

FURTHER STUDIES ON THE MEMBRACIDS FROM SILENT VALLEY, KERALA (INSECTA HOMOPTERA)

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(With 3 Text-figures and 2 Plates)

INTRODUCTION

Recently membracids from Silent Valley were studied by Thirumalai and Ananthasubramanian (1981). The membracids included in the present paper are those collected subsequently during a multi-disciplinary expedition to Silent Valley (December, 1980), in which the author also was a participant. Two new species are described in the present paper and male of *Parayasa variegata* Thirumalai and Ananthasubramanian is also described for the first time. Besides *Tricentrus horizontalis* Distant described from Burma (Distant, 1916) has been recorded during the present expedition.

SYSTEMATIC ACCOUNT

Subfamily : CENTROTINAE

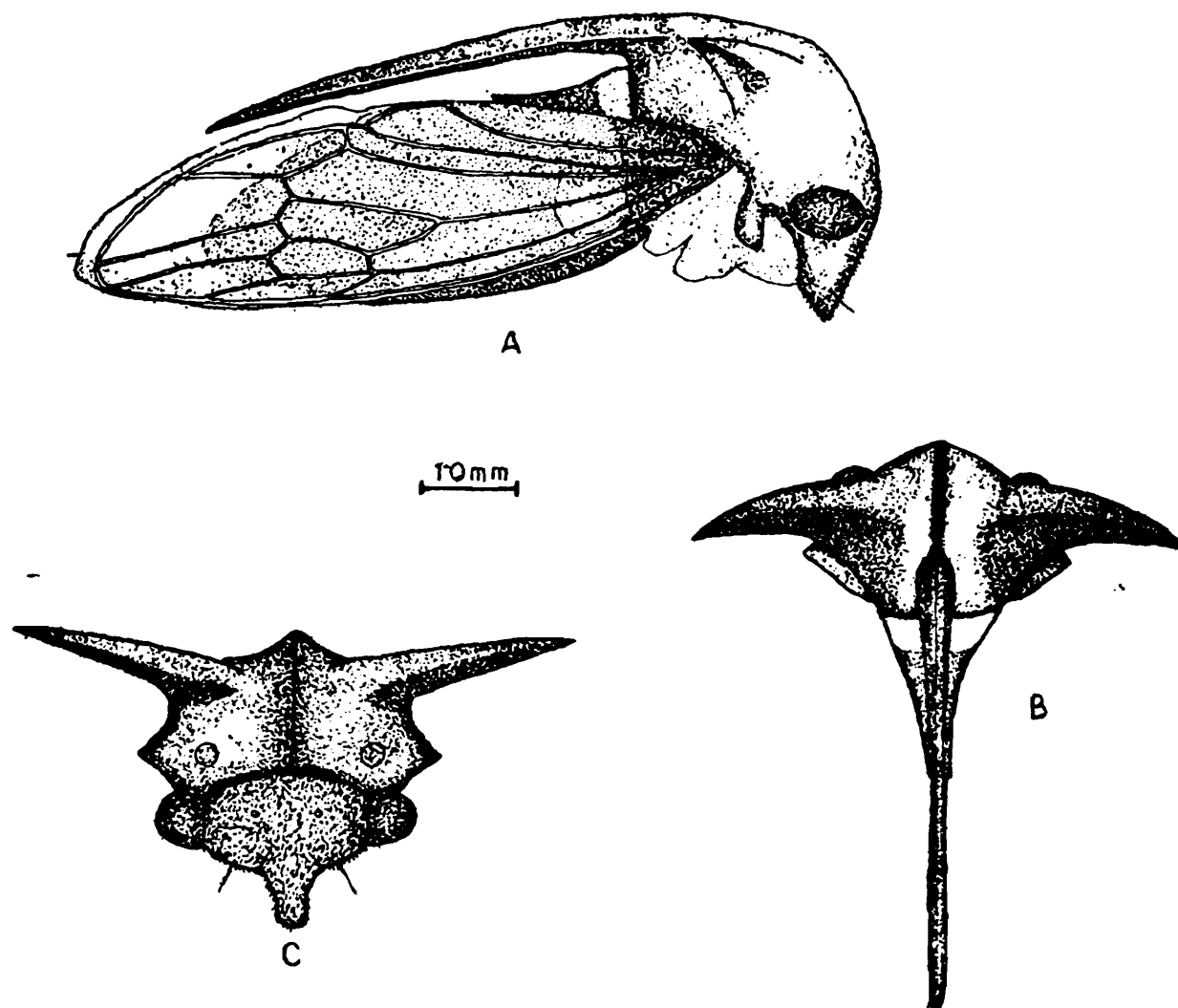
Tribe : LEPTOCENTRINI Distant 1908

1. *Lanceonotus mukkaliensis* sp. nov.

(Text-fig. 1, Plate I A)

Female : General colour shining black, about twice as wide as long, finely punctate with silvery hairs, upper margin arcuate, lower margins obliquely curving to frontoclypeus ; eyes large, subglobose, reddish ; ocelli silvery white, small, nearer to eyes than to each other and situated slightly above the centro-ocular line ; frontoclypeus dark brownish-black extending to three-fourths of its length beyond the lower margins of vertex, pubescent, tip rounded. Pronotum shining black, strongly punctate with long sparse hairs, metopidium slightly oblique from its base about 1.7 times as wide as high, supra-ocular callosities black, prominent, nearly rounded, humeral angles dark brownish-black, prominent ; supra humeral horns jet black, broad-based, tricarinate, about 1.6 times as long as distance between their bases, sparsely pilose with silvery hairs, laterally strongly curved back, directed straight and then backwards, viewed from above laterad and

then turned backwards, viewed from front directed obliquely outwards, and almost straight; posterior process emerging from the posterior region of disc, remote from scutellum, a little arched about its middle and tapering gradually to the tip, very nearly impinging on the margins of the tegmina and passing beyond the anal angles as far as the end of the fifth apical cell, tip acute, ventral carinae pitch black; scutellum twice longer than wide, basal one third white tomentose, tip emarginate, black; lateral aspects of pterothorax cretaceously sericeous. Tegmina light brown, 3.3 times as long as wide, basal fifth black and coriaceous, apical limbus moderately wide, first apical cell wedge-shaped, nearly three times as long as its greatest width, second discoidal cell larger than first. Abdomen black. legs thickly covered with white hairs. Tarsi brown, tibiae dark brown, rest black.



Text-fig. 1. *Lanceonotus mukkaliensis* sp. nov.

A. Lateral view of female.

B. Dorsal view of Pronotum of female.

C. Frontal view of female.

Measurements : Length from frontal margin to the tips of tegmina 8.6 mm., to the tip of the posterior process 6.9 mm., width across tip of supra humeral horns 5.9 mm., at humeral angles 3.2 mm., at eyes 1.8 mm.

Male : Not known.

Material examined : HOLOTYPE female collected from 2 Kms towards Mukkali, Silent Valley, Kerala, 860 metres elevation ; coll. R. S. Pillai ; 6. xii. 1980. ZSI/SRS Reg. No. I/HM 13.

Remarks : *L. mukkaliensis* is close to *Lanceonotus malabaricus* Thirumalai and Ananthasubramanian in the general colouration of the body, eyes and in the position of the ocelli but differs in the nature of the lateral pronotal processes, the more broader fourth apical cell of tegmina, tip of the posterior process reaching upto the fifth apical cell of tegmina and in the nature of scutellum which is twice as long as wide.

2. *Lanceonotus malabaricus* Thirumalai and Ananthasubramanian 1981

One female, from Road to Cardomom Estate, Silent Valley, Kerala, 940 metres elevation, coll. R. S. Pillai ; 11. xii. 1980. ZSI/SRS. Reg. No. I/HM 14.

3. *Hemicentrus suffulta* (Distant) 1906 (Plate II A)

One female collected from 5 Kms towards Mukkali, Silent Valley, Kerala, 860 metres elevation, coll. R. S. Pillai ; 12. xii. 1980. ZSI/SRS Reg. No. I/HM 15.

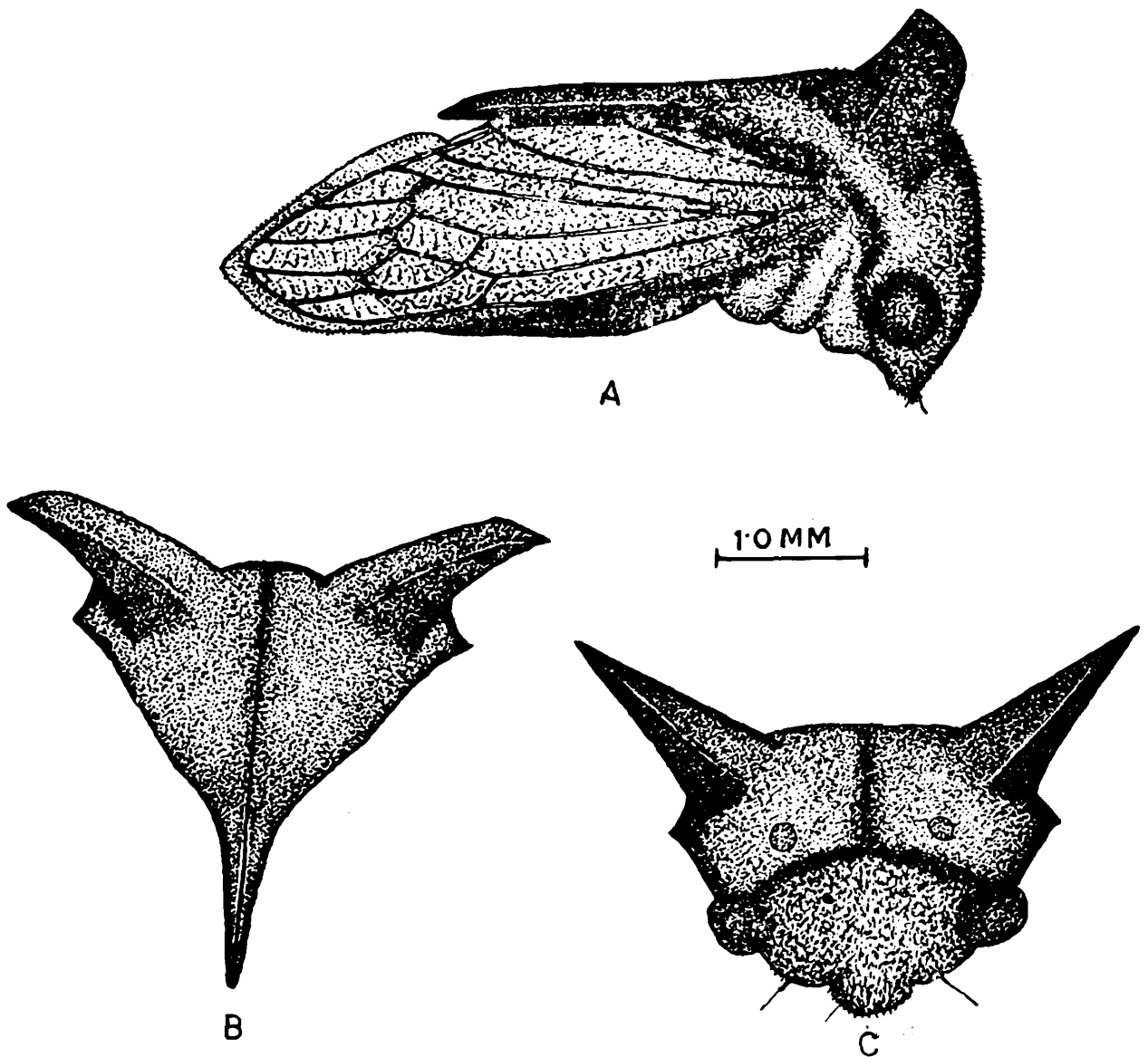
Tribe : Tricentrini Ahmad and Yasmeen 1974.

4. *Tricentrus erectus* sp. nov. (Text-fig. 2, A-C ; Plate I B)

Female : General colour black shaded with brown, head black almost vertical, vertex about one and half times wider than long, finely punctate with short thick adpressed silvery pilosity, upper margin strongly arcuate and sinuate, lower margins obliquely curved to frontoclypeus ; eyes subglobose, brown ; ocelli dark brown, closer to eyes than to each other and situated well above the centro-ocular line ; frontoclypeus extending half of its length beyond lower margin of

vertex and covered with long silvery pilosity. Pronotum black, finely punctate with short suberect silvery pilosity, median carina percurrent, metopidium slightly obumbrant and vertical, more than three times as wide as high, humeral angles prominent, supraocular callosities divided and blunt; disc brown; supra humeral horns robust and broad based, nearly twice longer than distance between their bases, strongly ridged centrally; viewed from lateral aspects projecting obliquely forwards with the apices curved backwards, lateral area sharply depressed, viewed from above moderately broad, apices subobliquely subacute, posterior carination subprominent, viewed from front extending

Text-Fig 2

Text-fig. 2. *Tricentrus erectus* sp. nov.

A. Lateral view of female.

B. Dorsal view of Pronotum of female.

C. Frontal view of female.

outward and upward ; posterior process robust, contiguous with scutellum, basal part reddish brown, tip black tricarinate, just reaching the posterior angle of the inner margin of tegmina, dorsal carina percurrent through metopidium. Tegmina pale brown, thrice as long as wide, basal fourth coriaceous, veins dark brown, adpressed with golden hairs, first apical cell about six times as long as its greatest width, first discoidal cell not petiolate, nearly as long as the second, lateral areas of thorax white tomentose ; femora black, their apices and tibiae dark brown, tarsi ochraceous. Abdomen dark brown with white pubescence, ovipositor pitch black.

Measurements : Length from frontal margin to tips of tegmina 5.2 mm., to tip of posterior process 3.03 mm., width across tips of supra humeral horns 3.8 mm., at eyes 2.2 mm.

Male : Not known.

Material examined : HOLOTYPE female, collected from 5 Kms towards Mukkali, Silent valley, Kerala, 860 metres elevation, coll. R. S. Pillai ; 12. xii. 1980. ZSI/SRS Reg. No. I/H M 16.

Remarks : *Tricentrus erectus* sp. nov. is coming close to *Tricentrus projectus* Distant in the general colouration and in the nature of tegmina, but differs from it in the nature of lateral pronotal process which is not porrect and subobliquely subacute tip and in the nature of posterior pronotal process which is straight and not arched in the middle.

5. *Tricentrus horizontalis* Distant 1916 (Plate II B)

One female from Road to Cardomom Estate, Silent Valley, Kerala, 1005 metres elevation, coll. R. S. Pillai ; 11.xii. 1980. ZSI/SRS Reg. No. 1/HM 17.

Remarks : It is of interest that *Tricentrus horizontalis* has been recorded for the first time from India. Distant (1916) described the species from Burma.

6. *Tricentrus purpureus* Ananthasubramanian and Ananthakrishnan 1975

Two females and two males from Road to Cardomom Estate, Silent Valley, Kerala, 940 metres elevation, coll. R. S. Pillai ; 11. xii. 1980. ZSI/SRS Reg. No. I/H 18.

**7. *Tricentrus syrandrikan* Thirumalai
and Ananthasubramanian 1981**

Eight females and eight males from 2 kms towards Mukkali, Silent Valley, Kerala, 860 metres elevation, coll. R. S. Pillai ; 6. xii. 1980. ZSI/SRS Reg. No. I/HM 19.

Three females and five males from Road to Mukkali, Silent Valley, Kerala, 890 metres elevation, coll. R. S. Pillai ; 8. xii. 1980. ZSI/SRS. Reg. No. I/HM 20.

Three females and six males from 5 Kms towards Mukkali, Silent Valley, Kerala, 860 metres elevation, coll. R. S. Pillai ; 12. xii. 1980. ZSI/SRS Reg. No. I/HM 21.

One female from Panthanthodu, Silent Valley, Kerala, 860 metres elevation, coll. R. S. Pillai ; 13. xii. 1980. ZSI/SRS Reg. No. I/HM 22.

Three females and four males collected from Road to Estate, Silent Valley, Kerala, 860 metres elevation, coll. R. S. Pillai ; 14. xii. 1980. ZSI/SRS Reg. No. I/HM 23.

Tribe : Coccosterphini Distant 1908.

**8. *Parayasa variegata* Thirumalai
and Ananthasubramanian 1981**

(Text-fig. 3, A-C ; Plate II C)

Male : Similar to female in general colouration and measurements but differs from it in the nature of metopidium which is twice as wide as high and strongly obliquely directed to disc. The tegmina has three round transparent fasciae at about two-thirds distance from base and a distinct brown patch at half of the first and second apical cells, on the second discoidal cell, of tegmina. Rest of the wing pale virescent.

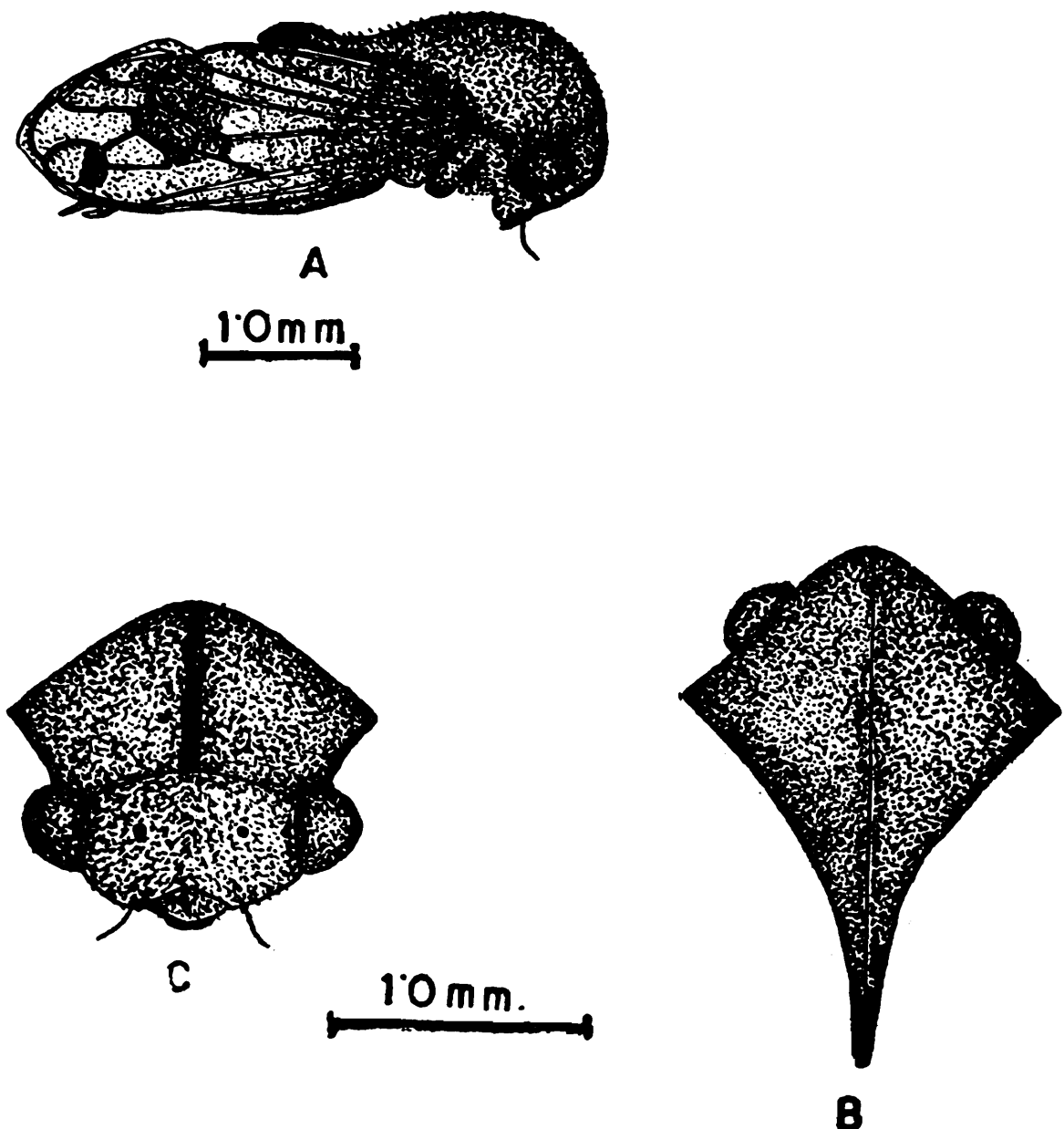
Measurements : Length from frontal margin to tips of tegmina 3.85 mm., to tip of posterior process 2.3 mm., width across tips of humeral angles 1.4 mm., at eyes 1.3 mm.

Material examined : Topotype two males and three females collected from 2 kms towards Mukkali, Silent-Valley, Kerala, 860 metres elevation, coll. R. S. Pillai ; 6. xii. 1980. ZSI/SRS Reg. No. I/HM 24.

One female from Kumattamthodu, Silent Valley, Kerala, 870 metres elevation, coll. R. S. Pillai ; 7. xii. 1980, ZSI/SRS. Reg. No. I/HM 25.

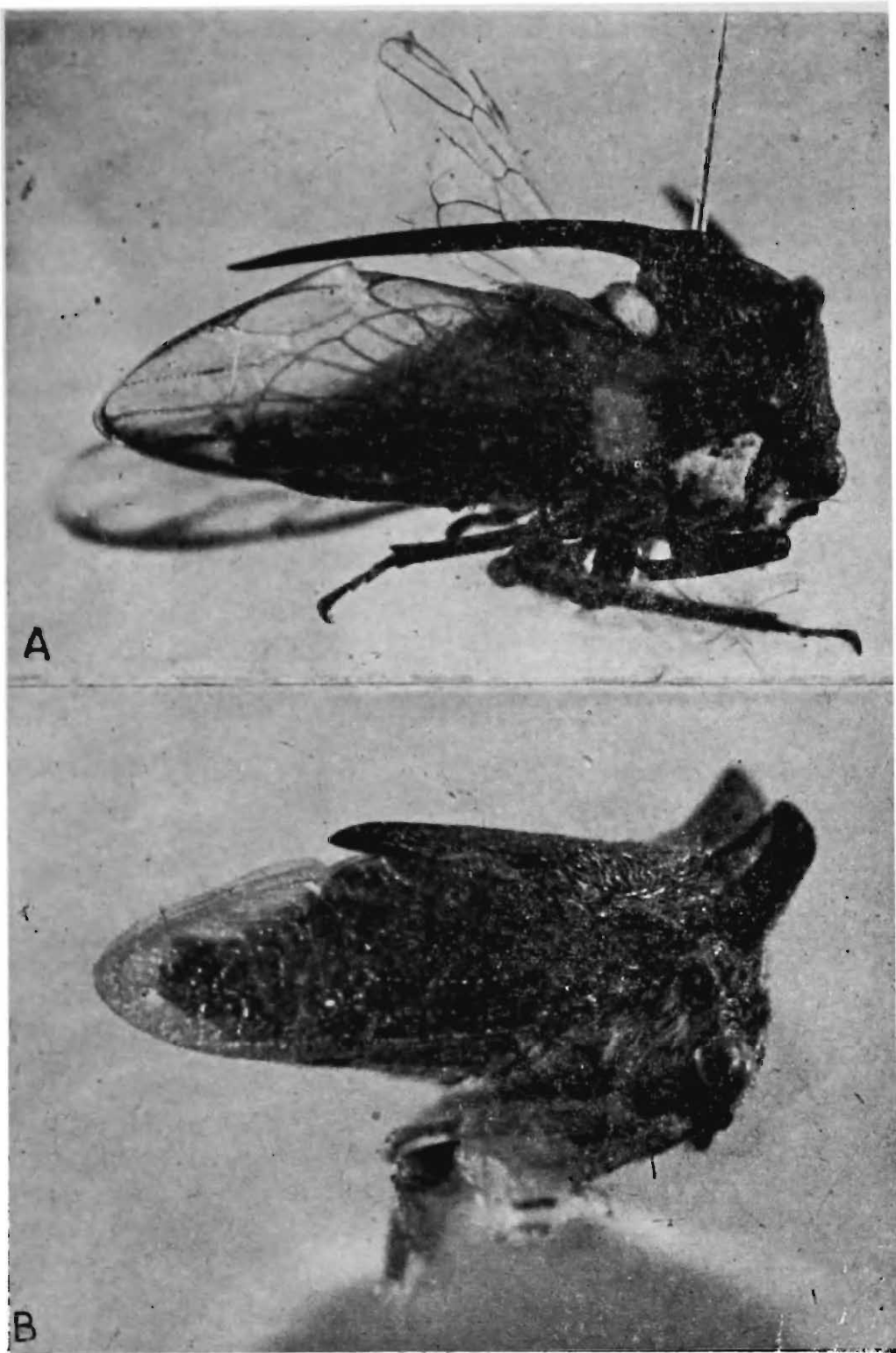
Five females and one male collected Road to Mukkali, Silent Valley, Kerala, 890 metres elevation, coll. R. S. Pillai ; 8. xii. 1980. ZSI/SRS Reg. No. I/HM 26.

Text-Fig 3



Text-fig. 3. *Parayasa variegata* Thirumalai & Ananthasubramanian.

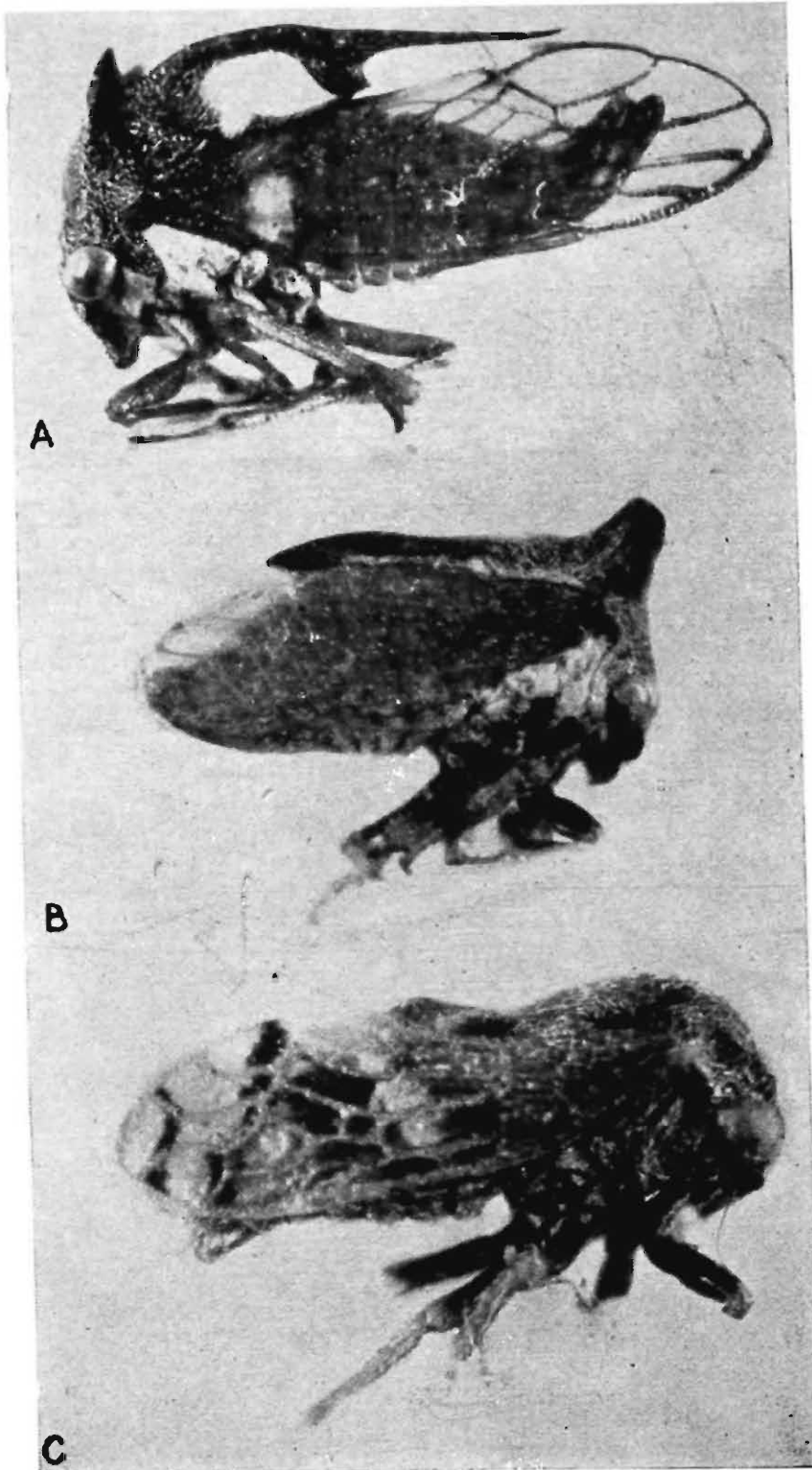
- A. Lateral view of male.
- B. Dorsal view of Pronotum of male.
- C. Frontal view of male.



A. *LANCEONOTUS MUKKALIENSIS* sp. nov. ♀ X14.

B. *TRICENTRUS ERECTUS* sp. nov. ♀ X22.

PLATE -II



A. *HEMICENTRUS SUFFULTA* (Distant) ♀ X20.
B. *TRICENTRUS HORIZONTALIS* (Distant) ♀ X20.
C. *PARAYASA VARIEGATA* Thirumalai &
Ananthasubramanian ♂ X32.

Two females and four males collected from Road to Cardomom Estate, Silent Valley, Kerala, 1005 metres elevation, coll. R. S. Pillai ; 11. xii. 1980. ZSI/SRS Reg. No. I/HM 27.

Four females collected from 5 kms. towards Mukkali, Silent Valley, Kerala, 860 metres elevation. coll. R. S. Pillai ; 12. xii. 1980. ZSI/SRS Reg. No. I/HM 28.

One female and three males collected from Road to Cardomom Estate, Silent Valley, Kerala, 860 metres elevation, coll. R. S. Pillai ; 14. xii. 1980. ZSI/SRS Reg. No. I/HM 29.

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.

SUMMARY

The paper deals with 8 species of membracids from Silent Valley. Two of the species dealt with here are new and one species *Tricentrus* forms new locality record. Besides male of *Parayasa variegata* described for the first time.

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