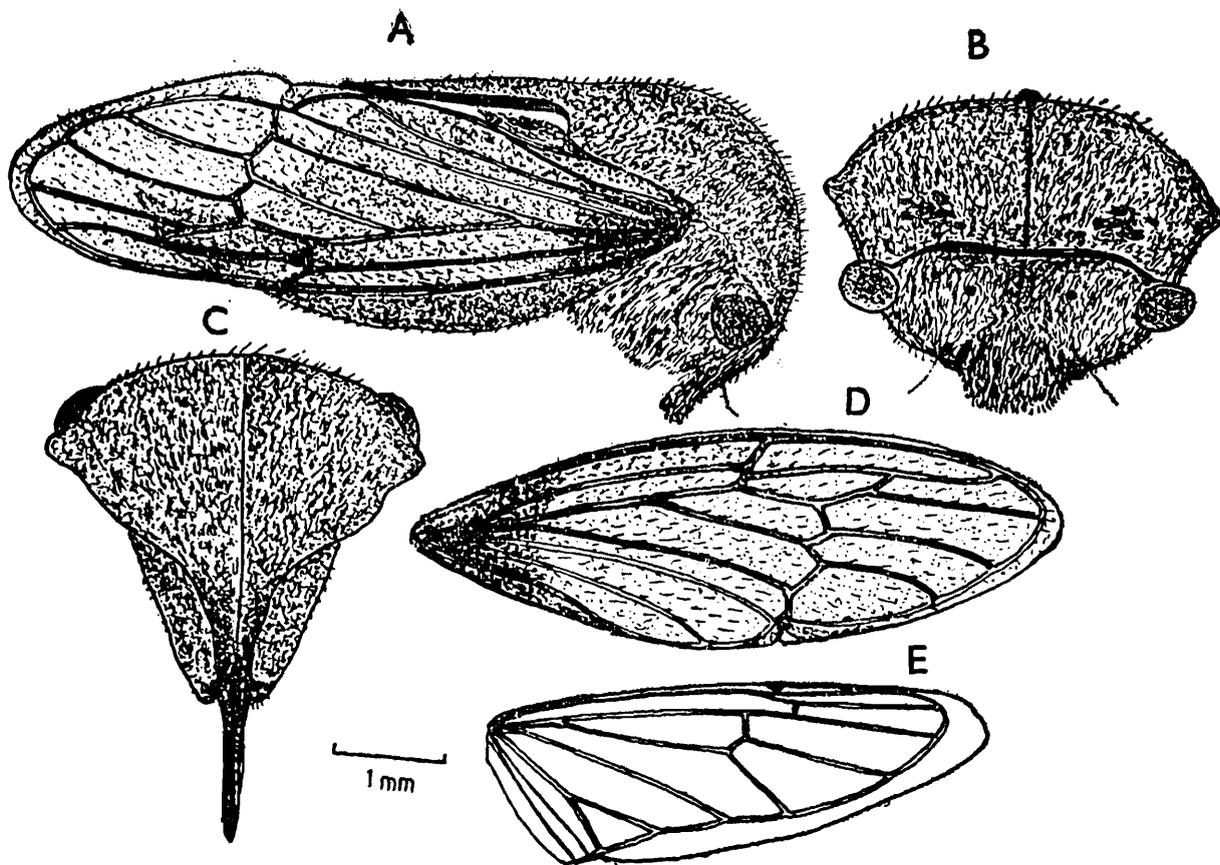


Fig. 3. *Neocentrus rufus* sp. nov.

A. Lateral view of female. B. Frontal view. C. Dorsal view of Pronotum. D. Tegmina of female. E. Hind wing.

4. *Tricentrus congestus* (Walker) 1870.

One female, from Kumattamthodu, Silent Valley, Kerala, altitude 880 metres; collected by Dr. R. S. Pillai and party, 22.iv.1980. Reg. No. zsi/srs I/H.

5. *Tricentrus purpureus* Ananthasubramanian and Ananthakrishnan 1975.

Two females, from Kumattamthodu, Silent Valley, Kerala, altitude 900 metres, collected by R. S. Pillai and party, 30.iv.1980. Reg. No. zsi/srs I/H.

6. *Tricentrus* sp.

Two specimens highly damaged, without abdomen and with broken horns, from Kumattamthodu, silent Valley, Kerala, alti-

tude 900 metres, collected by Dr. R. S. Pillai and party, 30.iv.1980. Reg. No. zsi/srs I/H.

7. *Tricentrus syrandrikae* sp. nov.

(Fig. 4)

Female: General colour black shaded with brown; head vertical, vertex about 1.6 times wider than long, finely punctate with short adpressed silvery hairs, upper margin strongly arcuate and sinuate, lower margins obliquely curved to frontoclypeus; eyes subglobose, light brown; ocelli black, a little closer to eyes than to each other and situated well above the centro-ocular line; frontoclypeus extending slightly more than half of its length beyond lower margins of vertex and covered with silvery pilosity. Pronotum black, finely punctate with short suberect silvery pilosity, median carina percurrent, metopidium slightly obumbrant and vertical,

more than 2.5 times as wide as high, humeral angles prominent; suprahumeral horns robust and broadly based, jet black, longer than the distance between their bases, lateral carina inconspicuous, tips sharply acute, viewed from lateral aspects directed upwards and strongly recurved, viewed from front directed obliquely upwards and outwards, pilosity at bases denser; posterior process emerging

fourth coriaceous, black, a pale white fascia beyond the basal coriaceous area, veins brownish, tip acutely rounded, apical limb broad, 1st apical cell about 7 times as long as its greatest width, 1st discoidal cell not petiolate, nearly as long as the 2nd; lateral aspects of thorax white tomentose; legs dark brown upto tibiae, tibiae and tarsi yellowish brown, hind trochanters prominently toothed on the dilated inner surface; abdomen dark brown with white pubescence, ovipositor pitch black.

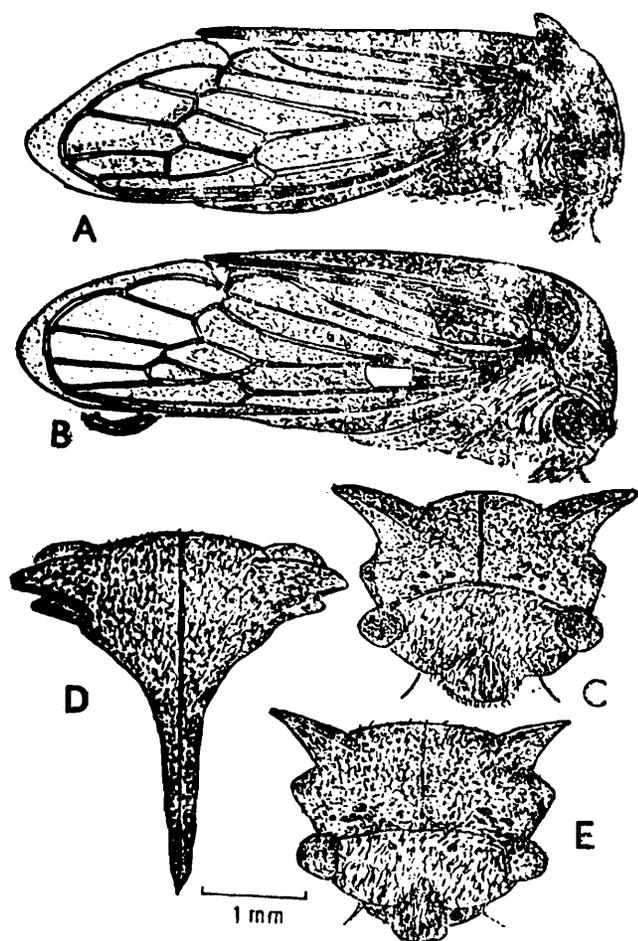


Fig. 4. *Tricentrus syrandriksae* sp. nov.

- A. Lateral view of female.
- B. Lateral view of male,
- C. Frontal view of female.
- D. Dorsal view of Pronotum.
- E. Frontal view of male.

behind disc, contiguous with scutellum, basal part reddish brown, terminal part jet black, tip acuminate, reaching a little beyond claval suture, strongly tricarinate; tegmina pale brown, 3 times as long as wide, basal one-

Measurements : Length from frontal margin to tips of tegmina 5.7 mm., to tip of posterior process 4 mm.; width across tips of suprahumeral horns 3 mm., at humeral angles 2.4 mm., at eyes 2.4 mm.

Male : Similar to female in general coloration and measurements, but suprahumeral horns less curved and shorter than the distance between their bases; 1st discoidal cell of tegmina petiolate, and much smaller than the 2nd.

Material examined : Holotype female, paratype male, collected from halfway to Valiyaparathodu, Silent Valley, Kerala, altitude 1005 metres, collected by Dr. R. S. Pillai and party, 3.v.1980. Reg. No. zsi/srs I/H.

Remarks : *T. syrandriksae* is closely related to *T. fairmarei* Stal in the general size, coloration and in the disposition of the horns and posterior process, but differs in the distinctly shorter suprahumeral horns, and in the marked sexual dimorphism.

Tribe Coccosterphini Goging.

Genus *Parayasa* Distant 1616

Parayasa variegata sp. nov.
(Fig. 5)

Female : General colour ochraceous brown ; head declivous, vertex brownish ochraceous, nearly twice as wide as long, finely punctate with short dense golden hairs, upper margin strongly carinate and arcuate, lower margins obliquely leading to frontoclypeus ; eyes pale reddish brown, oval in frontal view ; ocelli black, not very prominent, nearer to eyes than to each other and situated just on the centro-ocular line ; frontoclypeus light brown, extending to three-fourths of its length beyond lower margins of vertex, long thickly hairy, tip broadly rounded ; pronotum reddish brown, strongly punctate

dorsal carina strongly percurrent to metopidium ; lateral aspects of thorax brownish with shades of black, thickly pilose ; tegmina thrice as long as wide, pale ochraceous, basal sixth black, coriaceous, a transparent fascia at about the middle and another obliquely transverse fascia at about two-third distance from base, rest palely virescent, a distinct brown patch extending into the 5th apical cell near to claval suture, veins ochraceous with tubercles at intervals, an incipient pterostigma partly absorbing R1, first apical cell 5.5 times as long as its greatest width, first discoidal cell large, elliptical, 2nd discoidal cell divided by a transverse vein, R4+5 strongly curved, apical limb narrow ; abdomen black, reaching about the tip of tegmina ; legs brownish ochraceous, tibiae light brown, hind tibiae a little curved.

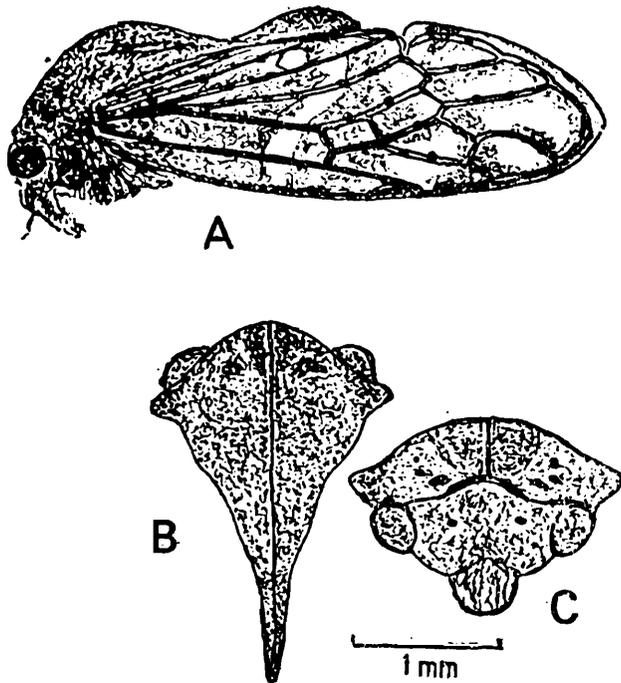


Fig. 5. *Parayasa variegata* sp. nov.

- A. Lateral view of female.
 B. Dorsal view of pronotum,
 C. Frontal view.

with short adpressed golden pilosity, metopidium about thrice as wide as high, strongly obliquely directed to disc which shows a pair of broad carinate areas of reddish brown colour, supraocular callosities black, divided, humeral angles prominent ; posterior process concavely sinuate, slightly convex gibbous at apex which is black and does not reach the posterior angle of the inner tegminal margin,

Measurements : Length from frontal margin to tips of tegmina 4 mm., to tip of posterior process 2.4 mm., width across tips of humeral angles 1.8 mm., at eyes 1.5 mm.

Male unknown.

Material examined : Holotype female, one paratype female, collected from halfway to Valiyaparathodu, Silent Valley, Kerala, 1,005 metres elevation, collected by Dr. R. S. Pillai and party, 2.v.1980. Reg. No. zsi/srs I/H.

Remarks : This species is closely related to *P. elegantula* Distant and *P. affixa* Distant in the general colouration, length and in the disposition of the posterior process, but it differs from *P. elegantula* in the absence of an incipient pterostigma, and from *P. affixa* in the nature of the frontoclypeus and in the oblique backwardly directed metopidium.

All the type-materials are deposited in Zoological Survey of India, Southern Regional Station, Madras. They will be in due

course transferred to National Collections of Zoological Survey of India, Calcutta.

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