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THE LEAFHOPPERS AND FROGHOPPERS OF AUSTRALIA AND NEW ZEALAND

(Homoptera: Cicadelloidea and Cercopoidea)

Part 2

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SUMMARY

New genera and new species of Australian and New Zealand Cicadelloidea and a new species of Cercopoidea, described from Australia subsequent to the publication of *'The Leafhoppers and Froghoppers of Australia and New Zealand'* (Evans, 1966), are listed. Particulars are given of changes in classification and nomenclature and of new knowledge acquired during the past decade. Two new genera of Eurymelidae are described (*Iposa*, type species: *Anipo fusca* Evans and *Relipo*, type species: *R. oenpellensis* sp. n.); also a new species, *Ipoella douglasi*. The classification of the Cephalelini is reviewed and, as a result, some described genera are removed from synonymy and re-described and two new genera described (*Linacephalus*, type species: *Paradorydium michaelseni* Jacobi, and *Alocephalus*, type species: *Dorycephalus ianthe* Kirkaldy). The first representative of the Myerslopiini to be recorded from Australia is described (*Myerslopella* gen. nov., type species: *M. taylori* sp. n.) and the antiquity of the tribe discussed. Other Cicadellidae described are as follows: *Paradorydium narrabrensis*, *Austroagalloides moorei* and *Stenogiffardia* gen. nov., type species: *S. elongata* sp. n. (Platymetopiini).

INTRODUCTION

More than a decade has passed since Australian Museum Menoir XII, which bore the same title as the present work, was published (Evans, 1966). In the intervening years several new genera and new species of Australian and New Zealand Cicadelloidea and a single new species of Australian Cercopoidea have been described by various authors. Changes have also been made in nomenclature, new synonymies proposed, transfers have taken place between tribes and subfamilies and new distribution records established.

The particular purpose of this paper is to provide information on these matters under one cover. At the same time the opportunity is taken of correcting errors in the former work, of changing some previously proposed generic concepts and of describing some new genera and species, most of which are of special interest.

It needs to be emphasised once again that these insects, as they occur in Australia, provide a fascinating and extensive field of research and that this paper and its predecessor are essentially no more than preliminary frameworks to serve as a basis for future studies.

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Records of The Australian Museum, 1977, **Vol. 31 No. 3,** 83-129, Figures 1-12

The New Zealand leafhopper fauna, thanks to the recent studies of Knight, is now, on the other hand, well known (Knight, 1973, b; 1973, c; 1974, a; 1974, b; 1975). It is of interest to note, while extensive collecting in New Zealand and critical studies of the fauna have enabled the description of an abundance of new species, that no new genera have been recognized in the more ancient groups, each of which is still represented by only a single genus, four of which are endemic *Novolopa* (Ulopini), *Paracephaleus* (Cephalelini), *Myerslopia* (Myerslopiini), *Novothymbris* (Thymbrini), *Zelopsis* (Macropsinae)). For reasons given on page 100 the occurrence of the non-endemic genus (*Paracephaleus*) in New Zealand is difficult to explain.

THE SUPERFAMILIES OF THE CICADELLOIDEA

In Part I the Membracidae were considered as one of the families of the Cicadelloidea.

Recently, Strümpel (1972) has proposed a system of classification whereby the Membracidae, Aetalionidae, Biturritidae and Nicomiidae, are associated together in a separate superfamily, the Membracoidea.

While accepting the distinctiveness of this assemblage of closely related families, it has been suggested previously that it may be misleading to give the group superfamily terminology for this suggests equivalence of evolutionary status with the Cicadoidea and the Cercopoidea, while surely it is the common stem of the Membracoidea and the Cicadelloidea which has such equivalence? (Evans, 1975).

Another possibility respecting the inter-relationships of the superfamilies of the Auchenorrhyncha is expressed in Figure 1. This is based on the currently widely supported, though by no means universally accepted, 'sister-group' concept of evolutionary diversification.

While the association of the Membracoidea with the Cicadelloidea, as shown in the figure is undoubtedly correct, there is less certainty respecting the placing of the Cercopoidea as a sister group of the Cicadoidea and such an arrangement pre-supposes the persistence in time of all the principal branches of the Auchenorrhyncha. In other words, it assumes there have existed in the past no equally highly distinctive groups which have now become extinct.

CICADELLOIDEA
EURYMELIDAE
SPECIES DESCRIBED FROM AUSTRALIA SINCE EVANS, 1966

Cornutipo bakeri Evans

Proc. R. Soc. Qd. 81 : 51, 1969.

Type Locality — Ashburton, Western Australia.

Type Location — Australian Museum.

Ipo moorei Evans

Proc. R. Soc. Qd. 81 : 54, 1969.

Type Locality — Normanton, Queensland.

Type Location — Australian Museum.

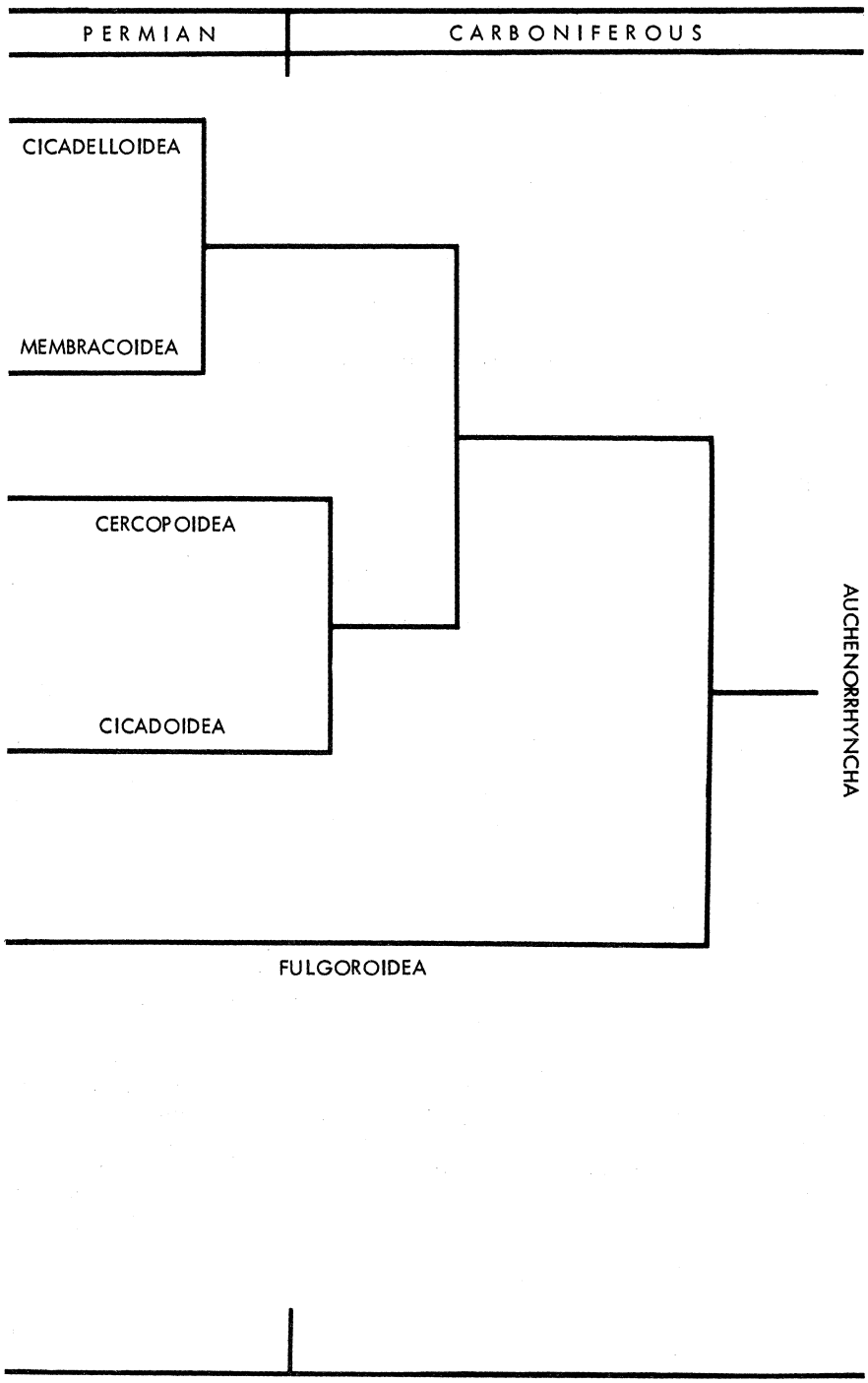

Fig. 1. The Phylogeny of the Auchenorrhyncha

Ipo minor Evans

Proc. R. Soc. Qd. 81 : 54, 1969.

Type Locality — Charters Towers, Queensland.

Type Location — Australian Museum.

Ipoella wallacei Evans

Pacif. Ins. 15 : 186, 1973.

Type Locality — Millstream area, Western Australia.

Type Location — Australian Museum.

Eurymela intermedia Evans

Proc. R. Soc. Qd. 81 : 55, 1969.

Type Locality — Narrabeen, New South Wales.

Type Location — Australian Museum.

SPECIES DESCRIBED FROM NEW GUINEA SINCE EVANS, 1966[1]

Ipoides eramboensis Evans

Pacif. Ins. 15 : 186, 1973.

Type Locality — Eramboe, S.W. New Guinea.

Type Location — Bishop Museum, Honolulu.

Ipoides maculata Evans

Pacif. Ins. 15 : 187, 1973.

Type Locality — Eramboe, S.W. New Guinea.

Type Location — Bishop Museum, Honolulu.

Iposa gen. nov.

Small eurymelids resembling species of the genus *Ipoella* Evans in general characteristics and, in particular, in having a single spine mounted on an enlarged base on the hind tibiae. Differing from *Ipoella* spp. in size, being considerably smaller; in having three, instead of more than three veins between R and the costal margin, in having broader subgenital plates with medial, instead of marginal, accessory clasping processes and hind tibiae, which as well as having a mounted spine, have also three rows of long, strong, marginal spines.

Type species — *Anipo fusca* Evans

1 New species listed from New Guinea are ones which belong essentially to the Australian, rather than to the Oriental fauna.

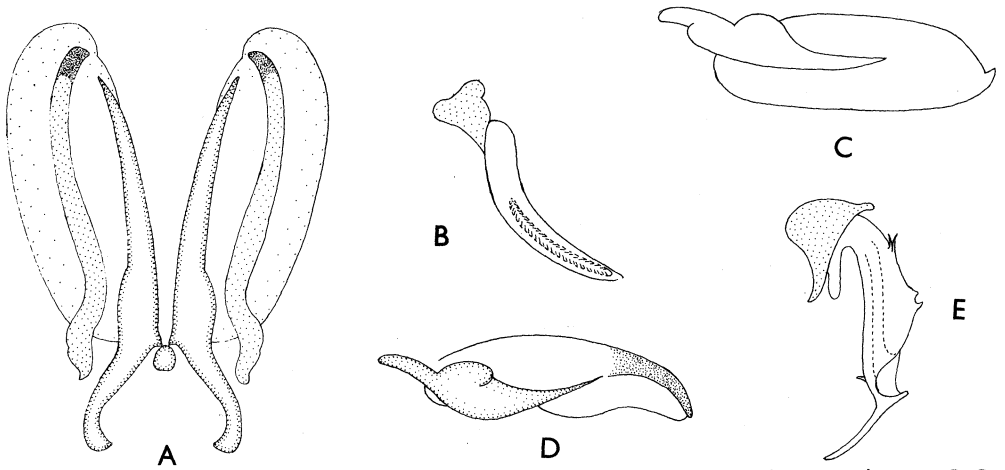

Fig. 2. A, *Iposa fusca,* subgenital plates and parameres; B, *Relipo oenpellensis,* aedeagus; C, *R. oenpellensis,* subgenital plate and paramere; D, *Ipoella douglasi,* subgental plate and paramere; E, *I. douglasi,* aedeagus.

Iposa fusca (Evans) comb. nov.
(Fig. 2A)

Anipo fusca Evans 1941, Trans. Roy. Soc. W. Aust. 27 : 193.

Ipoella fusca (Evans) — Evans, 1966 : 44.

The aedeagus of this small (3.5 mm), distinctive eurymelid has been illustrated previously (Evans, 1941). The subgenital plates and parameres are shown in Fig. 2A. It is seemingly confined to Western Australia, where it has been taken at Perth (type locality) and Pingelly.

Ipoella douglasi sp. n.
(Fig. 2D, E)

Length, ♂, 4.8 mm; ♀, 5.2 mm. Overall coloration, pale brownish yellow. Resembling other species in the genus *Ipoella* in cephalic, tibial and general male genitalia characteristics and differing from them in the shape of the aedeagus, in particular in having a long, acute proximo-ventral extension.

Holotype ♂, and Allotype ♀, Three Rivers Station, Western Australia, 1-75, A. Douglas, in the Western Australian Museum.

I. douglasi, which resembles *Ipoella brunneus* Evans, is given specific recognition because of the particularly distinctive shape of its aedeagus and because its description provides an opportunity of once more drawing attention to the high degree of variability existing within the Eurymelidae. This applies both to tegminal colour pattern and, within certain genera, to the shape of the several parts of the male genitalia.

This variability serves to make species selection difficult and a matter of personal choice. If specific status were to be granted to representatives of every population showing minor colour pattern and male genitalia differences, it would lead to the recognition of an endless multiplicity of species. In Part I differently shaped aedeagi of four insects, all ascribed to *I. brunneus,* were illustrated (Evans, 1966, Fig. 10, C3-6).

Relipo gen. nov.

The anteclypeus, which lies at a lower level than the postclypeus, is anteriorly depressed. The postclypeus is convex, and though the epistomal suture is not apparent, the attachments of the cibarial muscles do not extend onto the frontal region. The ocelli, which lie close to the apices of the obscure epicranial suture, are prominent. The rounded crown is widest against the eyes. The tegmina, which are broadly rounded apically, have narrow appendices and numerous short veins between R and the costal margin. The hind tibiae have each a row of five strong spines, of which the most distal one is mounted on an enlarged base. They bear, in addition, a row of small spines and another of long hairs. In the male genitalia the subgenital plates are parallel-sided.

Type species — Relipo oenpellensis sp. n.

Relipo resembles *Aloipo* Evans in having a convex frontoclypeus. It differs from *Aloipo* in having a depressed anteclypeus, in the restriction of the attachment of the cibarial muscles to the postclypeus and from all other genera of the Eurymelidae in characters furnished by the male genitalia.

Relipo oenpellensis sp. n.
(Fig. 2B, C)

Length, ♂, 4.6 mm, ♀, 5.3 mm. General coloration brownish-yellow. Vertex of head, pronotum and scutellum covered with fine hairs. Head and pronotum deep yellow. Scutellum concolorous with the pronotum, lateral muscle impressions sometimes dark brown. Tegmen with a covering of fine hairs, hyaline brown; veins brown, or reddish; appendix with a pair of brown markings. Male genitalia as in Fig. 2B, C. Holotype ♂ and Allotype ♀, Birraduk Creek, 18 km. E. by N. of Oenpelli, Northern Territory, 1-VI-73, T. Weir and H. Forester, in the A. N. I. C., Canberra. 1 Paratype ♂, Eldo, 5 km. S. of Gove Airport, N. T. in the author's collection.

NOTES ON THE EURYMELIDAE

Cornutipo tricornis (Evans)

In Part I this species was placed in the genus *Cornutipoides*, of which it was the type. This generic name has now been placed in synonymy with *Cornutipo* Evans, type species, C. *scalpellum* (Evans, 1969, a).

'For reasons difficult to define' it was suggested in Part I that C. *scalpellum* and C. *tricornis* might be relict forms. Their supposedly primitive characteristics have now been described (Evans, 1969, a).

Ipo pellucida (F.)

Previously known only from Queensland, this species recently has been recorded also from the Northern Territory (Evans, 1969, a).

Ipoella insignis (Distant)

For lack of available material the male genitalia were not figured in Part I. They have now been illustrated and the species recorded from Darwin, N.T. (Evans, 1969, a).

Bythoscopus anguliferus Walker, 1851

This name, which is a synonym of *Eurymeloides marmorata* (Burmeister), was omitted from Part I.

Bakeriana nigra Evans, *Ipoides hackeri* Evans, *Ipoides minor* Evans, *Eurymeloides punctata* Signoret, *Eurymelessa moruyana* (Distant)

The above species, all originally described from Australia, have now been recorded also from New Guinea (Evans, 1973).

Platyeurymela semifascia (Walker).

This eurymelid, which is somewhat beetle-like in appearance, is the sole known representative of the family, apart from those comprised in the Pogonoscopini, in which the tegmina are not tectiform. During March, 1969, a colony of eight adult insects were found under bark at Wilson's Valley, Mt. Kosciusko. This occurrence suggests their shape may have adaptive significance.

Systematic Status

As a result of studying characters provided by the female genitalia and metathoracic legs of a few selected groups of leafhoppers, Davis (1975) has suggested that the Eurymelidae are best regarded as a subfamily of the Cicadellidae.

It would seem that the author, in arriving at this opinion, has failed to pay attention to other morphological features of these insects and their special behavioural characteristics. It is on the latter, and on the characters provided more particularly by the venation of the tegmina, and the male genitalia, that a claim for family status for the Eurymelidae is based (Evans, 1966).

CICADELLIDAE

ULOPINAE

In Part I, this subfamily was considered to be represented in Australia by two component tribes, the Ulopini and the Cephalelini, and in New Zealand, as well as by these, also by a third tribe, the Myerslopiini.

Linnavuori (1972) has suggested that although the last named group may have been derived from the Ulopinae, it is so distinctive, that it merits subfamily status. For reasons given on page 100 this proposal has not been adopted here.

ULOPINI

SPECIES DESCRIBED FROM NEW ZEALAND SINCE EVANS, 1966

Novolopa falcata Knight

N. Z. Jl. Sci. 16 : 975, 1973.

Type Locality — Mt. Grey, Otago Province.

Type Location — D.S.I.R. Entomology Division, Auckland.

Novolopa infulata Knight

N. Z. Jl. Sci. 16 : 976, 1973.

Type Locality — Mt. Barber, Otago Province.

Type Location — D.S.I.R. Entomology Division, Auckland.

Novolopa maculata Knight

N. Z. Jl. Sci. 16 : 976, 1973.

Type Locality — Mt. Coronet, Otago Province.

Type Location — D. S. I. R. Entomology Division, Auckland.

Novolopa kuscheli Knight

N. Z. Jl. Sci. 16 : 978, 1973.

Type Locality — Mt. Rakeahua, Stewart Island.

Type Location — D. S. I. R. Entomology Division, Auckland.

Novolopa montivaga Knight

N. Z. Jl. Sci. 16 : 978, 1973.

Type Locality — Old Man Range, Otago Province.

Type Location — D. S. I. R. Entomology Division, Auckland.

CEPHALELINI

This group of relict Cicadellidae is of unusual interest since, unlike the Ulopini from which they are probably derived, the isolation of populations resulting from the break up of Gondwanaland has not led to striking generic differentiation.

In Part I two genera were recognized, one, *Cephalelus* Percheron, with representation in South Africa and Australia and the other, *Paracephaleus* Evans, occurring in Australia and New Zealand. These genera were distinguished by the shape of their heads, those in *Cephalelus* having their ventral surface convex, flattened, or slightly medially concave, while the faces of the heads of *Paracephaleus* spp. are percurrently concave.

A critical study of representatives of this tribe from Australia, South Africa and New Zealand has resulted in earlier views on inter-relationships being changed. As a result some genera previously placed in synonymy have needed to be re-established and are re-described and two new genera are recognized.

KEY TO THE GENERA OF THE CEPHALELINI

1. On the face of the head subgenal sutures and supra-antennal ledges lacking ..... *Cephalelus* Percheron (S. Africa)
Type species: *C. infumatus* Percheron

On the face of the head subgenal sutures and supra-antennal ledges present 2

2(1) Face of head percurrently concave; in forms lacking hind wings, venation obscure ..... *Paracephaleus* Evans (Australia and New Zealand)
Type species: *P. montanus* Evans

Face of head completely, or medially, flat 3

3(2) Crown of head convex; antennal ledges laterally prominent 4

Crown of head flat, sometimes laterally carinate; antennal ledges moderately developed 5

4(3) Apex of head bulbous ..... *Procephaleus* Evans (Australia)
Type species: *P. bulbosa* Evans

Apex of head not bulbous; sides approximately at right-angles to the dorsal surface ..... *Notocephalius* Jacobi (Australia)
Type species: *N. hartmeyri* Jacobi

5(3) Tegmen densely punctate; venation sometimes reticulate .....
Linacephalus gen. nov. (Australia)
Type species: *Paradorydium michaelseni* Jacobi
Tegmen largely hyaline; venation never reticulate 6

6(5) On the face of the head subgenal sutures oblique; male genitalia with parameres evenly slender ..... *Anacephaleus* Evans (Australia)
Type species: *A. minutus* Evans
On the face of the head subgenal sutures transverse: male genitalia with parameres irregularly-shaped..... *Alocephalus* gen. nov. (Australia)
Type species: *Dorycephalus ianthe* Kirkaldy

Anacephaleus Evans

1937, Pap. Roy. Soc. Tasm. 1936 : 46

Type species — Anacephaleus minutus Evans

There occur in south-western and south-eastern Australia representatives of a group of small, short-headed, Cephalelini which when first studied were regarded as comprising several species belonging to the above distinctive genus (Evans, 1937, 1939).

At a later date two of these species, *A. carribensis* Evans and *A. latus* Evans were placed in synonymy with the type species and the generic name was regarded as a synonym of *Cephalelus* (Evans, 1966). This action was taken as the character of length of head was then regarded, by itself, as insufficient for generic recognition and, although the male genitalia had been examined and illustrated, those of other representatives of the group had not, at that time, been investigated.

It is possible that, in time, the availability of long series of these insects from numerous localities may enable the recognition of several distinct species of *Anacephaleus*. Meanwhile, it seems preferable to recognize a single species only, contained in a genus which differs from others in the tribe in head length and shape and in having distinctive male genitalia. This genus is re-described below: —

Pale brown, or greyish insects, sometimes with pale, dark brown, or black, markings on the tegmina. Head, thorax and tegmina, in part, punctate. Fully winged ♀♀, 4.2-5.6 mm; heads, 0.8-1.2 mm. ♂♂ and ♀♀ lacking hind wings, 3.8-4.2 mm; heads, 0.8-1.0 mm.

On the face of the head the labium terminates between the middle coxae. The anteclypeus is swollen and pear-shaped and the postclypeus flat, parallel-sided, and margined by channel-like depressions. The subgenal sutures are distinct and oblique and the eyes are prominent. The supra-antennal ledges are transverse, laterally rounded and slightly raised, and the antennal depressions are deep. The tentorial arms are short, broad and T-shaped. The epistomal suture is obscurely defined and the frontal area depressed. The vertex is medially flat and sloping laterally. The crown of the head is broadly arrow-shaped with a median longitudinal ridge. The ocelli are situated midway between the fore and hind margins of the crown and in forms lacking hind wings may be functionless (white), or lacking. The largely hyaline tegmina are apically acute, the appendices are narrow and the veins prominent. The hind femora lack apical spines and the tibiae are narrow and parallel-side, the hind tibiae having a few small spines. In the male genitalia the ninth sternum is continuous with the pygophore, of which the hind margin has a median, narrow,

ventrally directed projection. The subgenital plates are proximally parallel-sided and distally foliaceous. The aedeagus has a large, proximal, dorsally=directed, open-ended process and is distally narrow and bifurcate. The parameres are long, narrow, and subapically curved.

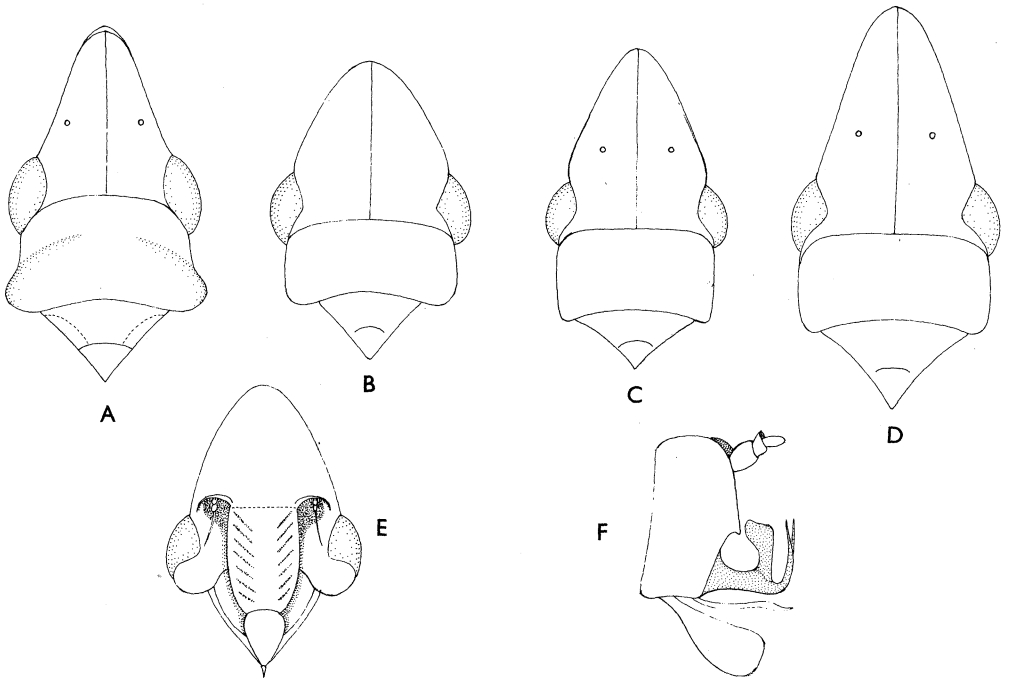

Fig. 3. *Anacephaleus minutus*, A, head and thorax, winged form; B-D, of forms lacking hind wings; E, face of head; F, male genitalia.

Anacephaleus minutus Evans
(Fig. 3A-F)

Anacephaleus minutus Evans, 1937, Pap. R. Soc. Tasm. 1936 : 43.

Anacephaleus carribensis Evans, 1937 : 44.

Anacephaleus ulopae Evans, 1937 : 44.

Anacephaleus latus Evans, 1939 : 45.

Cephalelus minutus (Evans) — Evans, 1966 : 91.

The range of head length, the face of the head, and the male genitalia are illustrated in Fig. 3. This species resembles ones comprised in the Ulopini more closely than any other Cephalelini. It may hence be regarded as the most generalised extant representative of the tribe.

New locality records: Cannington, V-59; Midland, V-60; Albany, Augusta, IX-66 (Western Australia); Kangaroo Is., IV-65; Forest, Victoria, III-63; Royal National Park IX-70; Katoomba, V-66; New England National Park, III-66 (N. S. W.).

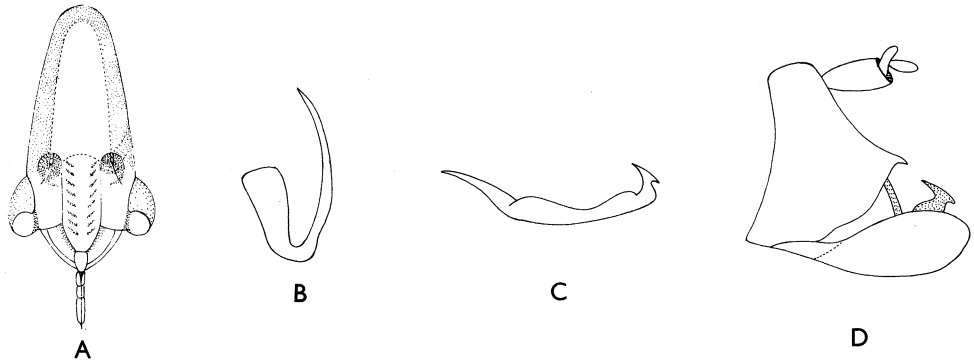

Fig. 4. *Alocephalus ianthe*, A, face of head; B, aedeagus; C, paramere; D, male genitalia.

Alocephalus gen. nov.

The head and thorax are punctate. The anteclypeus is pear-shaped and the maxillary plates are largely concealed by the lobe-like lora. The subgenal sutures are transverse and the genae swollen. The postclypeus is parallel-sided and flat. The antennal bases lie in circular depressions and the supra-antennal ledges are raised slightly above the level of the face. The frontal region is slightly medially depressed. The crown, which has an obscure median ridge, slopes slightly laterally. In forms lacking hind wings ocelli are present but functionless. The narrow tibiae are parallel-sided. The tegmina, which are slightly punctate, have distinct venation. In the male genitalia the pygophores narrow posteriorly and are continuous ventrally with the ninth sternum; the aedeagus is hook-shaped, the parameres long and hammer-shaped apically and the subgenital plates broad.

Type species — *Alocephalus ianthe* (Kirkaldy).

Alocephalus ianthe (Kirkaldy) (comb. nov.)
(Fig. 4A-D)

Dorycephalus ianthe Kirkaldy, 1906, Bull. Hawaii Sug. Plrs. Ass. Exp. Sta. 1 (9); 340.

Dorycephalus trilineatus Kirkaldy, 1906: 341.

Anacephaleus simplex Evans, 1937 : 44.

Cephalelus ianthe (Kirkaldy) — Evans, 1966 : 89.

♀♀ lacking hind wings, 6-6.8 mm; ♂♂ lacking hind wings, 5.8 mm. New locality records: Katoomba, N. S. W., V-66; Flinders, Victoria, XII-62.

Linacephalus gen. nov.

Densely punctate insects. The anteclypeus is pear-shaped and the exposed part of the maxillary plates are of equal length with the lora. The subgenal sutures are oblique and the genae swollen. The parallel-sided postclypeus is flat and the frontal region medially flat and laterally sloping. The crown is flat, has a prominent median ridge, and is marginally carinate. The tibiae are narrow and parallel-sided. In the male genitalia the pygophore is wider than long and the parameres are narrow, curved and apically acute.

Type species — *Paradorydium michaelseni* Jacobi

Linacephalus resembles *Alocephalus* in size, proportions and general appearance. It differs from *Alocephalus* in the structure of the male genitalia of the type species, in particular, in having parameres which are very differently shaped from those of *A. ianthe*.

Linacephalus michaelseni (Jacobi) (comb. nov.)
(Fig. 5B-E)

Paradorydium michaelseni Jacobi, 1909, Faun. S.W. Austral. Michaelsen u. Hartmeyer 2 : 339.

Cephalelus michaelseni (Jacobi) — Evans, 1966 : 91.

♂♂ lacking hind wings, 5 mm. The whereabouts of the type of this species is unknown. The illustrations are based on a specimen in the author's collection, which, like the type, is from Western Australia and which conforms with Jacobi's description and illustrations.

Linacephalus foveolatus (Signoret) (comb. nov.)

Dorydium foveolatum Signoret, 1880, Annls. Soc. Ent. Fr. (5) 10 : 44, Pl. 1, Fig. 3.

Cephalelus foveolatus (Signoret) — Evans, 1966 : 90.

The type of this species likewise has not been seen and the insect tentatively identified with it has been ascribed to this genus on the basis of Signoret's description and illustrations in particular, on the shape of the apically acute parameres. It differs from the type species in having a considerably longer head and in having subgenital plates which narrow apically.

Linacephalus subreticulatus (Kirkaldy) (comb. nov.)
(Fig. 5A)

Dorycephalus subreticulatus Kirkaldy, 1906, Bull. Hawaii. Sug. Plts. Ass. Exp. Stn. 1 (9): 340.

Cephalelus subreticulatus (Kirkaldy) — Evans, 1966 : 91.

As the holotype of this species is a female it is only tentatively ascribed to this genus.

Notocephalius Jacobi

1909, Faun. S.W. Aust., Michaelsen u. Hartmeyer 2: 339.

Densely punctate insects with white hair-like scales. The anteclypeus is oval, the maxillary plates narrow and the subgenal sutures oblique. The postclypeus, which widens posteriorly, is flat. The antennal bases lie in deep oval depressions and the supra-antennal ledges are modified as triangular lateral depressions. The eyes are prominent and the frontal region is percurrently concave. The apically rounded crown is convex and has an obscure, median, longitudinal ridge. The ocelli, in wingless forms, are functionless (white). The apically acute tegmina are densely punctate and have numerous costal veinlets, and the veins are in relief. The fore femora are swollen and the hind tibiae have small, evenly spaced, marginal spines. In the male genitalia the pygophore, posteriorly, has a broad, apically acute process, and the ninth sternum is rectangular.

Type species — *Notocephalius hartmeyeri* Jacobi

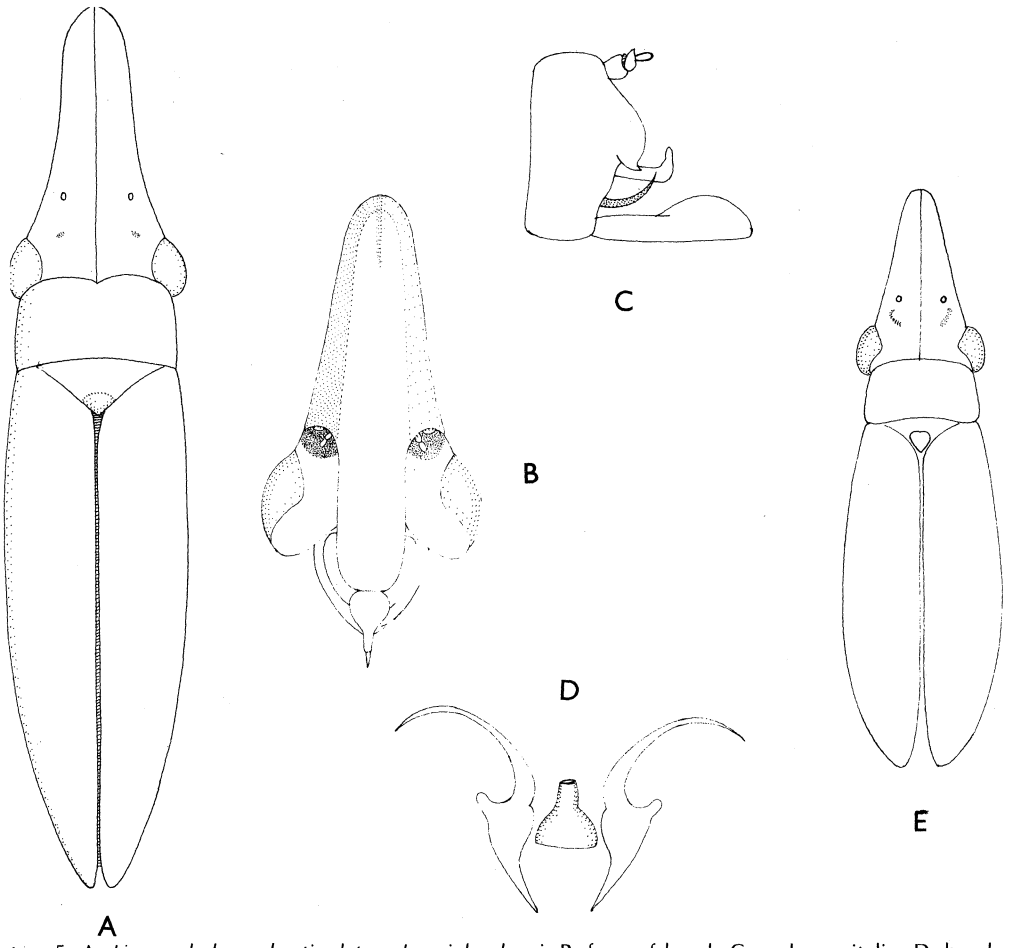

Fig. 5. A, *Linacephalus subreticulatus; L; michaelseni,* B, face of head; C, male genitalia; D, basal connective and parameres; E, whole insect.

Notocephalius hartmeyeri Jacobi
(Fig. 6A-E)

Notocephalius hartmeyeri Jacobi, 1909, Faun. S. W. Aust., Michaelsen u. Hartmeyer 2: 339.

Anacephaleus punctatus Evans, 1937: 45 (syn. nov.)

♀♀ lacking hindwings, 9 mm, head, 4 mm; ♂♂ lacking hindwings, 8.3 mm, head, 3 mm. Previously this species has been incorrectly regarded as a synonym of *Cephalelus marginatus* Waterhouse (Evans, 1966). New locality records: Wyndham, W. Australia, VI-65; Cooper Pedy, S. Australia, VIII-69; Kiata, III-63; Bogan River, X-32, Victoria.

Procephaleus Evans

1937, Pap. Roy. Soc. Tasm. 1936: 43.

Punctate, crown and thorax rugose. The apex of the head is knob-shaped and the face is

finely spinose. The anteclypeus is pear-shaped and the subgenal sutures slightly oblique. The maxillary plates are largely concealed by the lora. The postclypeus is flat and parallel-sided posteriorly and the frontal region is depressed laterally below the level of the vertex. The deep antennal depressions are circular in shape and the supra-antennal ledges consist of prominent, lateral, semi-circular lobes.

Type species — Procephaleus bulbosa Evans.

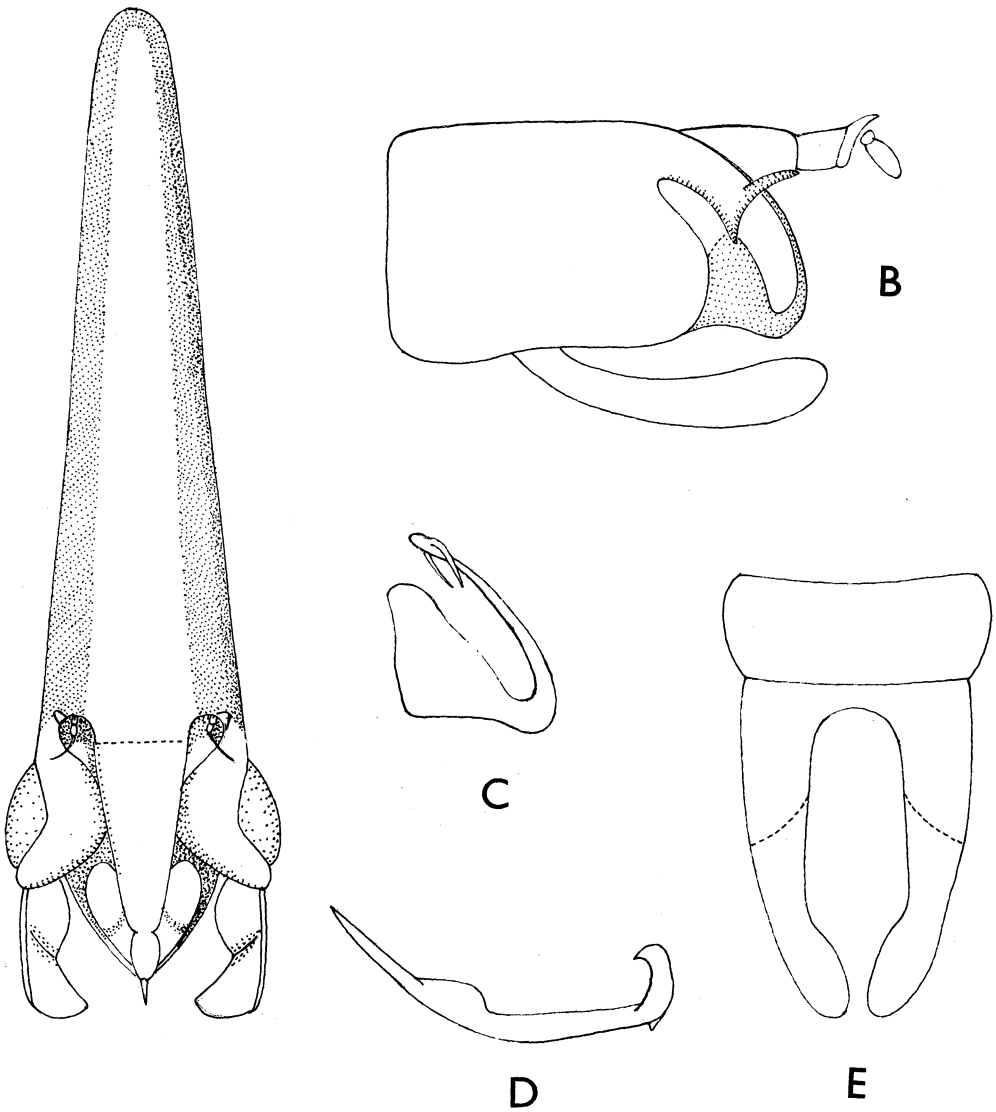

Fig. 6. *Notocephalius hartmeyeri*, A, face of head; B, male genitalia, C, aedeagus; D, paramere; E, ninth sternum and subgenital plate.

Procephaleus bulbosa Evans
(Fig. 7A, B)

Procephaleus bulbosa Evans, 1937, Pap. R. Soc. Tasm. 1936: 43.

Cephalelus bulbosa (Evans) — Evans, 1966: 91.

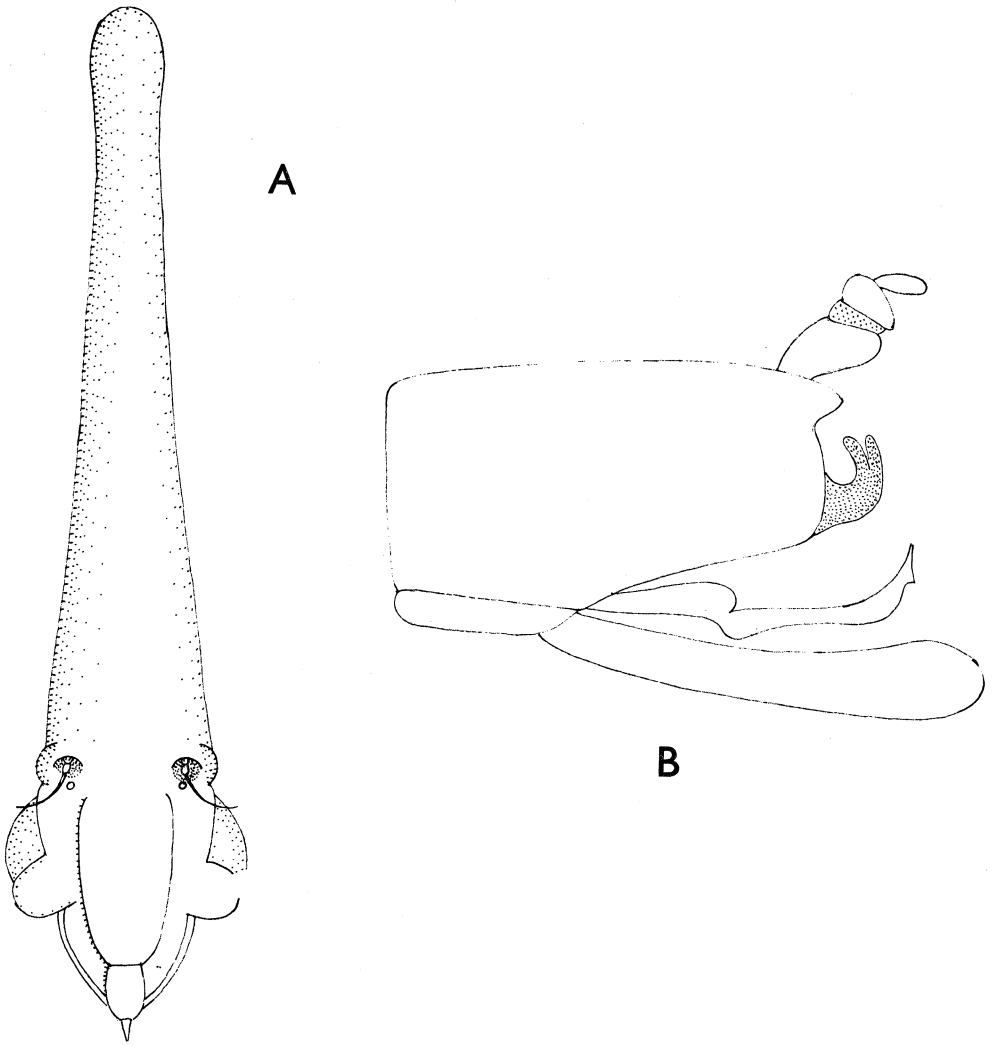

Fig. 7. *Procephaleus bulbosa*, A, face of head; B, male genitalia.

Paracephaleus Evans

1942, Proc. Roy. Soc. Qd. 54: 49.

This genus, which is the only one belonging to the older element of the Australian

cicadellid fauna to be represented also in New Zealand, has recently been re-described (Knight, 1973). The highly specialised species of this genus have characteristic male genitalia.

Type species — *Paracephaleus montanus* Evans

Paracephaleus montanus Evans
(Fig. 8A-E)

Paracephaleus montanus Evans, 1942, Proc. R. Soc. Qd. 54: 50.

Paracephaleus brunneus (Waterhouse)
(Fig. 8I, J)

Cephalelus brunneus Waterhouse, 1839, Trans. ent. Soc. Lond. 2: 195.

Paracephaleus brunneus (Waterhouse) — Evans, 1966: 93.

Paracephaleus marginatus Waterhouse (comb. nov.)
(Fig. 8L-O)

Cephalelus marginatus Waterhouse, 1839, Trans. Ent. Soc. Lond. 2: 195.

Cephalelus marginatus Waterhouse — Evans, 1966: 92

Cephalelus punctatus Evans, 1939: 46 (syn. nov.).

Paracephaleus dobsonensis Evans
(Fig. 8F-H)

Paracephaleus dobsonensis Evans, Aust. Mus. Mem. XII: 93.

Paracephaleus pallidus Evans

Paracephaleus pallidus Evans, 1947, Ann. Mag. Nat. Hist. 14: 146.

Paracephaleus pallidus Evans — Knight, 1973, c.

This species, which formerly has been regarded as a synonym of *P. brunneus* (Evans, 1966) has, according to Knight (1973c), distinctive male genitalia and hence merits specific recognition.

Paracephaleus hudsoni (Myers)
(Fig. 8K)

Cephalelus hudsoni Myers, 1923, Trans. N. Z. Inst. 54: 417.

Cephalelus leptocarpi Myers, 1923: 420.

Paracephaleus hudsoni (Myers) — Evans, 1966: 94.

Paracephaleus hudsoni (Myers) — Knight, 1973c: 952.

This New Zealand species closely resembles *P. montanus* (Knight, 1973c).

Paracephaleus curtus Knight

Paracephaleus curtus Knight, 1973, N. Z. J. Sci. 16: 985.

This New Zealand species closely resembles *P. montanus* (Knight, 1973c).

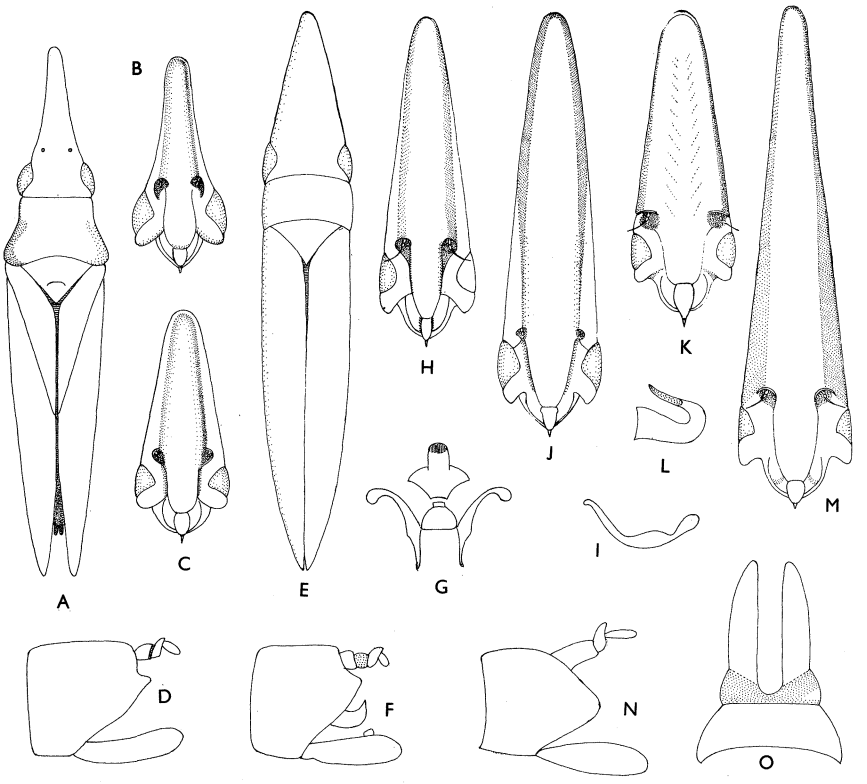

Fig. 8. *Paracephaleus montanus,* A, winged form; B, face of head, winged form; C, face of head, wingless form; D, genital capsule and subgenital plate; E, form lacking hind wings. *P. dobsonensis,* F, male genitalia; G, aedeagus, basal connective and parameres; H, face of head. *P. brunneus,* I, paramere; J, face of head. K, *P. hudsoni,* face of head. *P. marginatus,* L, aedeagus; M, face of head; N, genital capsule and subgenital plate; O, ninth sternum and subgenital plates.

Cephalelus Percheron

Cephalelus Percheron, 1832, Mag. Zool. 9: 48.

Type species — Cephalelus infumatus Percheron.

Because of a shared cephalic characteristic the Australian genera *Notocephalius, Procephalius* and *Anacephaleus* have previously been placed in synonymy with *Cephalelus* (Evans, 1966).

A re-examination of South African species ascribed to this genus suggests they are sufficiently different from any Australian Cephalelini to merit segregation in a separate genus. Thus, in *Cephalelus* spp. subgenal sutures and well-defined supra-antennal ledges are lacking; the tegmina are apically rounded and not acute and in the male genitalia, while the ninth sternum is variously shaped, it is never rectangular, and the tenth segment is of considerable size. The male genitalia of the type species, and of C. *angustatus* Evans and C. *bicoloratus* Evans, have recently been illustrated (Linnavuori, 1972).

NOTES ON THE CEPHALELINI

Since the most generalised Cephalelini are restricted to Australia, which has also the richest and most diverse fauna of these insects; it may be supposed that the group was derived from the Ulopini in the Australian component of Gondwanaland from where it will have spread, via Antarctica, to South Africa and New Zealand.

As a very considerable period of time must have elapsed since populations became isolated in these three separate land areas it might be anticipated that their isolation would have been accompanied by marked generic differentiation.

While this has occurred in Australia and, to a lesser extent, in South Africa, it has not happened in New Zealand. Moreover, not only do the two species recorded from New Zealand belong to a genus (*Paracephaleus*) represented also in Australia but each is closely related to an Australian species (Knight, 1973, c). Furthermore, the genus *Paracephaleus* is a highly specialised one unlike, for example, the New Zealand genus representative of another ancient Australian group of leafhoppers, the Thymbrini. This genus (*Novothymbris*) seems to lie close to the base of its particular tribal stem, and hence, presumably represents an ancient faunal association.

MYERSLOPIINI

As has already been mentioned, Linnavuori, in a recent paper (1972), has given this group of relict leafhoppers subfamily status on the grounds that they have several distinctive characteristics not shared with the Ulopini. At the same time he has acknowledged that they are 'evidently derived from the Ulopinae stock'.

The Myerslopiini are here retained as a tribe of the Ulopinae on the basis of arguments advanced previously (Evans, 1968) and because such an arrangement serves best to express their probable relationships. Furthermore, if they were to be given subfamily rank, then it would mean the equally distinctive Monteithiini, which are confined to New Guinea, would need to be similarly treated. The last-named tribe, which Linnavuori accepts as belonging to the Ulopinae on the basis of their cephalic and hind tibial structure, share with the Myerslopiini the character of having rudimentary pronotal paranota.

In the same paper *Evansiola* China is listed as belonging to the Megophthalminae (Linnavuori, 1972). This genus is, however, a component of the Myerslopiini (Evans, 1968).

The first representative of the Myerslopiini to be recorded from Australia is described below.

Myerslopella gen. nov.

Minute cicadellids having the greater part of the external surface punctate and covered with small white hairs and papillae. On the face of the head the labium extends to between the middle and hind coxae and the parallel-sided anteclypeus is anteriorly depressed. The postclypeus and the frontal region are medially depressed. The maxillary plates are wide and the antennae, which have two large basal segments, are long. The laterally situated antennal ledges are in continuous alignment with the sides of the postclypeus. A pair of deep channels between the anterior margins of the eyes and the base of the maxillary plates extends from the antennal depressions to the sides of the head. The crown of the head, which is apically spatulate, is medially depressed. Ocelli are lacking. The pronotum is medially elevated and laterally depressed and the lateral margins consist of a pair of small backwardly-projecting lobes. The brachypterous tegmina are postero-medially depressed. The fore and middle tibiae have numerous small, stout spines; the hind femora lack apical spines and the heavily spined hind tibiae have six spines in the row of strongest spines. The

abdomen, which is globose, has a series of three pairs of prominent crests, the median pairs being situated on abdominal segments 2-5; the dorso-lateral pairs on segments 2-4 and the lateral pairs on segments 2 and 3.

Type species — Myerslopella taylori n. sp.

Myerslopella resembles *Myerslopia* Evans (New Zealand), *Paulianiana* Evans (Madagascar) and *Evansiola* China (in particular *E. selkirki* Evans (Juan Fernandez Island)), in having an extensive flattened crown and small lateral pronotal paranota. It resembles *Paulianana* and *Evansiola* (*E. kuscheli* China) in having prominent crests on several of its abdominal segments and the last named species also in having two-segmented tarsi (a juvenile characteristic). It differs from the two last named genera in the crests being laterally, and not medially, situated and from all previously described genera in having broad maxillary plates and antennae situated close to the anterior margins of the eyes.

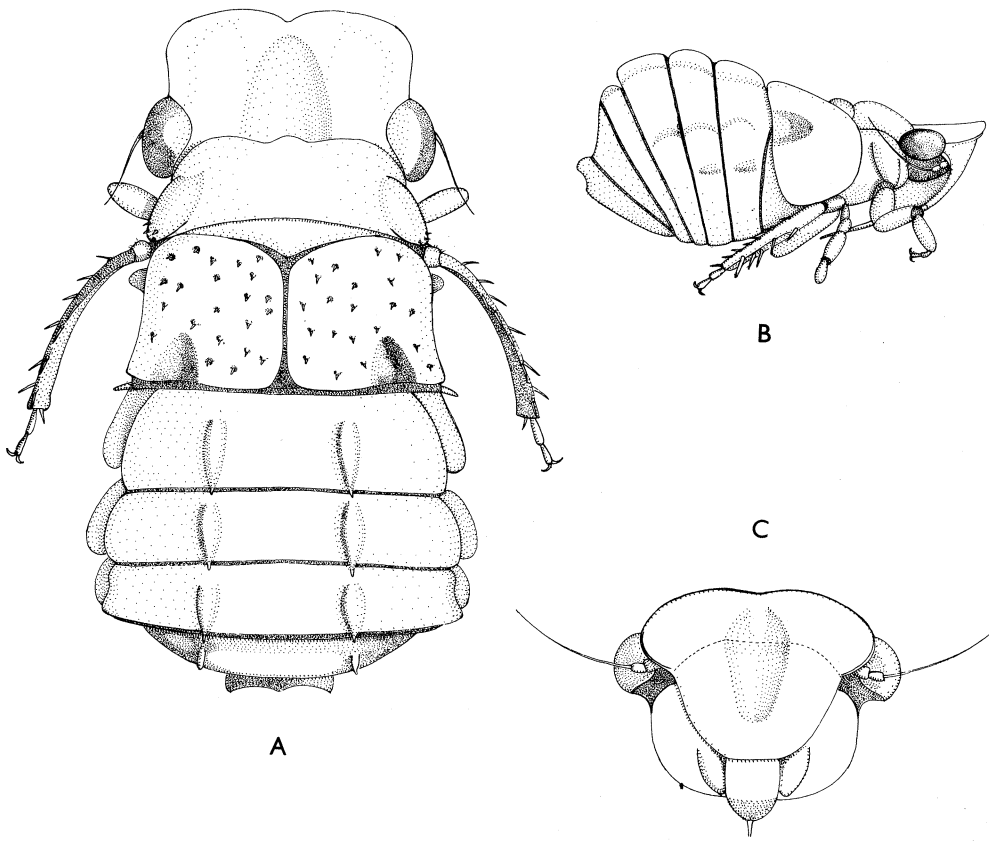

Fig. 9. *Myerslopella taylori,* A, in dorsal aspect; B, lateral aspect; C, face of head.

Myerslopella taylori sp. n.
(Fig. 9A-C)

Length, ♀, 1.8mm. General coloration, shining brown. Crown of head extensive, approximately rectangular in shape. Tegminal lobes pad-like, heavily pitted. Legs with two

tarsal segments. Abdominal crests with white hairs and papillae and small white processes apically.

Holotype ♀. Mt. Lewis, 1,060 m, Queensland, 20. VI. 71. Coll. R. Taylor and J. Feehan and extracted from forest-floor litter by G. F. Monteith, in A. N. I. C., Canberra.

SPECIES DESCRIBED FROM NEW ZEALAND SINCE EVANS, 1966

Myerslopia insularis Knight

N. Z. Jl. Sci. 16: 992, 1973.

Type Locality — Waimoa West, Nelson Province.

Type Location — D. S. I. R. Entomology Division, Auckland.

Myerslopia similis Knight

N. Z. Jl. Sci. 16: 994, 1973.

Type Locality — Mount Hercules, Westland Province.

Type Location — D. S. I. R. Entomology Division, Auckland.

Myerslopia montis Knight

N. Z. Jl. Sci. 16: 994, 1973.

Type Locality — Mount Stokes, Marlborough Province.

Type Location — D. S. I. R. Entomology Division, Auckland.

Myerslopia bifurcata Knight

N. Z. Jl. Sci. 16: 994, 1973.

Type Locality — Waitakere Range, Auckland Province.
Type Location — D. S. I. R. Entomology Division, Auckland.

Myerslopia townsendi Knight

N. Z. Jl. Sci. 16: 995, 1973.

Type Locality — Lake Wahapo, Auckland Province

Type Location — D. S. I. R. Entomology Division, Auckland.

Myerslopia variabilis Knight

N. Z. Jl. Sci. 16: 997, 1973.

Type Locality — Takaka Hills, Nelson Province.

Type Location — D. S. I. R. Entomology Division, Auckland.

Myerslopia aspersa Knight

N. Z. Jl. Sci. 16: 998, 1973.

Type Locality — Otaki Forks, Wellington Province.

Type Location — D. S. I. R. Entomology Division, Auckland.

Myerslopia terrestris Knight

N. Z. Jl. Sci. 16: 1000, 1973.

Type Locality — Orongorongo F.S., Wellington Province.

Type Location — D.S.I.R. Entomology Division, Auckland.

Myerslopia verrucosa Knight

N. Z. Jl. Sci. 16: 1000, 1973.

Type Locality — Bruce Park, Hunterville, Wellington Province.

Type Location — D.S.i.R. Entomology Division, Auckland.

Myerslopia triregia Knight

N. Z. Jl. Sci. 16: 1005, 1973.

Type Locality — Three Kings Island.

Type Location — D.S.I.R. Entomology Division, Auckland.

THE ANTIQUITY OF THE MYERSLOPIINI

In several previous publications the Ulopinae[1] have been referred to as a 'relict group' (e.g. Evans, 1968). This designation has been based on a balanced consideration of morphological characteristics and distributional factors.

Their supposedly primitive structural features are as follows:

(a) The retention of subgenal sutures in the head and the situation of the maxillary sensory pits close to these sutures (Ulopini, Cephalelini, some Monteithiini).

(b) The presence of small pronotal paranota (Monteithiini, some Myerslopiini).

(c) The angulate condition of vein CuA, proximally, in the tegmen (a few Ulopini, e.g. *Coloborrhis rugosa* Evans).

(d) The bisegmented condition of the subgenital plates (some Ulopini, Cephalelini and Monteithiini).

The Myerslopiini retain only one of these supposedly primitive characteristics and, in some respects, they are the most highly specialised of all the Ulopinae. Thus, not only are subgenal sutures lacking but in some species (eg. *M. taylori*), the maxillary plates are widely exposed. Furthermore, the hind tibiae are heavily spined and in the male genitalia of *Myerslopia* spp. the ninth sternum is continuous with the basally-fused subgenital plates and also the pygophore laterally (Knight, 1973, c).

In spite of their lack of primitive features and their possession of several highly specialised ones, it is suggested, because of the very considerable differences which separate genera and because of their particular geographical occurrences, that the Myerslopiini may possibly be the most ancient of all the several extant tribes of the Ulopinae.

1 Because of continued uncertainty as to the position of the Megophthalmini, they are here excluded from consideration.

LEDRINAE
NEW GENERA AND SPECIES DESCRIBED FROM AUSTRALIA SINCE EVANS, 1966
LEDRINI

Ezrana primitiva Evans

Pacif. Ins. 11: 735, 1969.

Type Locality — Cairns, N. Queensland.

Type Location — Australian Museum.

Platyledra caldida Evans

Pacif. Ins. 11: 736, 1969.

Type Locality — Mr. Kosciusko, New South Wales.

Type Location — Australian Museum.

NOTES ON THE LEDRINI

Petalocephala bohemani Stål.

This species, of which *Rubria ingens* (Kirkaldy) is a synonym, is the sole representative of the Oriental genus *Petelocephala* Stål to have been recorded from Australia. The allied genus *Rubria* Stål which, in Part I, was said to have an Oriental and Australian distribution is, apart from sparse representation in New Guinea, apparently confined to Australia. A Key defining the characteristics of these genera has been given (Evans, 1969, b).

THYMBRINI

Putoniessiella Evans

Pacif. Ins. 11: 746, 1969.

Type species — *Putoniessiella sagitta* Evans.

Putoniessiella sagitta Evans

Pacif. Ins. 11: 746, 1969.

Type Locality — Tammin, Western Australia.

Type Location — British Museum.

Thymbrella Evans

Pacif. Ins. 11: 747, 1969.

Type species — *Thymbrella tamminensis* Evans

Thymbrella tamminensis Evans

Pacif. Ins. 11: 747, 1969.

Type Locality — Tammin, Western Australia.

Type Location — British Museum.

Microledrella Evans

Pacif. Ins. 11: 745, 1969.

Type species — *Microledrella minuta* Evans.

This genus is seemingly closely related to the genera *Ledrella* Evans and *Novothymbris* Evans and, like them, may lie close to the base of the thymbrid stem.

Microledrella minuta Evans

Pacif. Ins. 11: 745, 1969.

Type locality — Wissel Lakes, N.W. New Guinea.

Type Location — Bishop Museum.

Macroceps moorei Evans

Pacif. Ins. 11: 746, 1969.

Type Locality — Yanchep, Western Australia.

Type Location — Australian Museum.

Epipychidion fides Evans

Pacif. Ins. 11: 749, 1969.

Type Locality — Berowra Waters, New South Wales.

Type Location — Australian Museum.

Epipychidion whitteni Evans

Pacif. Ins. 11: 749, 1969.

Type Locality — Bruni Island, Tasmania.

Type Location — Australian Museum.

Putoniessa turneri Evans

Pacif. Ins. 11: 749, 1969.

Type Locality — Yanchep, Western Australia.

Type Location — British Museum.

Hackeriana elangatula Evans

Pacif. Ins. 11:749, 1969.

Type Locality — King George's Sound, Western Australia.

Type Location — British Museum.

SPECIES DESCRIBED FROM NEW ZEALAND SINCE EVANS, 1966

Novothymbris notata Knight

N. Z. Jl. Zool. 1: 457, 1974.

Type Locality — Whangarei, Auckland Province.

Type Location — British Museum.

Novothymbris punctata Knight

N. Z. Jl. Zool. 1: 458, 1974.

Type Locality — Wellington, Wellington Province.

Type Location — D.S.I.R. Entomology Division, Auckland.

Novothymbris tararua Knight

N. Z. Jl. Zool. 1: 459, 1974.

Type Locality — Tararua Range, Mt. Alpha, Wellington Province.

Type Location — British Museum.

Novothymbris peregrina Knight

N. Z. Jl. Zool. 1: 462, 1974.

Type Locality — Eglinton Valley, Otago Province.

Type Location — D.S.I.R. Entomology Division, Auckland.

Novothymbris cithara Knight

N. Z. Jl. Zool. 1: 460, 1974.

Type Locality — Westport, Nelson Province.

Type Location — D.S.I.R. Entomology Division, Auckland.

Novothymbris vagans Knight

N. Z. Jl. Zool. 1: 462, 1974.

Type Locality — Hunter Mountain, Otago Province.

Type Location — D.S.I.R. Entomology Division, Auckland.

Novothymbris notialis Knight

N. Z. Jl. Zool. 1: 463, 1974.

Type Locality — Mt. Rakeahua, Stewart Island.

Type Location — D.S.I.R. Entomology Division, Auckland.

Novothymbris castor Knight

N. Z. Jl. Zool. 1: 464, 1974.

Type Locality — L. Mahinerangi, Otago Province.

Type Location — D.S.I.R. Entomology Division, Auckland.

Novothymbris pollux Knight

N. Z. Jl. Zool. 1: 466, 1974.

Type Locality — McLennan's Bush, Canterbury Province.

Type Location — D.S.I.R. Entomology Division, Auckland.

Novothymbris eylesi Knight

N. Z. Jl. Zool. 1: 468, 1974.

Type Locality — Mt. Snowflake, Marlborough Province.

Type Location — D.S.I.R. Entomology Division, Auckland.

Novothymbris extremitatas Knight

N. Z. Jl. Zool. 1: 470, 1974.

Type Locality — Spirits Bay, Auckland Province.

Type Location — D.S.I.R. Entomology Division, Auckland.

Novothymbris solitaria Knight

N. Z. Jl. Zool. 1: 471, 1974.

Type Locality — Awatotara, Chatham I.

Type Location — D.S.I.R. Entomology Division, Auckland.

NOTES ON THE THYMBRINI

Hackeriana Evans

In Part I (p. 128), it was stated that this genus superficially resembled *Neotartessus* gen. nov. This was an error caused by the use of a manuscript name which should be replaced by *Stenotartessus* Evans.

Novothymbris spp.

N. dunensis (Myers) has been placed in synonymy with *N. hinemoa* (Myers) and *N. hudsonensis* (Myers) with *N. maorica* (Myers), (Knight, 1974, a).

HECALINAE
A NEW GENUS AND NEW SPECIES DESCRIBED FROM AUSTRALIA SINCE EVANS, 1966
HECALINI

Micrelloides Evans

Pacif. Ins. 15: 189, 1973.

Type species — *Micrelloides molaris* Evans.

Micrelloides molaris Evans

Pacif. Ins. 15: 189, 1973.

Type Locality — Millstream area, Western Australia.

Type Location — Australian Museum.

SPECIES DESCRIBED FROM NEW ZEALAND SINCE EVANS, 1966
PARADORYDIINI

Paradorydium sertum Knight

N.Z.Jl. Sci. 16: 966, 1973.

Type Locality — Mount Coronet, Queenstown.

Type Location — D.S.I.R. Entomology Division, Auckland.

Paradorydium aculeatum Knight

N.Z.Jl. Sc. 16: 966, 1973.

Type Locality — Mount Bitterness, Otago Province.

Type Location — D.S.I.R. Entomology Division, Auckland.

Paradorydium watti Knight

N.Z.Jl. Sc. 16: 967, 1973.

Type Locality — Awatere Valley, Marlborough Province.

Type Location — D.S.I.R. Entomology Division, Auckland.

Paradorydium cuspis Knight

N.Z.Jl. Sc. 16: 968, 1973.

Type Locality — Mt Arthur, Nelson Province.

Type Location — British Museum.

Paradorydium narrabrensis sp. n.
(Fig. 10)

Length, ♀, 7.7 mm; of crown, 2 mm. Dorsal surface, pale straw colour. Head spatulate, slightly curving upwards apically. Face, frontoclypeus convex, tapering posteriorly; vertex concave apically. Crown and pronotum punctate, the coronal suture forming a low ridge. Tegmen pale hyaline brown; veins pale brown, prominent; clavus punctate. Holotype ♀,

Waiwera, Narrabri, N. S. W., 4-XI-74, P. M. Room, on cotton, in the A. N. I. C., Canberra. One Paratype, sex unknown, in author's collection. *P. narrabrensis* differs, in the shape of the head, from all other described species of *Paradorydium* Kirkaldy.

NOTES ON THE PARADORYDIINI

Paradorydium stewartensis Evans has been placed in synonymy with *P. philpottii* Myers. It has been noted that the type locality is Stephens Island and not Stewart Island as previously recorded and that the holotype of *P. gourlayi* is a female and not a male insect (Knight, 1973, b).

APHRODINAE

Kosmiopelix Kirkaldy: *Euacanthella* Evans

The above genera were assigned to this subfamily in Part I. Recently, it has been shown that neither have close affinity with *Aphrodes* Curtis.

Kosmiopelix has been placed in synonymy with *Chiasmus* Mulsant and Rey (Deltocephalinae) and *Euacanthella* assigned to a new subfamily, the Euacanthellinae. In addition, *Euacanthella brunnea* Evans, described from New Zealand, has been shown to be a synonym of the Australian species, *E. palustris* Evans and *E. bicolor* Evans, formerly regarded as a synonym of *E. palustris,* has been reinstated as a separate species (Evans, 1974).

The Aphrodinae, accordingly, may be assumed to lack representation in both Australia and New Zealand.

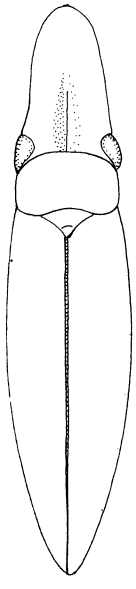

Fig. 10. *Paradorydium narrabrensis*

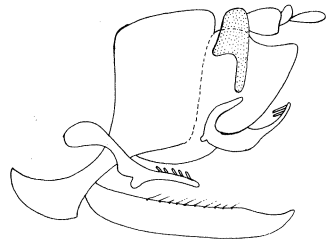

Fig. 11. *Austroagalloides moorei,* male genitalia

CICADELLINAE
CICADELLINI

Tettigonia albomarginata Signoret

This species, which in Part I was tentatively referred to the genus *Kolla* Distant, has in Japan, whence it has also been recorded, been referred to the genus *Ishidaella* Matsumura. The Japanese insect differs from Australian species in being considerably smaller and in the male lacking a pale tegminal costal margin. Ishihara has suggested that Japanese specimens identified as *T. albomarginata* should more correctly be referred to as *Ishidaella atramentaria* (Motschulsky) (Ishihara, 1967, 1971).

NIRVANINAE
NIRVANINI

Pseudonirvana Baker

This genus (type species, *P. sandakanensis* Baker) is a synonym of *Sophonia* Walker (type species, *S. rufitelum* Walker) (new synonymy).

MACROPSINAE
SPECIES DESCRIBED FROM AUSTRALIA SINCE EVANS, 1966

Macropsis gearyi Evans

Pacif. Ins. 13: 355, 1971.

Type Locality — Carnarvon, Queensland.

Type Location — Australian Museum.

Macropsis bella Evans

Pacif. Ins. 13: 356, 1971.

Type Locality — Albany, Western Australia.

Type Location — Australian Museum.

Macropsis nikitini Evans

Pacif. Ins. 13: 356, 1971.

Type Locality — Warwick Farm, New South Wales.

Type Location — Australian Museum.

Macropsis emmae Evans

Pacif. Ins. 13: 357, 1971.

Type Locality — Braidwood, New South Wales.

Type Location — Australian Museum.

Macropsis bunyensis Evans

Pacif. Ins. 13: 358, 1971.

Type Locality — Bunya Mts., Queensland.

Type Location — Australian Museum.

Macropsis mandurae Evans

Pacif. Ins. 13: 358, 1971.

Type Locality — Mandurah, Western Australia

Type Location — Australian Museum.

NOTES ON THE MACROPSINAE

Macropsis evansi Metcalf

The above is the correct name of the insect referred to in Part I as *M. occidentalis* Evans (Metcalf, 1966).

Macropsis fergusoni Evans

The male genitalia have been illustrated (Evans, 1971).

AGALLIINAE

It was stated in Part I that this subfamily was represented in New Guinea. It would seem, however, that the sole species to occur in the island is *Austroagallia torrida* Evans. This species, which is widespread in Australia, where presumably it is an introduction, is a vector of rugose leaf curl of clover (Neilson, 1968; Evans, 1971).

AUSTROAGALLOIDINAE

Austroagalloides moorei sp. n.
(Fig. 11)

Length, ♂, 6 mm; ♀, 6.8-7 mm. Overall coloration, bright yellow. Crown of head, bearing the ocelli, transversely convex and steeply declivous. Lateral muscle impressions on scutellum, mottled brown. Male genitalia as in Fig. 11.

Holotype ♂and Allotype ♀, Ord River Diversion Dam, Western Australia, VII-74, K. M. Moore, in the Australian Museum. Other localities, Eldo, 8 miles S. of Gove Airport, N. T.; Darwin, N. T.; Marginup, W. A.

A. moorei differs from other described species of *Austroagalloides* in its distinctive coloration. While its male genitalia are similar to those of *A. brunneus* Evans in general features, they differ in the shape of the ventral extension of the tenth abdominal segment and of the median dorsal section of the aedeagus. Moreover, unlike *A. brunneus, A. moorei* is not sexually dimorphic.

NOTES ON THE AUSTROAGALLOIDINAE SUGGESTED AFFINITIES WITH THE EURYMELIDAE

In a recent paper it has been suggested that the Austroagalloidinae are related to the Eurymelidae (Davis, 1975). This opinion is based on a comparative study of the female genitalia and the metathoracic legs of representatives of these, and of a few other, selected groups of leafhoppers.

Other, supposedly more significant, structural features lend no support to this suggestion. These features in respect to both groups were described and illustrated in Part I.

IDIOCERINAE
NEW RECORD FROM NEW ZEALAND

Idiocerus decimquartus (Schrank)

This insect, which is widely distributed in the Holarctic region, has become established in New Zealand (Knight, 1974, b).

TARTESSINAE

The Tartessinae are of unusual interest in being the sole group of leafhoppers occurring in Australia to have become adapted to both xerophytic and tropical rain forest conditions. Their ability to colonise the last named environment has enabled their northward extension into New Guinea and the Oriental region where prolific speciation has taken place. Currently the group is being studied by F. Evans.

Tartessoides griseus Evans

The holotype is a male, and not a female insect, as stated in the original description (Evans, 1937, b). The heads of the latter sex, unlike those of the males, are narrowly produced (Evans, 1975). A new locality record for this species is Simpson's Gap, Northern Territory.

JASSINAE
JASSINI
SPECIES DESCRIBED FROM AUSTRALIA SINCE EVANS, 1966

Batracomorphus brooksi Evans

Pacif. Ins. 14: 654, 1972.

Type Locality — Kuranda, N. Queensland.

Type Location — Australian Museum.

Batracomorphus samii Evans

Pacif. Ins. 14: 655, 1972.

Type Locality — Cairns, N. Queensland.

Type Location — Australian Museum.

Batracomorphus fasciatus Evans

Pacif. Ins. 14: 655, 1972.

Type Locality — Cairns, N. Queensland.

Type Location — Australian Museum.

NOTES ON THE JASSINI

Batracomorphus Lewis

In Part I this generic name was given throughout, incorrectly, as *Batrachomorphus*. The correct reference to the original description is Trans. Ent. Soc. Lond. 1836, 1: 51, and not as shown in Part I (p. 203)

Batracomorphus sontiates (Kirkaldy)

The male genitalia have been illustrated (Evans, 1972, b).

Batracomorphus angustatus (Osborn)

This Western Pacific species has been recorded from New Zealand (Knight, 1974, b).

PENTHIMIINAE
A NEW GENUS AND NEW SPECIES DESCRIBED FROM AUSTRALIA SINCE EVANS, 1966

Tomaloides Evans

Pacif. Ins. 14: 177, 1972.

Type species — *Tomaloides shepherdi* Evans

Tomaloides shepherdi Evans

Pacif. Ins. 14: 178, 1972.

Type Locality — Broken Hill, New South Wales.

Type Location — Australian Museum.

Chinaella pingellensis Evans

Pacif. Ins. 14: 176, 1972.

Type Locality — Pingelly, S.W. Australia.

Type Location — Australian Museum.

Platyscopus moorei Evans

Pacif. Ins. 14: 196, 1972.

Type Locality — Coolgardie, Western Australia.

Type Location — Australian Museum.

NOTES ON THE PENTHIMIINAE

In a recent review of this subfamily several changes in nomenclature were made (Evans, 1972, a). These are as follows: —

The following species referred in Part I to the genus *Neodartus* Melichar have been transferred to *Vulturnus* Kirkaldy; *brunneus* (Evans), *lapsus* (Evans), *maculosus* (Evans) and *pallidus* (Evans). The species originally described as *Thaumatoscopus dunkenis* Evans has also now been referred to this genus.

The following species referred, in Part I, to *Vulturnus* Kirkaldy have been transferred to *Neovulturnus* Evans: *vaecors* (Kirkaldy), *vanduzeei* (Kirkaldy) (incorrectly given as *vanduzei* in Part I), *vaedulcis* (Kirkaldy), *vappa* (Kirkaldy), *vultuosus* (Kirkaldy), *hackeri* (Evans), *montanus* (Evans), *punctulatus* (Evans), *sordidus* (Evans).

As the genus *Vulturnellus* Evans has been shown to be a synonym of *Neodartus* the

species described in Part I as *Vulturnellus shephardi* becomes *Neodartus shephardi* (Evans, 1972, a).

Ectopiocephalus vanduzeei Kirkaldy

This name was incorrectly given in Part I as *E. vanduzei.*

DRABESCINAE
A NEW SPECIES DESCRIBED FROM AUSTRALIA SINCE EVANS, 1966

Drabescus palmerstoni Evans

Pacif. Ins. 14: 199, 1972.

Type Locality — Palmerston National Park, Queensland.

Type Location — Queensland Museum.

NOTES ON THE DRABESCINAE

A reference given to a paper in Part I (p.220), relating to this subfamily, should have been accompanied by the date 1953, not 1951.

DELTOCEPHALINAE
NEW GENERA AND NEW SPECIES DESCRIBED FROM NEW ZEALAND SINCE EVANS, 1966
DELTOCEPHALINI[1]

Limotettix pallidus Knight

N. Z. Jl. Zool. 2: 173, 1975.

Type Locality — Tasman Valley, Canterbury Province.

Type Location — D.S.I.R. Entomology Division, Auckland.

Limotettix condylus Knight

N. Z. Jl. Zool. 2: 175, 1975.

Type Locality — Spirits Bay, Auckland Province.

Type Location — D.S.I.R. Entomology Division, Auckland.

Limotettix harrisi Knight

N. Z. Jl. Zool. 2: 175, 1975.

Type Locality — Ohakune, Wellington Province.

Type Location — British Museum.

Arawa Knight

N. Z. Jl. Zool. 2: 176, 1975.

Type species — *Arawa variegata* Knight.

1 See remarks in Part I, p. 222, on the recognition of the components of this tribe.

Arawa variegata Knight

N. Z. Jl. Zool. 2:178, 1975.

Type Locality — Richmond Range, Nelson Province.

Type Location — D. S. I. R. Entomology Division, Auckland.

Arawa salubris Knight

N. Z. Jl. Zool. 2: 180, 1975.

Type Locality — Tasman Valley, Canterbury Province.

Type Location — D. S. I. R. Entomology Division, Auckland.

Arawa dugdalei Knight

N. Z. Jl. Zool. 2: 181, 1975.

Type Locality — Altimarlock, Marlborough Province.

Type Location — D. S. I. R. Entomology Division, Auckland.

Arawa pulchra Knight

N. Z. Jl. Zool. 2: 185, 1975.

Type Locality — Ohakune, Wellington Province.

Type Location — British Museum.

Arahura Knight

N. Z. Jl. Zool. 2: 185, 1975.

Type species — *Arahura reticulata* Knight

Arahura reticulata Knight

N. Z. Jl. Zool. 2: 186, 1975.

Type Locality — Mt. Burns, Otago Province.

Type Location — D. S. I. R. Entomology Division, Auckland.

Arahura gourlayi Knight

N. Z. Jl. Zool. 2: 188, 1975.

Type Locality — Stephens Island.

Type Location — D. S. I. R. Entomology Division, Auckland.

Arahura dentata Knight

N. Z. Jl. Zool. 2: 189, 1975.

Type Locality — Cuvier Island.

Type Location — Auckland Museum.

Deltocephalus (Recilia) vetus Knight

N. Z. Jl. Zool. 2: 203, 1975.

Type Locality — Tasman Valley, Mt. Cook National Park, Canterbury Province.

Type Location — D.S.I.R. Entomology Division, Auckland.

Scaphetus simus Knight

N. Z. Jl. Zool. 2: 196, 1975.

Type Locality — Nelson, Nelson Province.

Type Location — D.S.I.R. Entomology Division, Auckland.

Horouta Knight

N. Z. Jl. Zool. 2: 205, 1975.

Type species — *Horouta inconstans* Knight

Horouta inconstans Knight

N. Z. Jl. Zool. 2: 206, 1975.

Type Locality — Mt. Cook National Park, Canterbury Province.

Type Location — D.S.I.R. Entomology Division, Auckland.

PLATYMETOPIINI

Stenogiffardia gen. nov.

The head is roundly and narrowly produced and may be upwardly curved apically and ventrally carinate. On the face, the wide maxillary plates are evenly rounded externally. The lateral sutures of the frontoclypeus diverge posteriorly and the antennal ledges are obscure. The antennae do not extend as far as the sides of the head. The ocelli are on the sides of the head adjacent to the lateral frontal sutures and close to the eyes. The pronotum, laterally, widely separates the eyes from the bases of the tegmina. The tegmina may be fully developed or reduced to small pads. In forms with fully developed tegmina M1+2 proximally of its junction with Rs, is unusually long and the appendix continues around the apex of the tegmen to the costal margin. The hind tibiae are strongly spinose.

Type species — *Stenogiffardia elongata* sp. n.

Stenogiffardia resembles *Giffardia* Kirkaldy (Fig. 12D-F) in having a narrowly produced head and in the female, the abdomen extending well beyond the apices of the folded tegmina. It differs in having a considerably longer head; in the crown being transversely convex and not dorsally flattened and, in antennal length.

Stenogiffardia elongata sp. n.
(Fig. 12A-C)

Length, brachypterous ♀, 8.6 mm; fully winged ♀, 7 mm; of head, 2.2; 2 mm. General coloration, pale yellowish-brown. Apex of crown of head, medially depressed, laterally carinate. Tegminal pads in brachypterous forms, dull yellowish-brown; tegmina of fully winged forms, vitreous. Holotype, brachypterous ♀, Richmond, N. W. Queensland, 23-VIII-65, coll. T. E. Woodward, in the Queensland Museum.

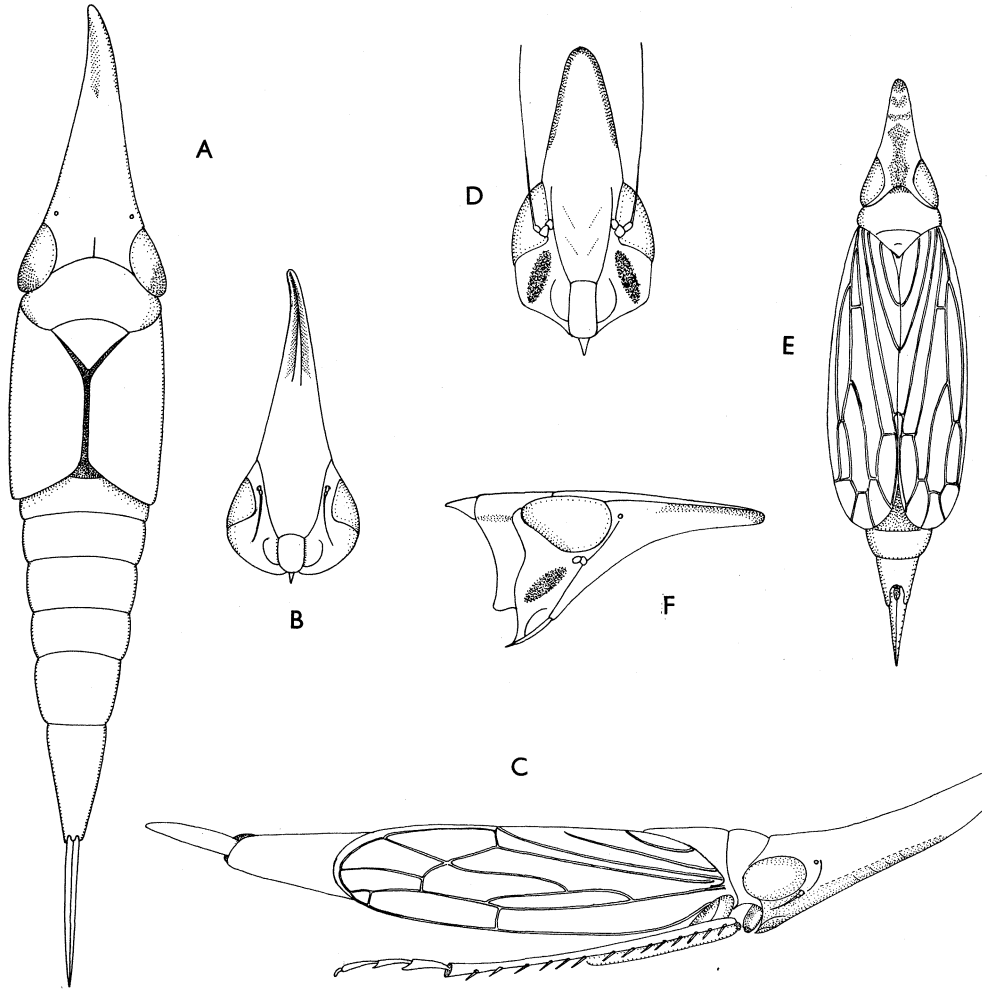

Fig. 12. *Stenogiffardia elongata*, A, brachypterous ♀; B, face of head; C, fully winged ♀. *Giffardia dolichocephala*, D, face of head; E, ♀, in dorsal aspect F, head and thorax in profile.

NOTES ON THE DELTOCEPHALINAE

Reasons for the difficulties associated with the identification of Australian Deltocephalinae have been given previously (Part I, p. 222). In the notes that follow particulars are given of changes in nomenclature and of new knowledge acquired since December, 1965.

Jassus detractus Walker (1858)

The type locality of this insect which was omitted from Part I, and which Metcalf (1964) referred to the genus *Coelidia*, is Tasmania. Dr. M. Ghauri, who has examined the holotype in the British Museum at my request, is of the opinion that it belongs to, or near, *Euscelis* Brullé.

Limotettix awae (Myers)

This insect, which was described from New Zealand by Myers (1924) as *Cicadula awae* and which has been referred to *Limotettix* by Knight (1975), was omitted from Part I.

Opsius stactogalus (Fieber)

O. stactogalus, which feeds on *Tamarisk*, and has a more or less cosmopolitan distribution, has not previously been recorded from Australia. Recently specimens were taken in a light trap in Perth, Western Australia.

Orosius Distant

It was stated in a footnote on page 234 of Part I that this genus was being currently revised. The Revision referred to has now been published (Ghauri, 1966). More recently Linnavuori (1975), has noted that Ishihara (1963) has redescribed *Orosius argentatus* (Evans) and identified it as *Eutettix orientalis* Matsumura (1914). As there is, however, some doubt as to whether the Australian and Japanese insects are truly conspecific, the name *O. argentatus* for the time being is best retained.

Exitianus Ball

This genus has recently been revised by Ross (1968). As a result some changes in nomenclature need to be noted.

Since it is impossible to associate the female holotype of *Athysanus capicola* Stål with any species recognized on male genitalia characteristics, the insect referred to in Part I as *Exitianus capicola* Stål should be known as *E. plebeius* (Kirkaldy). It is possible that *E. pallida* (Evans) and *E. selbyi* (Evans), of which the types likewise are females, may be synonyms of *E. plebeius*. It was stated in Part I that the type of *E. pallida* was in the Australian Museum, whereas, in fact, it is in the South Australian Museum.

According to Ross neither *Nephotettix contemptus* Kirkaldy nor *N. eurytus* Kirkaldy, which in Part I, were referred to *Exitianus*, belong to this genus. It is possible they belong to *Hybrasil* Kirkaldy (type species: *H. brani* Kirkaldy), as may also the insect recorded in Part I as *Carvaka fulvida* Evans.

Nephotettix apicalis (Motschulsky)

Recently Ghauri (1971) stated that the correct name of the insect recorded as above in Part I was *Nephotettix nigropictus* (Stål). Subsequently, following an examination of Motschulsky's types, Vilbaste (1975), has sunk this specific name as a synonym of *Nephotettix nigromaculatus* (Motschulsky).

Phrynophyes Kirkaldy: *Campbellinella* Distant.

According to Vilbaste (1965) the above genera are synonyms of *Aconura* Lethierry. The same author has suggested that *Aconura fatigandus* (Kirkaldy), referred to in Part I as *Campbellinella fatigandus,* may be a synonym of *Aconura grandis* Matsumura (1914), also that *Anemochrea* Kirkaldy may likewise be a synonym of *Aconura* (personal communication, 1975).

Hishimonus Ishihara

In Part I *Eutettix passiflorae* Evans was placed in synonymy with *Hishimonus disciguttus* (Walker). According to Knight (1970, b) the last named species does not belong to the genus *Hishimonus* and he has referred it to a new genus *Litura* Knight, which, apparently, is not represented in Australia. Accordingly, the current name of the insect referred to in Part I as *Hishimonus disciguttus* is *H. passiflorae* (Evans) (Knight, 1970, a).

Deltocephalus Burmeister: *Limotettix* Sahlberg

In the opinion of Dr. J. Vilbaste (personal communication, 1975) none of the Australian and New Zealand leafhoppers ascribed to the above genera truly belong to them.

Deltocephalus montanus Evans

Knight (1975) has referred this species, which Metcalf (1967), had given the new specific name *novellus,* to the genus *Arawa.*

Deltocephalus taedius (Kirkaldy)

The type locality is Bundaberg, Queensland, and not as recorded in Part I. Knight (1975), has expressed the opinion that the insect recognized in Part I as *D. taedius* is, in fact, *Arawa variegata* Knight.

Deltocephalus coronifer Marshall

The insect associated with this name in Part I is probably *Recilia distincta* Motschulsky (J. Vilbaste, personal communication, 1975).

Deltocephalus pullatus Evans

Knight (1975) has stated that the above species, which is known only from female specimens, is externally identical with *Limotettix condylus* Knight, described from New Zealand.

Recilia dorsalis (Motschulsky)

This species, which in Part I was tentatively referred to the genus *Deltocephalus,* has been placed by Neilson in *Recilia* Edwards. It is known as a vector of a virus disease of rice (Neilson, 1968).

Alodeltocephalus longuinquus (Kirkaldy): *A. obliquus* Evans.

The type locality of *A. longuinquus* is Sydney, N.S.W., and not as given in Part I. According to Knight (1975), *A. obliquus* is not identical with *A. longuinquus* but a separate species. The same author has pointed out that the illustrations ascribed in Part I to *A. longuinquus* (Fig. 36J, K), are in fact, those of *A. obliquus*

Lonatura austrina Kirkaldy

Dr. J. Kramer (personal communication, 1972) is of the opinion that this species is incorrectly placed in *Lonatura* Osborn and Ball.

Giffardia dolichocephala Kirkaldy (Fig. 12D-F)

Until recently this species has been recorded only from the Cairns district of North Queensland. In the Bishop Museum collection there is a specimen from the Cyclops Mountains, West Sentani, New Guinea.

Balclutha phryne (Kirkaldy): *B. chloe* (Kirkaldy)

The above species belong to the genus *Nesoclutha* Evans, of which *Irinula* Ribaut is a synonym[1].

Balclutha incisa Matsumura

Balclutha hebe (Kirkaldy) and *B. hospes* (Kirkaldy) are both synonyms of the above[1].

Balclutha rubrostriata Melichar

Balclutha aurantiigera (Kirkaldy), *B. sanguinescens* (Kirkaldy) and *B. sordidor* (Kirkaldy) are synonyms of *B. rubrostriata*[1].

Balclutha dryas (Kirkaldy)

Probably a synonym of *Balclutha frontalis* (Ferrari)[1].

Balclutha glauca (Kirkaldy)

Probably a synonym of *B. saltuella* (Kirkaldy)[1].

Nesoclutha pallida (Evans)

This species, of which *N. obscura* Evans is a synonym, has been recorded from New Zealand (Knight, 1975). It is a vector of striate mosaic virus of grasses and cereals (Neilson, 1968).

Macrosteles fieberi (Edwards)

This Holarctic species has been recorded from New Zealand (Knight, 1975).

Limotettix capitata Kirkaldy

In Part I, *Cicadulina bipunctella* Matsumura and *C. bimaculata* Evans were placed in synonymy with the above species which consequently was referred to as *Cicadulina capitata*. It has subsequently been shown that neither of the first two mentioned species are congeneric with the third, which also does not belong to *Cicadulina* China (Kitching, Grylls and Waterford, 1973). For the time being the true generic position of *L. capitata* must remain uncertain.

In a review of the genus *Cicadulina* Zetterstedt, Ruppel (1965) has placed *C. bimaculata* as a subspecies of *C. bipunctella*. Kitching, Grylls and Waterford, however, recognize each as a separate species, populations of the former occurring in Queensland and of the latter, within Australia, in the Northern Territory. Both species have been recorded as virus vectors by the same authors.

1 Personal communication, Dr. J. Vilbaste, 1975.

TYPHLOCYBINAE
A NEW GENUS AND NEW SPECIES DESCRIBED FROM AUSTRALIA SINCE EVANS, 1966

Dziwneono Dworakowska

Bull. Acad. pol. Sci. Cl. II Ser. Sci. biol., 20: 197, 1972.

Type species — *Dwizneono etcetera* Dworakowska.

Dwizneono etcetera Dworakowska

Bull. Acad. pol. Sci. Cl. II Ser. Sci. biol., 20: 200, 1972.

Type Locality — Darwin, Northern Territory.

Type Location — Australian Museum.

Dziwneono olszewskii Dworakowska

Bull. Acad. pol. Sci. Cl. II Ser. Sci. biol., 20: 199, 1972.

Type Locality — Darwin, Northern Territory.

Type Location — Australian Museum.

Dziwneono septembris Dworakowska

Bull. Acad. pol. Sci. Cl. II Ser. Sci. biol., 20: 199, 1972.

Type Locality — Darwin, Northern Territory.

Type Location — Australian Museum.

Empoascanara australensis Dworakowska

Bull. Acad. pol. Sci. Cl. II Ser. Sci. biol., 20: 772, 1972.

Type Locality — Darwin, Northern Territory.

Type Location — Australian Museum.

Kahaono kirkaldyi Dworakowska

Bull. Acad. pol. Sci. Cl. II Ser. Sci. biol., 20: 197, 1972.

Type Locality — Darwin, Northern Territory.

Type Location — Australian Museum.

Kahaono yhawhoa Dworakowska

Bull. Acad. pol. Sci. Cl. II Ser. Sci. biol., 20: 197, 1972.

Type Locality — Albany, Western Australia.

Type Location — Australian Museum.

Kahaono yarama Dworakowska

Bull. Acad. pol. Sci. Cl. II Ser. Sci. biol., 20: 196, 1972.

Type Locality — Albany, Western Australia.

Type Location — Australian Museum.

Kahaono negrea Dworakowska

Bull. Acad. pol. Sci. Cl. II Ser. Sci. biol., 20: 197, 1972.

Type Locality — Albany, Western Australia.

Type Location — Australian Museum.

Aneono leichardti Dworakowska

Bull. Acad. pol. Sci. Cl. II Ser. Sci. biol., 20: 193, 1972.

Type Locality — Albany, Western Australia

Type Location — Australian Museum.

Aneono evansi Dworakowska

Bull. Acad. pol. Sci. Cl. II Ser. Sci. biol., 20: 193, 1972.

Type Locality — Perth, Western Australia.

Type Location — Australian Museum.

NOTES ON THE TYPHLOCYBINAE

Austroasca Lower

In Part I, this genus was placed in synonymy with *Empoasca* Walsh. Ghauri (1967), who has re-established the separate identity of *Austroasca* (type species, *Empoasca viridigrisea Paoli*), has pointed out that the genus, as at present constituted, is a heterogeneous one and in need of revision. In the same paper he has transferred *Austroasca terraereginae* (Paoli) to *Amrasca* Ghauri, type species *A. splendens* Ghauri (India).

The New Zealand typhlocybine fauna has recently been reviewed by Knight (1976, N.Z. J Zool. 3:71-87).

MEMBRACIDAE
A NEW SPECIES DESCRIBED FROM AUSTRALIA SINCE EVANS, 1966

Ceraon pix Kitching

J. Aust. ent. Soc. 14: 345, 1975.

Type Locality — Cornwall, Australia (supposedly Tasmania).

Type Location — British Museum.

NOTES ON THE MEMBRACIDAE

Ceraon contractum (Walker)

This specific name which in Part I was regarded as a synonym of *C. tasmaniae* (Fairmaire), has recently been recognized as representing a distinct species (Kitching, 1975). It differs from other species comprised in *Ceraon* Buckton in having a slender, anterior, vertical pronotal process.

Eufrenchia falcata (Walker)

In Part I a reference to an illustration of this species (Fig. 6C) was omitted.

Ceraon gracilis Goding

It was stated, in Part I, that the whereabouts of the holotype of this species was unknown and that it was not in the U. S. National Museum. I am advised by Dr. R Kitching that this was an error as the type, in fact, is in this museum.

Sextius virescens (Fairmaire)

The nymphal stages have been described (Kitching, 1974, a), also the morphology and the mode of action of the anal apparatus of the nymphs (Kitching, 1974, b).

Acanthucus trispinifer (Fairmaire)

This widely distributed Australian species has become established in New Zealand (Eyles, 1971).

CERCOPOIDEA
MACHAEROTIDAE
A NEW SPECIES DESCRIBED FROM AUSTRALIA SINCE EVANS, 1966

Chaetophyes pulcherrima Evans

Proc. Roy. Soc. Qd. 81: 83, 1970.

Type Locality — North Stradbrooke Island, Queensland.

Type Location — Queensland Museum.

TRANSFER OF TYPES

It was stated in Part I that the types of Australian cicadelloids and cercopoids described by G. W Kirkaldy were in the collection of the Hawaiian Sugar Planters Association, in Honolulu. These have now been transferred to the Bishop Museum.

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REFERENCES

Davis, R. B., 1975, Classification of selected higher categories of Auchenorrhynchous Homoptera. *U.S. Dept. Agric. Res. Service Tech. Bull.* 1494.

Evans, J. W., 1937, a, Australian Leafhoppers, Pt. 4. *Pap. R. Soc. Tasm.* 1936: 37-50.

——— 1937, b, Australian Leafhoppers, Pt. 5. *Pap. R. Soc. Tasm.* 1936: 51-71

——— 1939, Some new Australian Leafhoppers. *Trans. Roy. Soc. S. Aust.* 63: 44-50.

——— 1941, New leafhoppers from Western Australia. *Trans. R. Soc. W. Aust.* 27: 142-163.

——— 1966, The Leafhoppers and Froghoppers of Australia and New Zealand. *Aust. Mus. Memoir* XII: 1-347.

——— 1968, Some relict New Guinea leafhoppers and their significance in relation to the comparative morphology of the head and thorax of the Homoptera Auchenorrhyncha. *Pacif. Ins.* 10: 215-229.

——— 1969, a, Notes on the Eurymelidae and some new species from Eastern and Western Australia. *Proc. R. Soc. Qd.* 81: 51-55.

——— 1969, b, Characteristics and components of Ledrinae and some new genera and new species from Australia and New Guinea. *Pacif. Ins.* 11: 735-754.

——— 1971, Leafhoppers from New Guinea and Australia belonging to the subfamilies Macropsinae and Agalliinae with notes on the position of *Nionia* Ball and *Magnentius* Pruthi. *Pacif. Ins.* 13: 343-360.

——— 1972, a, Characteristics and relationships of the Penthimiinae and some new genera and new species from New Guinea and Australia; also new species of Drabescinae from New Guinea and Australia. *Pacif. Ins.* 14: 169-200.

——— 1972, b, Some leafhoppers from New Guinea and Thailand belonging to the subfamily Jassinae and a new genus from New Guinea referred to a new subfamily, the Acostemminae. *Pacif. Ins.* 14: 647-662.

——— 1973, Some new genera and species of Cicadelloidea from Australia and New Guinea. *Pacif. Ins.* 15: 185-197.

——— 1974, New Caledonian leafhoppers and the systematic position of *Kosmiopelix* Kirkaldy and *Euacanthella* Evans. *Pacif. Ins.* 16: 165-175.

——— 1975, The external features of the heads of leafhoppers. *Rec. Aust. Mus.* 29: 407-440.

Eyles, A. C., 1971, The family Membracidae present in New Zealand. *N. Z. Ent.* 5: 47-48.

Ghauri, M. S. K., 1966, Revision of the genus *Orosius* Distant. *Bull. Brit. Mus. (N. H.), Ent.* 18 (7): 231-252.

——— 1967, New mango leafhoppers from the Oriental and Austro-oriental regions. *Proc. R. ent. Soc. Lond.* (B) 36: 159-166.

——— 1971, Revision of the genus *Nephotettix* Matsumura based on the type material. *Bull. ent. Res.* 60: 481-512.

Ishihara, T., 1963, Some genera, especially *'Eutettix'* of Japan and Formosa. *Trans. Shikoku Ent. Soc.* 7: 121-123.

——— 1967, Japanese species having been recorded as *Tettigonia albomarginata*. *Trans. Shikoku Ent. Soc.* 9: 68.

——— 1971, Several species of the genus *Kolla* Distant. *Trans. Shikoku Ent. Soc.* 11: 11-20.

Kitching, R. L., Grylls, N. E. and Waterford, C., 1973, The identity of the Australian species of *Cicadulina* China. *J. Aust. ent. Soc.* 12: 139-143.

Kitching, R. L., 1974, a, The immature stages of *Sextius virescens* (Fairmaire). *J. Aust. ent. Soc.* 13: 55-60.

——— 1974, b, The morphology and mode of action of the anal apparatus of membracid nymphs with special reference to *Sextius virescens* (Fairmaire) *J. Aust. ent. Soc.* 49: 81-88.

——— 1975, The genus *Ceraon* Buckton (Homoptera, Membracidae) with a description of a new species and notes on genitalia nomenclature. *J. Aust. ent. Soc.* 14: 339-351.

Knight, W. J., 1970, a, A revision of the genus *Hishimonus* Ishihara. *Ann. Ent. Fenn.* 36 (3): 125-139.

——— 1970, b, Two new genera of leafhoppers related to *Hishimonus* Ishihara. *Ann. Ent. Fenn.* 36 (4): 174-182.

——— 1973, a, A new species of *Hishimonus* Ishihara attacking *Terminalia* spp. in India with comments on the relationship of the genus to *Cestius* Distant. *Ann. Ent. Fenn.* 39: 153-156.

——— 1973, b, Hecalinae of New Zealand. *N. Z. Jl. Sci.* 16: 957-969.

——— 1973, c, Ulopinae of New Zealand. *N. Z. Jl. Sci.* 16: 971-1007.

——— 1974, a, Revision of the New Zealand genus *Novothymbris*. *N. Z. Jl. Zool.* 1: 475-493.

——— 1974, b, Leafhoppers of New Zealand: subfamilies Aphrodinae, Jassinae, Xestocephalinae, Idiocerinae and Macropsinae. *N. Z. Jl. Zool.* 2: 169-208.

——— 1975, Deltocephalinae of New Zealand. *N. Z. Jl. Zool.* 2: 169-208.

Linnavuori, R., 1972, Revision of the Ethiopian Cicadellidae, Ulopinae and Megophthalminae. *Ann. Ent. Fenn.* 38: 126-149.

——— 1975, Insects of Micronesia, Homoptera, Cicadellidae Suppl. 6 (9): 626.

Matsumura, S., 1914, Die Jassinen und einige neue Acocephalinen Japans. *Trans. Sapporo Nat. Hist. Soc.* 5: 165-240.

Metcalf, Z.P., 1964, General Catalogue of the Homoptera, Fasc. VI, Pt. 11, Coelidiidae.

——— 1966, General Catalogue of the Homoptera, Fasc. VI, Pt. 13, Macropsidae.

Myers, J. G., 1923, A contribution to the study of New Zealand leafhoppers and planthoppers. *Trans. N. Z. Inst.* 54: 407-429.

——— 1924, The Hemiptera of the Chatham Islands. *Rec. Canterbury Mus.* 2: 171-185.

Nielson, M. W., 1968, The leafhopper vectors of phytopathogenic viruses. *U. S. Dept. Agric., Agric. Res. Service Tech. Bull.* 1382: 1-386.

Ross, H. H., 1968, The evolution and dispersal of the grassland leafhopper *Exitianus* with keys to the Old World species. *Bull. Brit. Mus. (N. H.) Ent.* 22 (1): 1-30.

Ruppel, R. F., 1965, A Review of the genus *Cicadulina*. *Publications of the Museum, Michigan State University, Biol. Series* 2 (8): 385-428.

Strűmpel, H., 1972, Beitrag zur Phylogenie der Membracidae Rafinesque. *Zool. Jb. Syst.* 99: 313-407.

Vilbaste, J., 1965, On the genus *Aconura* Leth., *Notulae Entom.* 45: 1-12.

——— 1975, On some species of Homoptera Cicadinea described by V. Motschulsky. *Eesti Nsv Akad, Toim. 24 Koide Biolog.* 1975, Nr. 3: 228-236.

Walker, F., 1858, List of Homopterous insects in the British Museum, Pt. 3, Supplement 1-307.

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(Valid names are shown in Roman Type; synonyms and nomina nuda in *Italics*)

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