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Australian Leaf-Hoppers (Homoptera, Jassoidea) Part VIII

By

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In the present paper on Australian Leaf-Hoppers, the following families are dealt with: Cicadellidae, Nirvaniidae, Euacanthidae, and the Euscelidae, in part. In addition, notes are given on the Paropiidae, Pythamidae, Jassidae, and Eupterygidae.

The purpose of this and of preceding papers has been to collect together references scattered in numerous periodicals extending over a century, to revise the classification where necessary, to enable students to obtain some idea of the jassoid fauna of the continent, and, primarily, to render it possible for entomologists other than specialists in the group, to place in their correct families and genera the commoner representatives of this super-family which are taken in general collecting.

To date 421 species, 66 of which are believed to be synonyms, contained in 108 genera, 79 of which are peculiar to the region, have been described from Australia. It is probable that approximately three-quarters of the available genera have been defined, but it is unlikely that more than one-half of the Australian species have yet been described.

CICADELLIDAE

The Cicadellidae, which are poorly represented in Australia, are of world-wide distribution, being especially abundant in South America. All the Australian species are placed in the type genus, since, although they might well be separated into three genera, such a course would be unwise without a knowledge of foreign forms.

Cicadella Latreille

Cuvier's Régne Animal, III.; 106, 1817.

Genotype **Tetigonia viridis L.**

This genus comprises cylindrically-shaped insects that have the fronto-clypeus swollen and extending on to the crown of the head. The ocelli are dorsal in position and occur at the apices of the frontal sutures, and there is no suture present between the fronto-clypeus and the vertex. The pronotum is broad and the propleurae widely separate the eyes from the bases of the tegmina. The tegmina are long and narrow, the venation is frequently obscure, and the appendices, which are narrow, extend to the apices of the tegmina. The hind tibiae have three rows of long spines with or without minute spines between each of the stoutest spines, and the male genitalia have broad pygophores with or without processes, and parameres that are much shorter than the sub-genital plates.

Ten species have been described previously from Australia and one South African species incorrectly recorded from Australia. Of the named species, four are unknown to me, one is a synonym, and *C. parthaon* Kirk. has been figured previously. The remaining species are figured, and in addition six new species are described below.

Cicadella coerulescens (Fabr.)

Cicada coerulescens F., 1803, Syst. Rhyng. 74.
Aulacizes dives Walk., 1851, List Homopt. III.; 791.
Tettigonia coerulescens Sign., 1853, Ann. Soc. Ent. Fr. (3) 1; 672.

Kirkaldy (1907) has suggested that the above species does not belong to this genus.

Cicadella quadrata (Walk.)

Tettigonia quadrata Walk., 1851, List Homopt. III., 781.

Cicadella perkinsi (Kirk.)

Tetigonia perkinsi Kirk., 1906. Hawaii Sug. Ass. Bull. 1 (9); 319.

Cicadella latromarginata (Dist.)

Tetigoniella latromarginata Dist., 1917. Ann. Mag. Nat. Hist. 20; 190.

Cicadella albomarginata (Sign.) (Plate I, fig. 5)

Tettigonia albomarginata Sign., 1853, Ann. Soc. Ent. Fr. (3) 1; 347.
Tetigonia pettimolua Kirk., 1906, Hawaii Sug. Ass. Bull. 1 (9); 362.

Cicadella koebelei (Kirk.) (Plate I, figs. 3a-d)

Tetigonia koebelei Kirk., 1906, Hawaii Sug. Ass. Bull. 1 (9); 319.

Cicadella pasiphae (Kirk.) (Plate I, figs. 1a-d)

Tetigonia pasiphae Kirk., 1906, Hawaii Sug. Ass. Bull. 1 (9); 320.

Cicadella parthaon (Kirk.)

Tetigonia parthaon Kirk., 1906, Hawaii Sug. Ass. Bull. 1 (9); 321.

Cicadella richmondensis (Dist.) (Plate I, fig. 11)

Tettigoniella richmondensis Dist., 1917, Ann. Mag. Nat. Hist. 20 ; 190.

Cicadella albida (Walk.)

Tettigonia albida Walk., 1851, List Homopt. III., 767.

The last named species was originally described from South Africa, and later recorded from India and Australia by Signoret (1853), and Kirkaldy (1906). In 1907 Distant pointed out that the Oriental species was distinct from the African one and proposed the new name *spectra* Dist. for the Oriental species. Mr. China has informed me that neither of these species are represented in the Australian fauna.

Cicadella angustata, sp. nov.

(Plate I, figs. 2, 10)

Length, 8 mm. *Head*, facially pale yellowish-brown, with a central dark-brown stripe on the fronto-clypeus, and with a series of narrow transverse brown stripes laterally. Crown of head and *pronotum* pale yellowish-brown, with dark-brown markings. *Scutellum*, marked with a pattern of dark-brown and yellowish-brown. *Tegmen*, hyaline-brown or dark greenish-black, the costal border narrowly white; venation indistinct. *Thorax* and *abdomen*, ventral surface ochreous.

Type ♂, from National Park, Queensland (coll. H. Hacker), in the collection of the Queensland Museum.

Cicadella heroni, sp. nov.

(Plate I, fig. 7)

Length, 8 mm. *Head*, facially egg-yellow, with two wide brown longitudinal stripes on the fronto-clypeus. Crown of head, *pronotum*, and *scutellum*, yellow, with brown markings. *Tegmen*, dull metallic green, the costal border white; venation indistinct. *Thorax* and *abdomen*, ventral surface, pale yellow.

Type ♀, from Ulong, East Dorrigo, New South Wales (Coll. W. Heron), in the collection of the Australian Museum, Sydney.

Cicadella naomiae, sp. nov.

(Plate I, fig. 9)

Length, 6 mm. *Head*, facially pale lemon-yellow, the ante-clypeus with a broad median longitudinal brown stripe, and the fronto-clypeus with two indistinct lateral stripes; antennal pits, deep. Crown of head, *pronotum*, and *scutellum*, yellow with black markings. *Tegmen*, dull bronze, costal border narrowly black fringed with white; veins with minute raised dots. *Thorax* and *abdomen*, ventral surface pale yellow. *Legs*, pale brown.

Type ♂, from Seven Mile Beach, Tasmania (coll. J.W.E.), in the collection of the Australian Museum, Sydney.

Cicadella sidnica, sp. nov.

(Plate I, fig. 12)

Length, 6 mm. *Head*, ventral surface with the ante-clypeus and fronto-clypeus black medially; the black area widens posteriorly and extends across the head above the antennal ledges; rest of the facial surface of the head yellow, but for a narrow dull-brown area in the centre of the fronto-clypeus anteriorly. Crown of head and *pronotum* marked with a pattern of yellow and black. *Scutellum*, black, the apex brown. *Tegmen*, greenish black, the costal border hyaline-brown. *Thorax* and *abdomen*, ventral surface, yellow. *Legs*, pale yellowish-brown, spines on the hind tibiae dark brown and black.

Type ♂, from Sydney New South Wales (coll. J.W.E.), in the collection of the Australian Museum, Sydney.

Cicadella markei, sp. nov.

(Plate I, figs. 4, 8)

Length, 7 mm. *Head*, ventral surface ochreous, with or without a broad median stripe on the ante-clypeus, and two brown stripes on the fronto-clypeus. Crown of head and *pronotum*, bright ochreous yellow with black markings. *Scutellum*, ochreous, with the anterior angles black. *Tegmen*, black; costal margin narrowly black, with a broad yellowish-green stripe posterior to the black border. *Thorax* and *abdomen*, ventral surface ochreous. *Legs*, very pale brown, spines somewhat darker brown.

Type ♂, from Dover, Tasmania (coll. J.W.E.), in the collection of the Australian Museum, Sydney.

Cicadella dianae, sp. nov.

(Plate I, fig. 6)

Length, 8 mm. *Head*, ventral surface brownish-yellow, with markings similar to those described for *C. markei*. Crown of head and *pronotum*, pale brownish-yellow, with black markings. *Scutellum*, sordid yellow, anterior angles black. *Tegmen*, black, apically brownish-grey. *Thorax* and *abdomen*, ventral surface, and legs, sordid yellow.

Type ♀, from National Park, Tasmania (coll. A. M. Lea), in the collection of the Australian Museum, Sydney.

NIRVANIIDAE.

The Nirvaniidae, which have their headquarters in the Oriental region, are poorly represented in Australia. In a key to the various jassoid families given by Baker (1923), they are defined as leaf-hoppers, in which the upper margin of the face is not extended beyond the margin of the vertex and not visible in dorsal view, or only a little just in front of the eyes. The ocelli are on the anterolateral

border of the head, or just above or below it, the lorae are small and narrow, and the antennae are usually inserted distinctly above the eyes in facial view, rarely on the upper line of, or between, the eyes, in which case the head is produced. The tegmina are usually without ante-apical cells, and the venation is seldom distinct basally.

Only one insect belonging to this family has previously been described from Australia. This species, *Macroceratogonia aurea* Kirk. was considered by Kirkaldy (1906) to be an aberrant Cicadellid, but has been placed by Baker in the Macroceratogoniinae, one of the three subfamilies of the Nirvaniidae. Three new species are described below, all belonging to genera that are included in the Nirvaniinae. Baker has pointed out that the descriptions of *Nirvana* Kirk. and *Ophiuchus* Dist. are inadequate, hence it is possible that the species placed in these genera may not be congeneric with the genotypes. They do appear to be congeneric with the species described by Baker, which he attributed to these genera.

Nirvana Kirkaldy

Entomologist 33; 293, 1910.

Genotype **Nirvana pseudommatos**, Kirk.

Baker, in his key to the genera of the Nirvaniinae, states that species in the genus *Nirvana* have the 'front' depressed only apically. Although the species described below has the 'front' evenly convex, it would appear to be congeneric with those described by Baker.

Nirvana adelaideae, sp. nov.

(Plate II, fig. 2)

Length, 6 mm. *Head*, ventral surface greenish-yellow, with two median black spots at the posterior apex; maxillary plates narrow; antennae long, antennal pits distinct, but not deep. Fronto-clypeus evenly convex, with a median carina posteriorly. Margin of head with an ill-defined carina that separates the fronto-clypeus from the vertex. Dorsal surface of head greenish-yellow, with a median black stripe that extends posteriorly onto the thorax. Crown convex; ocelli equally visible in dorsal and lateral aspects. *Pronotum*, collar-like, almost parallel-sided. *Tegmen*, hyaline, partially suffused with yellowish-brown, with an ante-apical hyaline-white fascia and a small brown marking at each end of the fascia. *Thorax*, ventral surface, yellow. *Legs*, pale green, but for the hind femora, which are yellow, and the tarsal claws, which are dark brown. Hind tibia, with three rows of long spines and with a few minute spines set between the most widely-spaced spines. *Abdomen*, ventral surface, yellowish-green; ovipositor sheath spinous.

Type ♀, from Waterfall Gully, Adelaide, South Australia (coll. J.W.E.), in the collection of the Australian Museum, Sydney.

Kana Distant

Faun. Brit. India, Rhynch. 4, 285, 1908.

Genotype **Kana thoracica** Dist.

Kana derrigensis, sp. nov.

(Plate II, figs. 1 a-b)

Length, 6 mm. *Head*, ventral surface, pale whitish-yellow; maxillary plates, wide; antennae, short, antennal pits, deep, close to the posterior apex of the head; fronto-clypeus, concave. Apical border of head wider against the eyes than in the centre; crown separated from the fronto-clypeus by a distinct carina. Crown of head, with three orange longitudinal stripes and two white stripes that continue onto the pronotum, blunt apically, and very slightly concave, so that the ocelli are visible laterally as well as dorsally. *Pronotum* not parallel-sided: both the head and pronotum are slightly declivous. *Tegmen*, pale orange-brown, with a row of black, white, orange, and white markings against the costal border close to the apex, and a diffuse black marking in both the apical median and cubital cells. *Thorax* and *abdomen*, ventral surface, yellowish-white.

Type ♀, from Dorrigo, New South Wales, in the collection of the South Australian Museum.

Ophiuchus Distant

Faun. Brit. India, Rhynch. 7, 334; 1918.

Genotype **Ophiuchus princeps** Dist.

Ophiuchus pallidus, sp. nov.

(Plate II, fig. 3)

Length, 6 mm. General coloration pale yellowish-white. *Head*, ventral surface, maxillary plates wide, fronto-clypeus convex anteriorly, concave posteriorly; antennae long. Apex of head flattened, of even width throughout, apical carina distinct. Crown of head spatulate, anteriorly flat, posteriorly inclined; ocelli only visible dorsally. *Tegmen*, milky-white, venation distinct.

Type ♀, from Stewart River, Queensland (coll. Hale and Tindale), in the collection of the South Australian Museum.

EUPTERYGIDAE

A list of the described Australian Eupterygidae was published by Myers in 1928, and since that date no new species have been added. Dumbleton (1934) has shown that *Typhlocyba froggatti* Baker (*australis* Froggatt) is an introduced European species, and not a member of the indigenous fauna. Only fifteen species have been described from Australia, but the family is well represented here. The difficulty experienced in deciding whether a species is indigenous or introduced, together with the involved synonymy, has acted as a

deterrent to the description of new species. However, their increasing importance as suspected vectors of virus diseases, and the recent publication of Ribaut (1937), should serve to awaken interest in this group.

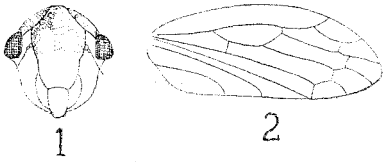

Fig. 1.—*Megopthalmus scanicus*, head.
Fig. 2.—*Megopthalmus scanicus*, tegmen.

PAROPIIDAE

Only one genus, represented by a single species, has been described from Australia. This species, *Kahavalu gemma* Kirk., has been adequately described by Kirkaldy (1906). The Paropiidae may be recognized by their characteristic deep thimble pitting sculpture. The ocelli lie in deep grooves at the apical margin of the head, and the hind tibiae have a few small spines and hairs on the apical half. To enable the recognition of members of this family, figures are given of a European representative, *Megopthalmus scanicus* Fall., no specimens of *K. gemma* being available to the author.

JASSIDAE

Tharra labena Kirk. (1906) is the sole representative of this family so far described from Australia. Kirkaldy suggested that his genus *Tharra* was possibly only a group of *Jassus* Fabr. No specimens of *T. labena* being available for study, figures are given of *Jassus indicus* Walk. and *Jassus olitorius* Say.

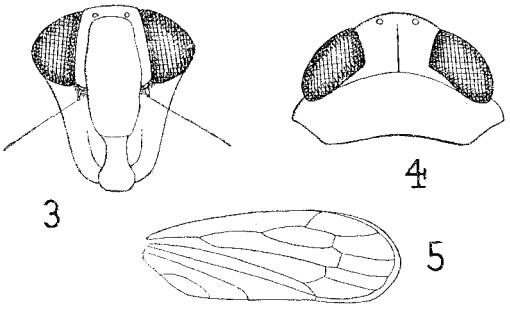

Fig. 3.—*Jassus indicus*, head.
Fig. 4.—*Jassus olitorius*, head and prothorax.
Fig. 5.—*J. olitorius*, tegmen.

PYTHAMIDAE

Baker has included two of Kirkaldy's genera, each represented by a single species in this family. These are *Dryadomorpha pallida* Kirk. (1906) and *Tortor daulias* Kirk. (1907). Kirkaldy has figured the former (Plate 32, figs. 12-14). According to Baker, in all the genera of this family the pronotum is truncate or slightly incurved posteriorly; the anterolateral carinae of the vertex reach the apex, or nearly so; the sides of the front are very shallowly sinuate opposite the antennal scrobes, and the clypeus is strongly narrowed apically.

EUACANTHIDAE

The leaf-hoppers described below are the first members of this family to be described from Australia. They have superficial characters in common with both the Cicadellidae and the Euscelidae.

Euacanthella, gen. nov.

The head is arrow-shaped, the ante-clypeus much narrower anteriorly than posteriorly, the antennal scrobes distinct, but short, and the antennal pits deep. The crown of the head, which is slightly tilted dorsally at the apex, has a slight depression anteriorly, has always a coronal suture, and may have a transverse epicranial suture. The ocelli are on the crown, well away from the anterior margin. The pronotum is much narrower than the head, including the eyes, and the propleurae narrowly separate the eyes from the bases of the tegmina. The scutellum is small. Both brachypterous and fully-winged forms occur, and the tegmina of the winged forms are narrow.

Euacanthella palustris, sp. nov. (Genotype)

(Plate III, figs. 8 a-c)

Length, 8 mm. *Head*, ventrally black, mottled sparsely with pale brown; eyes, pale brown. Crown produced anteriorly, dark brown, mottled with yellowish-brown. Anterior third of crown divided from the posterior two-thirds by a transverse ridge. *Pronotum* concolorous with the crown. *Scutellum*, dark brown, with two more or less oval yellow markings. *Tegmen* reaching as far as the first abdominal segment; wings not developed. *Thorax* and *abdomen* and *legs*, very dark brown, mottled with pale brown.

Type ♀, from Snug, Tasmania (coll. J.W.E.), in the collection of the Australian Museum, Sydney.

Euacanthella insularis, sp. nov.

(Plate III, figs. 9 a-b)

Length, 8 mm. *Head*, pale yellow, suffused with an irregular pale brown pattern; on the crown an indistinct transverse ridge. *Pronotum*, concolorous with the head. *Scutellum*, yellow. *Tegmen*, short, as with *E. palustris*; wings not developed. *Thorax*, *abdomen* and *legs*, pale yellow with a faint irregular pattern of very pale brown. *Male Genitalia*, with a long, narrow process arising from the base of the ventral surface of the pygophore, and a short hooked-shaped process arising from the dorsal surface of the pygophore.

Type ♂, from Hobart, Tasmania (coll. J.W.E.), in the collection of the Australian Museum, Sydney.

Euacanthella bicolor, sp. nov.

(Plate III, figs. 10 a-c)

Length, 5·5 mm. *Head*, ventrally, brown mottled with yellowish-brown, crown slightly paler in colour. *Pronotum*, concolorous with the crown. *Tegmen*, fully developed, pale hyaline-brown, veins, white, wings developed. *Thorax* and *abdomen*, ventral surface white, mottled with grey. Fore and middle *legs* pale brown; hind legs white, spurs brown. *Male Genitalia*, with a long process arising from the base of the pygophore.

Type ♂, from Snug, Tasmania (coll. J.W.E.), in the collection of the Australian Museum, Sydney.

EUSCELIDAE

In previous papers (Evans, 1936, a, b) the arboreal Australian Euscelidae have been described, and one tribe, the Paradorydiini, of the sub-family Eupelicinae. The remaining representatives of the family are largely confined to grasses, and are especially abundant in swamp environments.

Representatives of fifteen genera have previously been described from Australia; four new ones are described below. Of these, ten are apparently confined to the Australian region.

EUPELICINAE

The genus defined below is provisionally placed in the Eupelicinae, but its affinities are doubtful.

Euprora, gen. nov.

The head is produced, narrowing anteriorly and the ocelli are marginal, slightly in front of the eyes. On the crown of the head are ill-defined carinae, that extend from the ocelli in an anterior

direction, and meet in a mid-line slightly posterior to the apex of the head. The pronotum is flat, on a plane with the crown of the head, and the propleurae narrowly separate the eyes from the bases of the tegmina. The tegmina are long and narrow, taper posteriorly, and extend well beyond the apices of the abdomen. The hind tibiae have three rows of spines; those of one row are set on enlarged bases, and are separated from each other by a few minute spines.

Euprora mullensis, sp. nov.

(Plate II., figs. 8 a-c)

Length, 11 mm. General coloration, pale yellowish-brown. *Head*, with longitudinal striations; eyes, reddish-brown. *Tegmen*, hyaline, tibiae, with the bases of the row of largest spines, black.

Type ♀, from Mullewa, Western Australia (coll. F. May), in the collection of the South Australian Museum.

EUSCELINAE

HECALINI

Reuteriella Signoret

Reuteria Sign., 1879, Ann. Soc. Ent. Fr. IX.: 51 (preoccupied).
Reuteriella Sign., 1880. Ann. Soc. Ent. Fr. X.: 45.

This genus, which is re-described below, superficially resembles *Selenocephalus* Germ.

The ventral surface of the head is almost flat and the lorae are small, not nearly reaching to the anterior margin of the head. The antennal scrobes are raised into a distinct ridge that extends from the margin of the head on each side, just posterior to the eyes, to beyond the apex of the clypeal suture. The head is flattened apically into a narrow flat rim, which is more or less at right-angles to the dorsal and ventral surfaces of the head. The ocelli are situated on this rim at a short distance in front of the eyes. The crown of the head, which is produced, is flat or slightly transversely concave. The pronotum widens posteriorly, and the propleurae widely separate the eyes from the bases of the tegmina. The tegmina, which overlap posteriorly, have wide appendices, and the hind tibiae, which are flattened, lack minute spines set between each of the largest spines.

Reuteriella flavescens Sign. (Genotype)

(Plate II., figs. 4 a-b)

Ann. Soc. Ent. Fr. X; 365, 1880.

Reuteriella hobartensis, sp. nov.

(Plate II., figs. 5a, b)

Length, 6·5 mm. *Head*, pale lemon-yellow, rounded anteriorly; eyes, dark brown. *Pronotum*, anterior two-thirds yellow, posterior third, and *scutellum*, pale brown. *Tegmen*, hyaline, costal border, pale yellow, the remainder pale yellowish-brown. *Thorax* and *abdomen*, ventral surface and *legs*, pale yellow.

Type ♀, from Hobart, Tasmania (coll J.W.E.), in the collection of the Australian Museum, Sydney.

Hecalus Stål

Ann. Soc. Ent. Fr. (4) IV.: 65, 1864.

Two species belonging to this genus have been described previously from Australia. These are *Hecalus pallescens* Stål (1864), which has been figured by Signoret (1879), and *H. immaculata* Kirk. (1906), which is a brachypterous form. Two new species are described below.

Hecalus basedowi, sp. nov.

(Plate II., figs. 6a, b)

Length, 9 mm. General coloration evenly yellowish-white, eyes, pale brown. *Head*, ventral surface convex, apically foliaceous. Crown spatulate, widely rounded apically. *Tegmina*, fully developed, overlapping slightly apically, and extending almost to the apex of the abdomen; appendix wide.

Type ♀, from Western Australia (coll. H. Basedow), in the collection of the Australian Museum, Sydney.

Hecalus elongatus, sp. nov.

(Plate II., fig. 7)

Length, 10 mm. General coloration yellowish-green, eyes, red. This species differs from the preceding in that the head is more spatulate, narrower apically, and produced further anteriorly.

Type ♀, from Western Australia (coll. H. Basedow), in the collection of the Australian Museum, Sydney.

XESTOCEPHALINI

Xestocephalus Van Duzee

Xestocephalus Van Duzee, 1894, Bull. Buff. Soc. Nat. Sci. 5; 197.
Myrmecophryne Kirkaldy. Hawaii Sug. Ass. Bull. 1 (9); 461.

A comparison of a paratype of *Myrmecophryne formiceticola* Kirk. with *Xestocephalus pulicarius* Van D. has shown that the two species are congeneric. Two other species belonging to this genus have been described previously from Australia, these are *X. australiensis* Kirk. and *X. sidnicus* Kirk. (1907). One new species is described below.

Xestocephalus tasmaniensis, sp. nov.

(Plate II, fig. 9)

Length, 2 mm. *Head*, ventral surface reddish-brown, palest posteriorly; antennae very long; crown, declivous, rounded apically, reddish-brown with yellow markings; ocelli marginal, visible dorsally, large and white. *Tegmen*, pale yellowish-brown, with brown areas surrounding oval hyaline spots. *Thorax*, ventral surface chocolate-brown. *Abdomen*, ventral surface brown, the hind border of each segment white.

Type ♂, from Hobart, Tasmania (coll. A. M. Lea), in the collection of the Australian Museum, Sydney.

EUSCELINI

Tasmanotettix, gen. nov.

The ventral surface of the head is evenly convexly rounded, the antennal pits are shallow, and the antennae long. The internal margins of the eyes lie close to the frontal suture on each side, and, apically, the head lacks a flattened margin. The ocelli are visible in dorsal aspect and lie close to, but not touching, the eyes, and the width of the crown is less than the width of each eye. The anterior margin of the pronotum is evenly rounded, and the propleurae are narrow. The tegmina, which are long and narrow, extend well beyond the apex of the abdomen. The hind tibiae are flattened, and the small spines, which are set between the bases of the largest spines, are distinct and numerous.

Tasmanotettix maculata, sp. nov. (Genotype)

(Plate III, fig. 1)

Length, 6 mm. *Head*, ventrally, very dark brown, but for the fronto-clypeus and the edges of the lorae, which are somewhat paler. Crown, mottled, with a regular pattern of dark brown, pale coffee-brown and yellow; ocelli, red. *Pronotum*, black, with six small white

areas lying transversely against the anterior border, posteriorly flecked with yellowish-grey. *Scutellum*, brown with four white markings. *Tegmen*, dark brown, with hyaline-white oval, and irregularly-shaped areas; veins, dark brown, bordered with yellowish-brown. *Thorax* and *abdomen*, ventral surface black, each abdominal segment narrowly edged with white posteriorly. *Legs*, dark brown, the hind tibiae ornamented with pale and dark-brown spots.

Type ♀, from Hobart, Tasmania (coll. J.W.E.), in the collection of the Australian Museum, Sydney.

Diemoides, gen. nov.

The ventral surface of the head is evenly convexly rounded, the antennal pits are shallow, and the apical margin of the head is broad. The ocelli, which are on the upper border of the apical margin, are well in front of the eyes, but closer to the eyes on each side than to each other. The dorsal surface of the head is arrow-shaped, the coronal suture is distinct, and the width of the crown is greater than that of the eyes. The pronotum, of which the anterior margin is almost straight between the eyes, is narrow laterally, and the propleurae separate the eyes from the bases of the tegmina. The tegmina have narrow appendices and the anal veins are fused medially. The hind tibiae have a few very minute spines set between the bases of each of the largest spines.

Diemoides smithtoniensis, sp. nov. (Genotype)

(Plate III, fig. 4)

Length, 4 mm. *Head*, ventrally, pale brown, apical margin with three black and two white transverse stripes; ocelli, red. Crown, white suffused with pink medially. *Pronotum*, bright red anteriorly, grey posteriorly. *Scutellum*, with the anterior angles red, the remainder white. *Tegmen*, hyaline, with brown areas between the veins and the costal margin partly white; border of tegmen and anal veins red, other veins brown. *Thorax* and *abdomen*, ventral surface black with white markings. *Legs*, white with black markings.

Type ♀, from Smithton, Tasmania (coll J.W.E.), in the collection of the Australian Museum, Sydney.

Eutettix Van Duzee

Trans. Amer. Ent. Soc. 19; 302, 1892.

One species (*melaleucae* Kirk., 1907), belonging to this genus, has been described previously from Australia, and a widely distributed species, *sellata* (Uhler) (Kirkaldy, 1906), has been recorded from Queensland. Three new species are described below. The figures render unnecessary a re-description of this genus.

Eutettix norrisi, sp. nov.

(Plate III, figs. 2 a-d)

Length, 6 mm. *Head*, ventral surface, pale biscuit-colour; muscle impressions on the fronto-clypeus dark brown; eyes very dark brown. Crown of head slightly wider in the middle than against the eyes, with a median black transverse stripe just posterior to the ocelli, which, although marginal, are visible in dorsal aspect. *Pronotum*, pale greyish-brown, with a few dark-brown spots. *Scutellum*, pale yellow. *Tegmen*, transparent, veins dark brown, anal border dark brown, appendix wide. *Thorax* and *abdomen*, ventral surface, yellowish-white with a few irregular dark-brown markings. Hind tibiae, with four rows of spines and with minute spines set between the bases of each of the largest spines.

Type ♂, from Crawley, Western Australia (coll. K. R. Norris), in the collection of the Australian Museum, Sydney.

Eutettix pallida, sp. nov.

(Plate III, fig. 3)

Length, 6 mm. *Head*, ventral surface pale yellow or brown; muscle impressions paler in colour than the rest of the fronto-clypeus; eyes dark brown. Crown slightly wider in the middle than against the eyes, with a pale dark brown transverse stripe. *Pronotum*, pale yellowish-brown. *Scutellum*, yellow. *Tegmen*, including the veins, transparent. *Thorax* and *abdomen*, ventral surface pale yellow.

Type ♀, from Stewart River, Queensland (coll Hale and Tindale), in the collection of the South Australian Museum.

Eutettix selbyi, sp. nov.

Length, 7 mm. *Head*, ventral surface, pale whitish-yellow, but for the eyes, which are red, the ante-clypeus, fronto-clypeus anteriorly, and the muscle impressions, which are coffee-coloured, and two transverse black markings on the fronto-clypeus posteriorly. Crown of head, pale yellow, with two pairs of transverse black markings that do not reach as far as the eyes laterally, nor as far as the coronal suture medially, nearly as wide against the eyes as in the middle; ocelli marginal, visible in dorsal aspect. *Pronotum*, grey, with three small dark-brown markings lying behind each eye. *Scutellum*, yellowish-grey, with a dark brown V-shaped marking close to each anterior angle. *Tegmen*, white, brown apically, and with brown areas between the veins; veins dark brown. *Thorax* and *abdomen*, ventral surface, and *legs* marked with a pattern in yellow, pale and dark brown. Ovipositor sheath in the female, dark brown with white spines.

Type ♀, from Mutchilba, North Queensland, in the collection of Mr. F. E. Wilson, Melbourne.

Thamnotettix Zetterstedt

Ins. Lapp. 29; 1840.

The two species described below are the first belonging to this widely distributed genus to be described from Australia.

Thamnotettix argentata, sp. nov.

(Plate III, fig. 5)

Length, 3·5 mm. *Head*, pale yellow, marked with an irregular dark-brown pattern; eyes, dark brown. *Pronotum*, anterior, third pale yellow, posterior, two-thirds grey, flecked with transverse dark-brown markings. *Scutellum*, yellow, but for the apex, which is dark brown. *Tegmen*, hyaline, with a silvery appearance, due to the sheen of the underlying wings, patterned with an irregular network of dark-brown markings. *Thorax* and *abdomen*, ventral surface, pale yellow with scattered dark-brown markings.

Type ♂, from Burnley, Victoria (coll. J.W.E.), in the collection of the Australian Museum, Sydney

Thamnotettix canberrensis, sp. nov.

(Plate III, fig. 6)

Length, 3 mm. General coloration pale yellow, eyes, dark brown, ocelli, red. *Head*, very pale yellow, crown much wider medially than against the eyes. *Pronotum* and *scutellum*, apricot yellow. *Tegmen*, hyaline-yellowish, extending beyond the apex of the abdomen.

Type ♀, from Canberra, F.C.T. (coll J.W.E.), in the collection of the Australian Museum, Sydney.

Phrynophyes Kirkaldy

Hawaii Sug. Ass. Bull. 1 (9); 327, 1906.

Two species of this genus, *phyrnophyes* Kirk. and *parvula* Kirk., have been described previously from Australia. The figures given by Kirkaldy make re-description of this genus unnecessary.

Phrynophyes kirkaldyi, sp. nov.

(Plate III, figs. 7a-c)

Length (♀), 5 mm. General coloration, when alive, metallic green. *Head*, ventral surface, pale yellowish-brown; muscle impressions on the fronto-clypeus transverse, brown; eyes, dark green. Crown, pale yellowish-green, pointed apically, distance between the anterior corners of the eyes greater than between the internal posterior corners; ocelli, visible in dorsal aspect, minute. *Pronotum* and *scutellum*, yellowish-green. *Tegmen*, hyaline, olive-green, costal

border whitish-green, veins outlined in brown. *Thorax*, ventral surface, and legs, pale yellowish-brown with dark-brown markings. *Abdomen*, ventral surface, marked with a variable pattern of light and very dark brown. The abdomen extends well beyond the apices of the folded tegmina in the female, but only slightly beyond in the male.

Type ♂, from Snug, Tasmania (coll. J.W.E.), in the collection of the Australian Museum, Sydney.

Deltocephalus Burmeister

Gen. Ins. 1838.

The following six species of this cosmopolitan genus have been described previously from Australia: *flavidiventris Stål* (1859), *perparvus* Kirk. (1906), *lotis* Kirk., *polemon* Kirk., *lucindae* Kirk. (1907), *arunda* Jacobi (1909). Two new species are described below.

Deltocephalus obliquus, sp. nov.

(Plate III, figs. 11a-e)

Length, 3 mm. *Head*, ventral surface, pale reddish-brown, darkening posteriorly; muscle impressions on fronto-clypeus black, oblique; eyes, black. Crown of head pointed apically; muscle impressions visible on small semi-circular areas lying on each side of the anterior margin of the head, between these impressions, crown, black; the remainder yellow, marked with a regular pattern of light and dark brown. *Pronotum*, short, anteriorly concolorous with the crown of the head, posteriorly grey. *Scutellum*, yellow, with two round black spots. *Tegmen*, hyaline-grey, with a few irregular dark-brown markings; veins, white. *Thorax* and *abdomen*, ventral surface, pale yellowish-brown; legs somewhat darker brown.

Type ♀, from Smithton, Tasmania (coll. J.W.E.), in the collection of the Australian Museum, Sydney.

Deltocephalus montanus, sp. nov.

(Plate III, fig. 12)

Length, 3 mm. *Head*, ventral surface, black, mottled with bright yellow: crown only slightly pointed apically, muscle impressions not extending onto the crown, marked with an irregular pattern of black and yellow; ocelli, red. *Pronotum*, yellowish-grey, flecked with transverse dark-brown markings. *Tegmen*, hyaline, greyish-brown; veins, white bordered with irregular dark-brown markings. *Thorax* and *abdomen*, ventral surface, black. *Legs*, marked with an irregular pattern of dark brown, yellow and black.

Type ♀, from Mount Lofty, South Australia (coll. J.W.E.), in the collection of the Australian Museum, Sydney.

NOTES.

In addition to those described in this paper, the following genera are apparently confined to Australia:—

Anemochrea Kirk., 1906; genotype *A. mitis* Kirk.
Anemolua Kirk., 1906; genotype *A. hanuala* Kirk.
Giffardia Kirk., 1906; genotype *G. dolichocephala* Kirk.
Soracte Kirk., 1907; genotype *S. appollonos* Kirk.
Thamnophryne Kirk., 1907; genotype *T. nysias* Kirk.

Whilst it is possible that *Anemochrea* and *Anemolua* are related to *Euacanthella* (Euacanthidae), the remainder, with the exception of *Giffardia*, which may be related to *Euprora*, belong to the *Euscelini*.

The following species described from Australia belong to genera that are well represented in other zoo-geographical regions: *Driotura aristarche Kirk.* (1907); (paratype examined). Kirkaldy (1906) placed the following species in the genus *Phrynomorphus* Curtis, which is a synonym of *Euscelis* Brullé: *longuinquus* Kirk., *taedius* Kirk., *hospes* Kirk., *chlorippe* Kirk.

Limnotettix Sahl. contains three Australian species, *dimittendus* Kirk. (originally placed in the genus *Euleimonios* Kirk.), *tachyporias* Kirk., and *capitatus* Kirk. *Lonatura* Osborn and Ball and *Scaphoideus* Uhler each contains a single Australian species, *L. austrina* Kirk. (1907) and *S. pristidens* Kirk. (1907). *Nephotettix* Matsumura contains two Australian species, *plebeius* Kirk. (1906) and *eurytus* Kirk. (1907). Kirkaldy suggested that *N. plebeius* is an introduced species.

BALCLUTHINAE.

The following have been described from Australia:—*Nesosteles* Kirk. (1906), genotype *N. hebe* Kirk. (from Viti Isles); Australian species, *sanguinescens* Kirk., *sordidor* Kirk., *glauca* Kirk., and *taedia* Kirk., *Pettya* Kirk. (1906), genotype *P. anemolua* Kirk.

My attention having been drawn to the fact that *Ipocerus* Evans (1934) is preoccupied by *Ipocerus* Baker, type *Ipocerus kirkaldyi* (1915), the name of the former genus is hereby changed to *Bakeriola*, type *Bakeriola procurrens* (Jacobi).

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PLATE I

Fig. 1a.—*Cicadella pasiphae*, wing.
Fig. 1b.—*Cicadella pasiphae*, tegmen.
Fig. 1c.—*Cicadella pasiphae*, head and thorax, dorsal aspect.
Fig. 1d.—*Cicadella pasiphae*, hind margin of last abdominal segment of ♀
Fig. 2.—*Cicadella angustata*, head.
Fig. 3a.—*Cicadella koebelei*, head and thorax, dorsal aspect.
Fig. 3b.—*Cicadella koebelei*, hind margin of last abdominal segment of ♀
Fig. 3c.—*Cicadella koebelei*, male genitalia.
Fig. 3d.—*Cicadella koebelei*, male genitalia.
Fig. 4.—*Cicadella markei*, hind tibia.
Fig. 5.—*Cicadella albomarginata*, head and thorax, dorsal aspect.
Fig. 6.—*Cicadella dianae*, head and thorax, dorsal aspect.
Fig. 7.—*Cicadella heroni*, head and thorax, dorsal aspect.
Fig. 8.—*Cicadella markei*, head and thorax, dorsal aspect.
Fig. 9.—*Cicadella naomiae*, head and thorax, dorsal aspect.
Fig. 10.—*Cicadella angustata*, head and thorax, dorsal aspect.
Fig. 11.—*Cicadella richmondensis*, head and thorax, dorsal aspect.
Fig. 12.—*Cicadella sidnica*, head and thorax, dorsal aspect.

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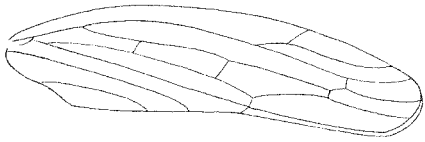

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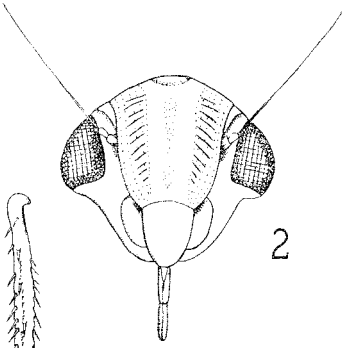

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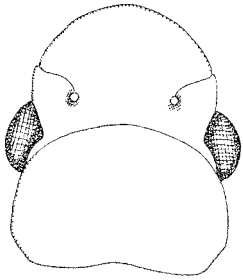

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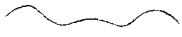

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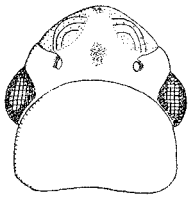

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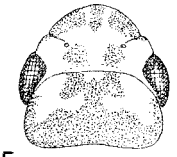

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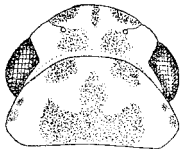

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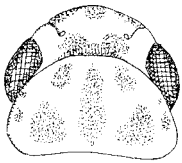

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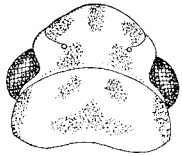

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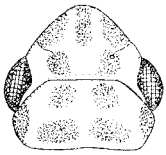

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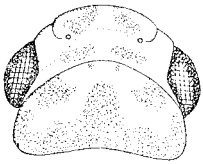

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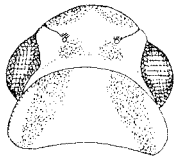

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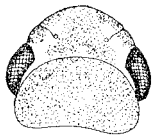

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PLATE II

Fig. 1a.—*Kana dorrigensis*, head, ventral aspect.
Fig. 1b.—*Kana dorrigensis*, head and thorax, dorsal aspect.
Fig. 2.—*Nirvana adelaideae*, head and thorax, dorsal aspect.
Fig. 3.—*Ophiuchus pallidus*, tegmen.
Fig. 4a.—*Reuteriella flavescens*, hind tibia.
Fig. 4b.—*Reuteriella flavescens*, tegmen.
Fig. 4c.—*Reuteriella flavescens*, head in profile.
Fig. 4d.—*Reuteriella flavescens*, head and thorax, dorsal aspect.
Fig. 4e.—*Reuteriella flavescens*, head, ventral aspect.
Fig. 5a.—*Reuteriella hobartensis*, head, ventral aspect.
Fig. 5b.—*Reuteriella hobartensis*, head and pronotum, dorsal aspect.
Fig. 6a.—*Hecalus basedowi*, tegmen.
Fig. 6b.—*Hecalus basedowi*, head and pronotum, dorsal aspect.
Fig. 7.—*Hecalus elongatus*, head and pronotum, dorsal aspect.
Fig. 8a.—*Euprora mullensis*, head and pronotum, dorsal aspect.
Fig. 8b.—*Euprora mullensis*, head and pronotum in profile.
Fig. 8c.—*Euprora mullensis*, tegmen.
Fig. 9.—*Xestocephalus tasmaniensis*, head.

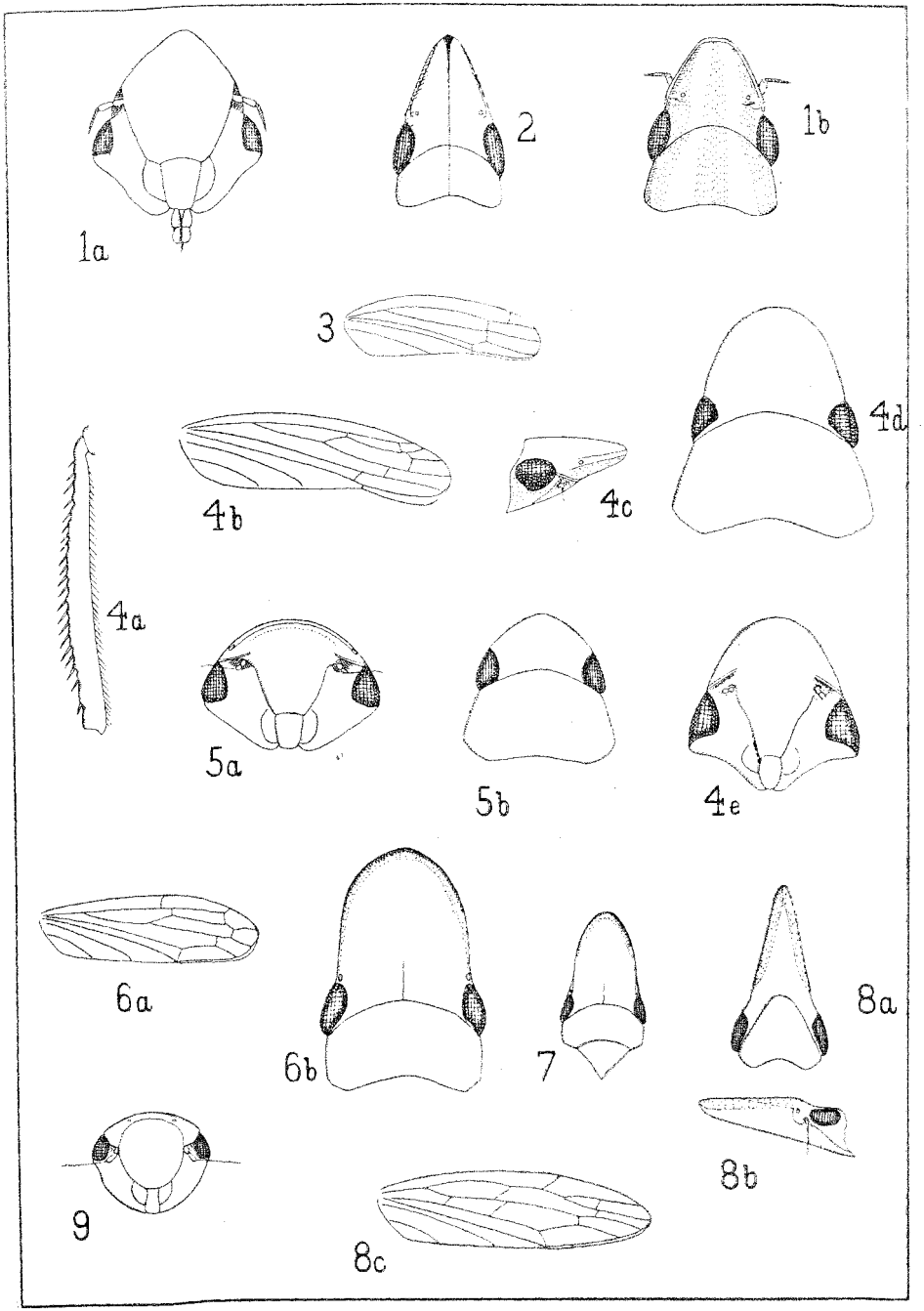
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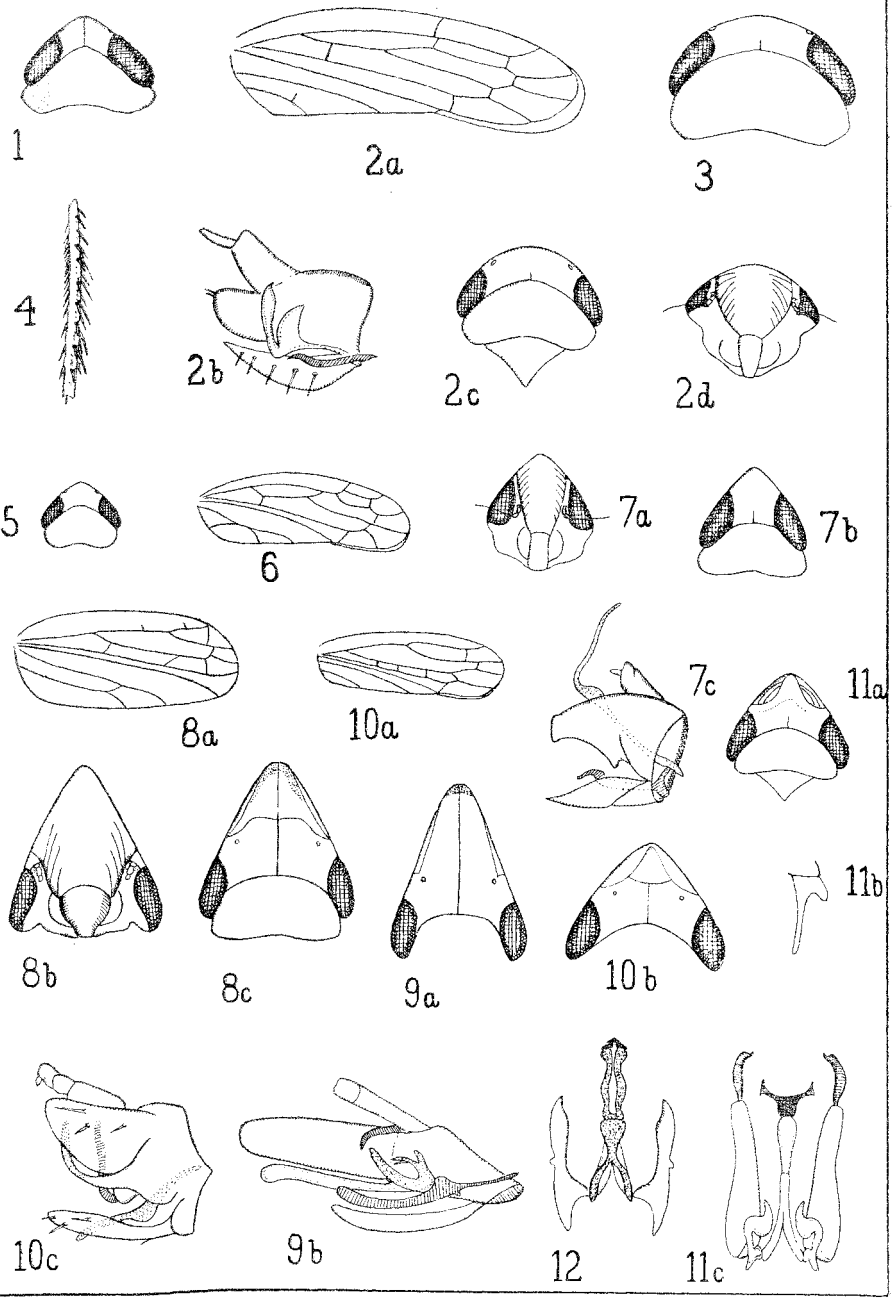
PLATE III.

Fig. 1.—*Tasmanotettix maculata*, head and pronotum, dorsal aspect.
Fig. 2a.—*Eutettix norrisi*, tegmen.
Fig. 2b.—*Eutettix norrisi*, male genitalia.
Fig. 2c.—*Eutettix norrisi*, head and thorax, dorsal aspect.
Fig. 2d.—*Eutettix norrisi*, head, ventral aspect.
Fig. 3.—*Eutettix pallida*, head and pronotum, dorsal aspect.
Fig. 4.—*Diemoides smithtoniensis*, hind tibia.
Fig. 5.—*Thamnotettix argentata*, head and thorax, dorsal aspect.
Fig. 6.—*Thamnotettix canberrensis*, tegmen.
Fig. 7a.—*Phrynophyes kirkaldyi*, head, ventral aspect.
Fig. 7b.—*Phrynophyes kirkaldyi*, head and pronotum, dorsal aspect.
Fig. 7c.—*Phrynophyes kirkaldyi*, male genitalia.
Fig. 8a.—*Euacanthella palustris*, tegmen.
Fig. 8b.—*Euacanthella palustris*, head, ventral aspect.
Fig. 8c.—*Euacanthella palustris*, head and pronotum, dorsal aspect.
Fig. 9a.—*Euacanthella insularis*, head, dorsal aspect.
Fig. 9b.—*Euacanthella insularis*, male genitalia.
Fig. 10a.—*Euacanthella bicolor*, tegmen.
Fig. 10b.—*Euacanthella bicolor*, head, dorsal aspect.
Fig. 10c.—*Euacanthella bicolor*, male genitalia.
Fig. 11a.—*Deltocephalus obliquus*, head and thorax, dorsal aspect.
Fig. 11b.—*Deltocephalus obliquus*, last ventral abdominal segment of ♀
Fig. 11c.—*Deltocephalus obliquus*, male genitalia.
Fig. 12.—*Deltocephalus montanus*, male genitalia.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