

ART. VI.—*A Revision of the Australian Cicadidae. Part I.*

BY HOWARD ASHTON.

[Read July 8th, 1920].

This family, so prominent in the entomology of Australia, seems to me now to be entitled to some revision so far as Australian species are concerned. The need arises from the fact that errors have crept in to classifications in the past, and because, since the last contribution to the literature of the family which covered the whole ground (I am speaking of Australia), Goding and Froggatt's valuable Monograph (Proc. Linn. Soc. N.S.W., 1904), many new species have been named, and several old ones more closely determined. It is unfortunate, and says little for the patriotism of collectors here, and for the Governments which subsidised Swedish, German and other foreign expeditions to collect material for foreign museums, that many of our types are not available here. The same remark applies, of course, to other branches of our fauna. If, when specimens are sent out of the country to foreign experts, duplicates only were despatched, our collections would be in a better state to-day than they are. The types of our Cicadas are thus scattered, many being in the British Museum. Some, of course, are in our own museums and collections. Many of the types of Goding and Froggatt are, fortunately, here in Australia. Some are in the Macleay Museum, Sydney, but some which were there are now missing. There are my own types in the museums of Sydney, Melbourne and Adelaide, and in my own collection. In this latter, too, are a number of authentic determinations by Mr. W. L. Distant, who has been good enough on several occasions to examine material I have sent him. I pass over some determinations by Walker in the Melbourne Museum, as they are, in several cases, obviously and completely contradictory and wrong.

I find reason, here and there, to traverse the determinations of former writers. It is unnecessary to state that I do so with regret, and only in the cause of what all workers must seek—scientific accuracy. Mistakes will creep in to any man's work, and, until everything is clear to mankind, will continue to creep in, and what one believes to be the truth, he must, in all humility,

stand by. When I do venture to differ from such an authority as Mr. Distant, and it is very rarely, it is with a deep sense of the obligations I myself and other workers must acknowledge to the greatest living authority on the family. Where I differ from Messrs. Goding and Froggatt, also, I do so with the respect due to those who have done pioneer work in their Monograph.

I have included New Zealand in the ground covered by this revision, because the few cicadas there are obviously descendants of Australian ancestors, all belonging to our greatest and most widely diffused genus, *Melampsalta*. With the exception of one or two from Lord Howe and Norfolk Island, the rest are from the continent itself, or from islands so close to it that they may be regarded as portions of the mainland. My system of references comprises all distinct synonyms, descriptions, and especially figures. In some cases, where I have not seen an authentic specimen of a species, I publish the original descriptions. Several new descriptions and generic divisions are also included. Where types are available, I have named the collections in which they are.

#### Sub-family CICADINAE, Dist.

This family contains the largest and most conspicuous of the Australian Cicadas. It is distinguished by the cryptic disposition of the tympana, which are fully covered by a prolongation of the basal abdominal segmental walls. In some genera these covering processes are dilated into large horny sacs.

#### Division POLYNEURARIA, Dist.

#### Genus *Platypleura*, Amyot and Serville.

Type *P. stridula*, Linnaeus (Africa).

This genus, dominant in Africa, and widely spread from that continent across Asia to the Philippine Islands, is represented by one species in Australia. I do not, however, feel at all sure the evidence of Australian habitat is established.

#### PLATYPLEURA TEPPERI, Goding and Froggatt.

*Platypleura tepperi*, God. and Frog. Proc. Linn. Soc. N.S.W., 1904, p. 568, pl. xvii., fig. f. 5 a.

Type, South Australian Museum, Adelaide, other specimens in the Macleay Museum, Sydney. *Hab.*—Northern Territory.

Division THOPHARIA, Distant.

Genus **Thopha**, Amyot and Serville.

Type *T. saccata*, Fabricius.

THOPA SACCATA, Fabr.

*Tettigonia saccata*, Fabr. Syst. Rhyn., p. 34, 9, 1803.

*Cicada saccata*, Guer. Mag. Zool., p. 80, pl. ccxxxviii., 1838.

*Thopha saccata*, Am. and Serv. Hist. Hem., p. 471, 1843;  
Frog. Aust. Ins., p. 348, fig. 154.

Specimens in all museum collections. *Hab.*—New South Wales.

THOPHA SESSILIBA, Distant.

*Thopha sessiliba*, Dist. Ann. Mag. Nat. Hist., (6), ix., p. 314 (1892); id. Gen. Ins. fasc., 142, p. 21, pl. 3, fig. 17, a, b, c, 1912.

*Thopha stentor*, Buckton. "Home University Magazine," Haslemere, i., p. 371, 1898.

Specimens in Macleay, Melbourne and Adelaide Museums, and in Coll. H.A. *Hab.*—Central Australia, Northern Territory (?), Queensland.

THOPHA COLORATA, Distant.

*Thopha colorata*, Dist. Ann. Mag. Nat. Hist. (1907), xx., p. 411.

One specimen in Coll. H.A., two (mutilated) in Adelaide Museum. *Hab.*—North-Western Australia.

T. NIGRICANS, Distant.

*Thopha nigricans*, Dist. Ann. Soc. Ent. Belg., 1910, p. 415.

Head pronotum, mesonotum, sternum, and legs piceous or black, abdomen, tympanal covers and opercula testaceous, tegmina and wings hyaline, talc-like, venation dark ochraceous, basal cell brownish-ochraceous, with a small hyaline spot at its lower extremity, and with its upper margins black. Base of head between eyes about as broad as medial length of vertex. Eyes strongly pedunculate, considerably passing anterior pronotal angles, anterior margins of vertex before front distinctly ridged, and diverging ridges between ocelli. Pronotum with four central carinations on anterior area, posterior margin strongly transversely striate, lateral margins of pronotum and

mesonotum, interior area of cruciform elevation, and posterior ridges of metatotum ochraceously pilose. Tympanal coverings very large and testaceously opaque, abdomen much shorter than expanse of tympanal coverings, above a little more than half their expanse, below about two-thirds. Apical segment above testaceously tomentose. Long 42 mm., exp. teg., 128 mm. *Hab.*—North Queensland.

Allied to *Thopha sessiliba*, Dist. by pedunculate eyes, differing by shorter and broader abdomen, more concave posterior margin of metasternum, and black head and thorax.

There are two specimens in Coll. H.A., which I take to belong to this species.

#### SYNOPSIS OF SPECIES.

*T. saccata*. Tympanal sacs deep reddish-chestnut, eyes not sessile.

*T. colorata*. Tympanal sacs orange-yellow, abdomen very narrow. Eyes sessile.

*T. sessiliba*. Abdomen marked with white tomentum. Eyes sessile. Colour generally yellow.

*T. nigricans*. Tympanal sacs testaceous, head and thorax black. Eyes sessile.

#### Genus *Arunta*, Distant.

Type *A. perulata*, Guerin.

ARUNTA PERULATA, Guer.

*Cicada perulata*, Guer. Voy. "Coquille," Zool. ii., p. 180, pl. x., fig. 5, 5a, 1830.

*Henicopsaltria perulata*, God. and Frog. Proc. Linn. Soc., N.S.W., 1904, p. 575.

*Arunta perulata*, Dist. Syn. Cat. Hom. Cicad., 1906, p. 27; id. Gen. Ins. fasc., 142, p. 21, pl 2, figs. 18, a, b, c, 1912.

In all Museum Collections. *Hab.*—Sydney, Coastal New South Wales and Queensland.

#### ARUNTA INTERCLUSA, Walker.

*Thopha interclusa*, Walk. List. Hom. Suppe, p. 5, 1858; id. List. Hom. iv., 1852, pl. 1, fig. 6.

*Henicopsaltria interclusa*, Stal. Berl. Ent. Zeit., x., p. 171, 1866.

*Arunta interclusa.*, Dist. Syn. Cat. Hom. Cicad., 1906, p. 27.

*Arunta flava*, Asht. Rec. Aust. Mus. Sydney, ix., i., p. 76, pl. vii., figs. 1 and 2, 1912.

Specimens in Sydney and Adelaide Museums, and Coll H.A.  
*Hab.*—Queensland.

ARUNTA INTERMEDIA, n. sp.

Head greenish-yellow, with margins of front, fascia between eyes, including vertical margins and region of ocelli, and narrow fascia on posterior margin, black. Pronotum reddish, a central stripe (narrower posteriorly, and surrounded by a black line), yellow, posterior margin yellowish testaceous. Mesonotum, with two small anterior obconical spots (margined with yellow), and a broad fascia on each side, inwardly much broken, deep brown, a black central longitudinal line, and spots before cruciform elevation.

Abdomen light brown, with a spot of white tomentum on second segment, a few black transverse markings on apical segments. Tympanal sacs testaceous, devoid of tomentum, abdomen beneath, and sternum also bare of the usual white "flour." Tegmina and wings talc-like, venation from pale to dark fuscous, basal venation of wings whitish, first two anastomoses to tegminal apical areas palely infuscated.

Long.—Male, 31 mm.; female, 33 mm. Expanse of tegmina, male, 103 mm.; female, 100 mm.

*Hab.*—Cape York, N. Queensland.

One male and two females in Coll. H.A., Coll. by H. Elgner, 1906.

SYNOPSIS OF SPECIES.

*A. pemplata.* Body robust, dark chestnut to piceous, anal plate beneath testaceous with central black line. Much powdered with white.

*A. intermedia.* Body not so robust, brown, anal plate beneath all deep brown. Not powdered with white.

*A. interclusa.* Body yellow with black markings, powdered with white, anal plate beneath testaceous. Tegmina unmarked.

## Division CYCLOCHILARIA, Distant.

Genus *Cyclochila*, Amyot and Serville.Type *C. australasiae*, Donovan.

## CYCLOCHILA AUSTRALASIAE, Don.

*Tettigonia australasiae*, Don. Ins. New. Holl. Hem., pl. II., fig. 1 (1805).*Cicada olivacea*, Germ. Thou. Ent. Arch. ii., p. 1, 1830.*Cyclochila australasiae*, Am. and Serv. Hist. Hem., p. 470, fig. L., 1880; Frog., Aust. Inst., p. 349, pl. xxxii., figs. 1, 1843; McCoy, Prodr. Zool. Vic., Dec. v., p. 57, pl. i., to 8.Specimens in all Museums. *Hab.*—New South Wales, Victoria.

## CYCLOCHILA AUSTRALASIAE, var. SPRETA, God. and Frog.

*C. australasiae*, var. *spretta*, God. and Frog. Proc. Linn. Soc. N.S.W., 1904, p. 570.

This variety is distinguished by the black fascia across vertex of head, black longitudinal fasciae on pronotum and mesonotum, and black abdomen.

Specimens in all Museums. *Hab.*—New South Wales, Victoria.

## CYCLOCHILA VIRENS, Distant.

*Cyclochila virens*, Dist. Entomologist, 39, 1906, p. 148.*Cyclochila laticosta*, Asht. Proc. Roy. Soc. Vic., 1912, ii., p. 221, pl. xlix., figs. 1a, b.Specimens in Coll. H.A., and in Adelaide Museum. *Hab.*—Kuranda, Queensland.

## SYNOPSIS OF SPECIES.

*C. australasiae*. Costa moderately broad.*C. virens*. Costa immensely dilated.Genus *Psaltoda*, Staal.Type *P. moerens*, Germar.

## PSALTODA MOERENS, Germ.

*Cicada moerens*, Germ. Silb. Rev. Ent., ii., p. 67, 1834; McCoy, Prodr. Zool. Vic., Dec. v., p. 53, pl. 1., fig. 1, 2 (1880).*Psaltoda moerens*, Stal. Ann. Soc. Ent. Fr. 4, i., p. 614, 1861; Frog., Aust. Ins., 1907, p. 349, fig. 155

In all Museums. *Hab.*—New South Wales, Victoria, South Australia, Tasmania.

PSALTODA ARGENTATA, Germar.

*Cicada argentata*, Germ. Silb. Rev. Ent. ii., p. 66, 1834.

*Psaltoda argentata*, Stal. Ann. Soc. Ent. Fr., 4, i., p. 614, 1861.

*Cicada plaga*, Walk. List. Hom., i., p. 109, 1850.

In all Museums. *Hab.*—New South Wales.

PSALTODA PICTIBASIS, Walker.

*Cicada pictibasis*, Walk. List. Hom. Suppl., p. 31, 1858.

*Psaltoda pictibasis*, Stal. Ofv. Vet. Akad. Forh, 1862, p. 483.

Specimen in Macleay Museum, Sydney. *Hab.*—Queensland.

PSALTODA AURORA, Distant.

*Psaltoda aurora*, Dist. Trans. Ent. Soc. Lond., 1881, p. 644.

id. Gen. Ins. Fasc., 142, p. 23, 1912, pl. 3, fig. 20 a, b, c.

Macleay Museum, Coll. H.A. *Hab.*—Queensland.

PSALTODA ADONIS, Ashton.

*Psaltoda adonis*, Asht. Proc. Roy. Soc. Vic., xxvii., i., p. 13, pl. ii., figs. 3 a, b, 1914.

Types in Australian Museum, Sydney. *Hab.*—Queensland.

PSALTODA FLAVESCENS, Distant.

*Psaltoda flavescens*, Dist. Ann. Mag. Nat. Hist., 6, x., p. 55, 1892.

Specimens in Macleay Museum, Sydney, determined by Goding and Froggatt. *Hab.*—New South Wales.

PSALTODA FUMIPENNIS, Ashton.

*Psaltoda fumipennis*, Asht. Proc. Roy. Soc. Vic., ii., 1912, p. 222, pl. xlix., fig. 2 a, b.

Type, Coll. H.A. Specimen in South Australian Museum, Adelaide. *Hab.*—Northern Territory (?), Queensland (?).

This species is of doubtful habitat. It was described from two male specimens received from F. P. Dodd, and there seemed some uncertainty as to whether it came from Port Darwin or Kuranda. I think, however, that it is a Queensland species.

## PSALTODA HARRISI, Leach.

*Tettigonia harrisii*, Leach. Zool. Miscell., p. 89, pl. xxxix.,  
fig. 2, 1814.

*Cicada dichroa*, Boisd. Voy. "Astrolabe," p. 613, pl. x., fig.  
7, 1832.

*Fidicina subguttata*, Walk. List. Hom., i., p. 95, 1850.

*Psaltoda harrisi*, Stal. Ann. Soc. Ent. Fr., 4, i., p. 614, 1861.

## PSALTODA CLARIPENNIS, n. sp.

The greenish species named as a variety by Goding and Froggatt, is, I feel sure, worthy of specific rank. I sent one of these to Mr. Distant some years ago, and he determined it as a variety of *P. harrisi*. But there are, in all the specimens I have seen, structural differences, which seem to me sufficient grounds for elevating it into specific rank. The abdomen in *P. harrisi* is very much longer than the head and thorax together; in this species it is about the same length. The head of *P. harrisi* is relatively narrower. In *P. harrisi* again, the posterior edge of posterior pronotal margin is straight; in this species this edge is excavated very distinctly in the centre. The face of *P. harrisi* is less globose. The opercula of this lighter species meet in the centre, those of *P. harrisi* do not. The rostrum of *P. harrisi* reaches the apices of the hind coxae, that of this species barely reaches the bases. I therefore propose for this species the name *Psaltoda claripennis*. The habitat is Queensland.

Long. male 28 mm., female 24 mm.; expanse of tegmina, male 84 mm., female 84 mm.

## PSALTODA INSULARIS, Ashton.

*Psaltoda insularis*, Asht. Proc. Roy. Soc. Vic., 1914, pt. i., p.  
14, pl. ii., fig. 4 a, b.

Type in Australian Museum, Sydney. *Hab.*—Lord Howe Island.

## SYNOPSIS OF SPECIES.

A. Abdomen black above.

*P. moerens*. With hairy spots on sides of abdomen, tegmina and wings deeply apically infuscated. Thorax black above.



*P. argentata*. With hairy spots on sides of abdomen, tegmina faintly infuscated on first two anastomoses. Thorax black above.

*P. harrisi*. With hairy spots on abdomen. Tegmina and wings immaculate. Thorax black above, much smaller than preceding species.

*P. pictibasis*. With hairy spots on abdomen. Tegmina with first three anastomoses infuscated. Thorax ferruginous.

*P. insularis*. With hairy spots on abdomen, tegmina not infuscated, thorax black and yellow.

B. Abdomen above reddish, yellowish or testaceous.

*P. aurora*. Tegmina with first two anastomoses infuscated. First abdominal segment broadly marked with black, rest reddish yellow. Thorax black and yellow.

*P. flavescens*. Tegmina with first two anastomoses and tips of longitudinal veins infuscated. Abdomen above pale castaneous, with black segmental marginal markings. Thorax more or less castaneous.

*P. adonis*. Tegmina with all anastomoses, and tips of longitudinal veins infuscated. Abdomen above more or less luteous brown. Thorax green.

*P. fumipennis*. Tegmina and wings with broad apical infuscations. Abdomen yellow. Thorax green.

*P. claripennis*. Tegmina and wings immaculate. Abdomen castaneous, with black marginal segmental markings. Thorax green, marked with piceous and brown.

Note.—Goding and Froggatt describe (Proc. Linn. Soc. N.S.W., 1904, p. 589) *Psaltoda plebeia*. In the Macleay Museum there are a number of specimens, one of which is marked "Zipa, on locust trees." Two of these have been labelled as the types of *P. plebeia*, God. and Frog. The species is, as a matter of fact, *Cicada plebeja*, Scop., of the Mediterranean littoral. In one instance the usual chestnut colour of the pronotum has been replaced by yellow.

#### Genus *Neopsaltoda*, Distant.

Type *N. crassa*, Distant.

NEOPSALTODA CRASSA, Dist.

*Neopsaltoda crassa*, Dist. Ann. Soc. Ent. Belg., 1910, p. 415;  
id., Gen. Insect. fasc. 142, p. 24, pl. 4, fig. 21 a, b, c, 1912.

*Hab.*—Queensland.

I have not seen this species, but the figure in the "Genera Insectorium," should make it easy to identify when it does appear in museum collections.

**Anapsaltoda**, n. g.

Head not quite as long as pronotum, including eyes broader than base of mesonotum, eyes very sessile, front not as prominent as in *Psaltoda*. Posterior pronotal margin very broad, breadth equal to half the length of pronotum. Head and pronotum together about equal in length to mesonotum (excluding cruciform elevation). Tympanal coverings a little convex. Abdomen longer than thorax and head. Rostrum reaching apices of hind coxae. Opercula broad, convex, rounded posteriorly, overlapping interiorly. Abdomen beneath flattened and sharply depressed toward apex. Tegmina broad, acute at apices.

Type *A. pulchra*, Ashton.

ANAPSALTODA PULCHRA, Ashton.

*Psaltoda pulchra*, Asht. Proc. Roy. Soc. Vic., 1911, ii., p. 222, pl. 1., figs. 3 a, b; Dist. Gen. Insect. 142, p. 23 (1912).

*Hab.*—Queensland.

One specimen, the type in Coll. H.A.

Genus **Henicopsaltria**, Stål.

Type *H. eydouxii*, Guerin.

HENICOPSALTRIA EYDOUXII, Guer.

*Cicada eyedouxii*, Guer. Voy. "Coquille," Zool. II., p. 181, 1830.

*Henicopsaltria eydouxii*, Stal. Berl. Ent. Zeit., x., p. 171, 1866; Frog., Aust. Ins., p. 250, fig. 156, 1907.

Specimens in all Museums. *Hab.*—New South Wales, Queensland.

HENICOPSALTRIA KELSALLI, Distant.

*Henicopsaltria kelsalli*, Dist. Ann. Soc. Belg., 1910, p. 416. Melbourne and Adelaide Museums, and Coll. H.A. *Hab.*—North Queensland.

SYNOPSIS OF SPECIES.

*H. eydouxii*. Opercula pink. Tegmina with apical and sub-apical infuscations.

*H. kelsalli*. Opercula black. Tegmina unspotted.

## Arenopsaltria, n. gen.

I have ventured to separate out from the genus *Henicopsaltria* those members having the head and thorax deeply granulated. Another common difference is that the abdomen, which is broader in *H. eydouxii*, Guer., and *H. kelsalli*, Dist., than the thorax, is in these species, the same width. These characters are not the only differences. The wings of the three species *fullo*, Walk., *nubivena*, Walk., and *pygmaea*, Dist., are relatively very much shorter than those of the typical *Henicopsaltria*. And the second abdominal segment of *Henicopsaltria* is much longer than that of the proposed new genus. There are other and minor differences which workers in the family will notice.

Type *A. fullo*, Walker.

## ARENOPSALTRIA FULLO, Walk.

*Fidicina fullo*, Walk. List. Hom. i., p. 96, 1850.

*Henicopsaltria fullo*, Stal. Berl. Ent. Zeit. x., p. 171, 1866;  
Dist. Gen. Ins., fasc. 142, p. 24, pl. 4, fig. 22 a, b, c.

Specimens in Sydney Museum, and in Coll. H.A. *Hab.*—  
Western Australia

## ARENOPSALTRIA NUBIVENA, Walker.

*Fidicina nubivena*, Walk. List. Hom. Suppl., p. 17, 1858.

*Henicopsaltria nubivena*, Stal. Berl. Ent. Zeit., x., p. 171,  
1866; Asht., Mem. Nat. Mus. Melb., 1912 (4), pl. iv., figs.  
K 1. 2, p. 24, 1912.

Specimens in Adelaide, Macleay and Melbourne Museums, and  
in Coll. H.A. *Hab.*—South Australia, Victoria, Tasmania.

## ARENOPSALTRIA PYGMAEA, Distant.

*Henicopsaltria pygmaea*, Dist. Ann. Mag. Nat. Hist. 7, xiv., p.  
303, 1904.

I have not seen this species, and the type is not in Australia,  
and therefore I append Distant's description:—

Body ochraceous brown, abdomen castaneous. Pronotum with  
central ochraceous line; on each side of which is a narrow black  
fascia extending from anterior margin to near middle. *Meso-*  
*notum* with two obscure central obconical spots on anterior mar-  
gin, cruciform elevation ochraceous. Abdomen above with the

following greyish-white markings:—A small spot at inner angle of each tympanal covering, a broad anterior fascia (broken centrally) to second segment, and the anterior margin of anal segment. Tegmina and wings talc-like, venation ochraceous, tegmina, with the following fuscous spots:—One on each longitudinal vein to third ulnar area, each side of the transverse veins at apices of ulnar areas, and one at the apex of each longitudinal vein to apical areas. Head, pronotum and mesonotum granulose, rostrum reaching posterior coxae, tympanal coverings prominent and finely transversely striate, abdomen finely pilose, opercula rounded, not extending beyond the anterior margin of the first abdominal segment. Tegmina only a little longer than body.

Long. Corp. 14 mm., exp. teg. 39 mm.

*Hab.*—S.W. Australia.

Allied to *H. fullo*, Walk., but very much smaller.

#### ARENOPSALTRIA UNICOLOR, n. sp.

Body above and below concolorous, a dull yellowish-brown, except for the following browner and darker markings: Vertex of head between eyes, obscure linear fasciae, enclosing central paler stripe on pronotum, posterior pronotal margin, and posterior abdominal segmental margins; beneath, facial sulcus, apex of rostrum, and opercula. Tegmina hyaline, veins at bases of apical areas, except 8th, more or less infuscated. Costa and venation on basal half ochraceous, darker on apical half, basal membrane yellow; wings with venation on basal half ochraceous, darker on apical half.

This species apparently lacks the white tomentum so prominent in the three other species of this genus. It may also be easily distinguished by the unicolorous body, and the less heavily infuscated tegmina.

Long, male 23 mm.; expense of tegmina, 67 mm.

*Hab.*—Perth, West Australia. Coll. by Mr. G. H. Hardy. Type in Australian Museum, Sydney.

#### SYNOPSIS OF SPECIES.

*A. fullo*. Abdomen marked with white as follows:—One interrupted band across second abdominal segment.

*A. nubivena*. Central white spot, bisected in centre on dorsum of first and second abdominal segments, spot on each side, behind tympanal covers, and whole of last segment.

*A. pygmaea*. Spot at inner angles of tympanal covers, broken anterior lateral fascia to second segment, and anterior margin of last segment.

Division CICADARIA, Distant.

Genus **Macrotristria**, Stål.

Type *M. angularis*, Germar.

MACROTRISTRIA ANGULARIS, Germ.

*Cicada angularis*, Germ. Silb. Rev. Ent. ii., p. 68, 1834.

*Fidicina angularis*; Walk. List. Hom., i., p. 78, 1870.

*Macrotristria angularis*, Stal. Ofv. Vet. Akad. Forh., p. 714, 1870; Frog., Aust. Ins., p. 350, fig. 157, 1907.

In all Museums. *Hab.*—New South Wales, Queensland.

MACROTRISTRIA THOPHOIDES, Ashton.

*Macrotristria thophoides*, Asht. Proc. Roy. Soc. Vic., i., p. 13, 1914, pl. ii., fig. I. a.

Type specimen, one female in Coll. H.A. Male more darkly marked, and apparently more typical, in the South Australian Museum. *Hab.*—North-Western Australia.

MACROTRISTRIA HIEROGLYPHICA, Goding and Froggatt.

*Cicada hieroglyphica*, God. and Frog. Proc. Linn. Soc. N.S.W., 1904, p. 581.

*Rihana hieroglyphica*, Dist. Syn. Cat. Hom. Cicad., p. 38, 1906.

Specimens in Macleay, Coll. H.A., and Adelaide Museum.

*Hab.*—North-West Australia, Northern Territory.

MACROTRISTRIA GODINGI, Distant.

*Macrotristria godingi*, Dist. Ann. Mag. Nat. Hist., 7, xx., p. 412, 1907; id. Gen. Ins. fasc. 142, p. 26, 1912, pl. iii., fig. 23 a, b, c.

This species is only familiar to me by the illustration in the "Genera Insectorium," and the description in the "Magazine of Natural History." The only difference I can see between it and *M. hieroglyphica*, God. and Frog., is that the latter is without the yellow band on the abdomen shown in Distant's figure. *Hab.*—North-West Australia.

## MACROTRISTRIA SYLVARA, Distant.

*Cicada sylvara*, Dist. Trans. Ent. Soc. Lond., p. 591, pl. xvi., fig. 1 a, b, 1901.

*Macrotristria sylvara*, Dist. Syn. Cat. Hom. Cicad., 1906, p. 31.

*Cicada sylvana*, God. and Frog. Proc. Linn. Soc. N.S.W., 1904, p. 580.

Macleay and South Australian Museums. Coll. H.A. *Hab.*—Queensland.

## MACROTRISTRIA NIGRONERVOSA, Distant.

*Macrotristria nigronervosa*, Dist. Ann. Mag. Hist., 7, xiv., p. 329, 1904.

Head, pronotum and mesonotum ochraceous, head with face castaneous, ornamented with a piceous central fascia, and an oblique ochraceous spot on each side of base; the area of ocelli, inner margins of eyes, and narrow basal margin black. Pronotum with two very small sub-basal central black spots. Mesonotum with two central obconical spots on anterior margins black, each spot with a small ochraceous spot, the anterior margins on each side of these spots also narrowly black. Abdomen above black, posterior segmental margins narrowly ochraceous, margin of sixth segment, base and apex of anal segment, broadly ochraceous. Body beneath and legs ochraceous, anterior and intermediate tibiae and tarsi castaneous, body more or less greyishly pilose. Tegmina semihyaline, venation fuscous, basal cell, costal membrane and costal area ochraceous, transverse veins at apices of first, second, third and fourth ulnar areas more or less piceously infuscated, and a small fuscous spot on each longitudinal vein (excluding the uppermost) to apical areas. Wings semihyaline, venation ochraceous, apically fuscous, base narrowly ochraceous. Face very globose and prominent, head, including eyes, wider than anterior angles of pronotum, rostrum reaching posterior coxae. Long, female 36 mm., exp. teg. 95 mm. *Hab.*—North Queensland.

Allied to *M. intersecta*, Walk., from which it differs by the more prominent face, spotted tegmina, different colour, markings, etc.

This species is in none of the collections here. The above is the original description.

## MACROTRISTRIA DODDI, Ashton.

*Macrotristria doddi*, Asht. Proc. Roy. Soc. Vic., ii., p. 223, pl. 1., 5 a, b, 1912.

Type specimen and two co-types, all males, in Coll. H.A. *Hab.*—Doubtful; either North Queensland or Northern Territory.

## MACROTRISTRIA INTERSECTA, Walker.

*Fidicina intersecta*, Walk. List. Hom., i., p. 97, 1850.

*Fidicina internata*, Walk. id. loc., p. 98.

*Fidicina prasina*, Walk. id. loc., p. 100.

*Cicada intersecta*, God. and Frog. Proc. Linn. Soc. N.S.W., p. 584, 1904.

*Cicada sylvanella*, God. and Frog. Proc. Linn. Soc. N.S.W., p. 582, 1904.

*Macrotristria intersecta*, Dist. Syn. Cat. Hom. Cicad., p. 32, 1906; id. Gen. Insect. 142, p. 26, 1912.

*Hab.*—Queensland, Northern Territory.

Specimens in Melbourne, Macleay, Sydney and Adelaide Museums, and Coll. H.A.

## MACROTRISTRIA EXTREMA, Distant.

*Cicada extrema*, Dist. Ann. Mag. Nat. Hist. (6), x., p. 56, 1892.

*Macrotristria extrema*, Dist. Syn. Cat. Hom. Cicad., p. 32, 1906.

*Hab.*—North Queensland, Northern Territory, North-West Australia.

Many specimens in Sydney and Melbourne Museums, and in Coll. H.A., and South Australian Museums.

## MACROTRISTRIA DORSALIS, Ashton.

*Macrotristria dorsalis*, Asht. Mem. Nat. Mus. Melbne, (4), p. 30. Pl. iv., fig. a, 1, 2.

Types in National Museum, Melbourne. Co-types in Coll. H.A. *Hab.*—Queensland, Kuranda.

## MACROTRISTRIA NIGROSIGNATA, Distant.

*Macrotristria nigrosignata*, Dist. Trans. Ent. Soc. Lond., p. 673, pl. xxix., fig. 7 a, b.

Specimen in South Australian Museum. *Hab.*—West Australia (Cossack).

## MACROTRISTRIA FRENCHI, Ashton.

*Macrotristria frenchi*, Asht. Proc. Roy. Soc. Vic.  
Type, female, in Coll. H.A. *Hab.*—Northern Territory.

## MACROTRISTRIA HILLIERI, Distant.

*Macrotristria hillieri*, Dist. Ann. Mag. Nat. Hist., 1907, 7, xx.,  
413.

Macleay and Adelaide Museums, Coll. H.A., *Hab.*—South-  
Western Australia.

## MACROTRISTRIA OCCIDENTALIS, Distant.

*Macrotristria occidentalis*, Dist. Ann. Mag. Nat. Hist., 1912,  
x., p. 438.

South Australian Museum and Coll. H.A.

## MACROTRISTRIA VULPINA, Ashton.

*Macrotristria vulpina*, Asht. Proc. Roy. Soc. S.A.

Types in South Australian Museum, specimens in Coll. H.A.  
*Hab.*—West Australia.

## MACROTRISTRIA MACULICOLLIS, Ashton.

*Macrotristria maculicollis*, Asht. Proc. Roy. Soc. S.A.

Type, South Australian Museum. Co-types in Coll. H.A.  
*Hab.*—North Queensland.

## SYNOPSIS OF SPECIES.

A. Venation of tegmina broadly infuscated toward apex.

*M. angularis*. Face and posterior pronotal margin castaneous.  
Thorax black, marked with yellow.

*M. maculicollis*. Face and posterior pronotal margin black,  
latter spotted with yellow. Thorax black, marked with yellow.

*M. thophoides*. Face brownish, pronotal margins yellow.  
Thorax yellow marked with castaneous or black.

*M. occidentalis*. Face very prominent, piceous. Thorax cas-  
taneous or brown.

B. Venation of tegmina more or less spotted with fuscous.

*M. doddi*. Thorax brownish-ochraceous, much marked with  
black. Abdomen piceous.

*M. nigronerōsa*. Thorax ochraceous, somewhat marked with  
black. Abdomen with yellow segmental margins.



*M. hillieri*. Thorax black and castaneous. Abdomen black front, very convex and prominent.

C. Wings not or every faintly marked with fuscous.

*M. hieroglyphica*. Thorax yellow, marked with castaneous. Abdomen castaneous.

*M. godingi*. Abdomen with yellow band toward apex.

*M. sylvara*. Body mostly green. Abdomen piceous, tegmina faintly marked with fuscous on anastomoses and apical longitudinal veins.

*M. extrema*. Thorax green or yellow. Abdomen black with segmental margins yellow, robust, tegmina unspotted.

*M. intersecta*. Thorax green, more marked with black than *M. extrema*, segmental abdominal margins yellow. Abdomen piceous to castaneous.

*M. dorsalis*. Thorax and abdomen yellow, black longitudinal dorsal patch on abdomen. Tegmina immaculate.

*M. frenchi*. Body chestnut, head yellow, pronotal margins yellow.

*M. nigrosignata*. Body and head chestnut. Tegmina with basal cell black.

*M. vulpina*. Body piceous to castaneous. Allied to *M. hillieri*, but smaller, and tegmina unspotted.

#### Genus *Cicada*, Stål.

Type *C. plebeja*, Scop. (Asia Minor.)

#### *CICADA GRAMINEA*, Distant.

*Cicada graminea*, Dist. Ann. Mag. Nat. Hist. 7, xiv., p. 428, 1904.

*Cicada queenslandica*, Kirk. Canad. Ent., 41, p. 391, 1910.

*Female*.—Head and thorax grass-green, pronotum inclining to ochraceous (probably through discolouration). Head with basal and lateral areas to face, transverse fascia between eyes, basal margin and area of ocelli, purplish-brown. Pronotum with two central lines (united anteriorly and posteriorly), and incisures purplish-brown. Mesonotum with two short obconical spots, on each side a longer spot, central lanceolate spot. Spot in front of each anterior angle of cruciform, elevation purplish brown, outwardly margined with greenish ochraceous. Abdomen above somewhat thickly greyishly tomentose. Body beneath and legs more ochraceous than abdomen, the latter with some central discal

transverse spots and some smaller sublateral spots purplish-brown. Tegmina and wings hyaline; tegmina with costal membrane and venation of basal areas greenish, remaining venation fuscous. Venation of wings greenish. Head truncate in front, half as long as space between eyes, and (including eyes) as wide as base of mesonotum. Anterior femora armed below with two strong spines. Posterior tibiae with three spines, placed on each side on apical halves. Rostrum not quite reaching posterior coxae. Long, female, 76 mm., exp. teg., 85 mm. *Hab.*—Queensland.

Division DUNDUBIARIA, Dist.

Genus *Diceropyga*, Stål.

Type *D. obtecta*, Fabr.

DICEROPYGA OBTECTA, Fabr.

*Tettigonia obtecta*, Fabr. Syst. Rhyn, p. 35, 1863.

*Cosmopsaltria obtecta*, Dist. Mon. Orient. Cicad., p. 67, pl. v., fig. 13 a, b, 1890.

*Diceropyga obtecta*, Stal. Ofv. Vet. Akad. Forh., p. 708, 1870.

*Dundubia bicaudata*, Walk. List. Hom. Suppl., p. 6, 1858.

*Dundubia subapicalis*, Walk. Journ. Linn. Soc. Zool., x., p. 87, 1867.

This species, the home of which is in Papua, was taken for the first time in Australia by Mr. J. A. Kershaw, in January, 1914, on Lloyd Island, near the mouth of the Claudie River, North Queensland. These specimens are now in the National Museum, Melbourne. There are also specimens recorded from Queensland, in the South Australian Museum. I have a number from Papua.

GENERA OF DOUBTFUL HABITAT.

*Cryptotympana*, Stål.

Type, *C. pustulata*, Fabr. (China).

CRYPTOTYMPANA PUSTULATA, Fabr.

*Cicada pustulata*, Fabr. Mant. Ins., ii., p. 266, 1787.

*Tettigonia atrata*, Fabr. id. loc., p. 267, 1787.

*Cicada atra*, Sign. Rev. Mag. Zool., p. 406, 1849, pl. x., fig. 1.

*Fidicina bubo*, Walk. List. Hom., i., p. 82, 1850.

*Cryptotympana nigra*, Stal. Hem. Fabr. ii., p. 6, 1869; God. and Frog., Proc. Linn. Soc., N.S.W., p. 592, 1904.

*Cryptotympana pustulata*, Dist. Mon. Orient. Cicad., p. 86, pl. xi., figs. 10 a, b, 1891.

That this species has been found in Australia is very doubtful. It is recorded by Goding and Froggatt on the authority of one specimen, determined by Walker in the National Museum, Melbourne.

Several specimens in Coll. H.A., from China.

**Dundubia**, Amyot and Serville.

Type *D. mannifera*, Linnaeus.

DUNDUBIA MANNIFERA, Linn.

This species is regarded by Distant (Syn. Cat. Hom. Cicad., 1906), as of Australian habitat. Moulton in his published "Material for a Fauna Borniensis," follows Distant. It may, of course, have been found here, but there are no specimens from Australia in any of the museum collections I have examined. I have, however, several specimens from Borneo and Java, and it is just conceivable that the range may include Australia.

Sub-family GAEANINAE, Dist.

This sub-family is distinguished by the partially cryptic tympana. The degree of concealment varies very considerably, the tympanal coverings being in some cases, as in *Tamasa*, almost obsolete, and in others, such as *Tettigia*, fairly well developed. South America is the home of the sub-family, practically all the larger species there belonging to the Gaeaninae. This sub-family, however, is very poorly represented in Australia.

Division CICADATRARIA, Distant.

Genus **Tettigia**, Amyot and Serville.

Type, *T. orni*, Linnaeus (Europe.)

TETTIGIA INTERRUPTA, Walk.

*Cicada interrupta*, Walk. List. Hom., i., p. 175, 1850.

*Tettigia interrupta*, Dist. Gen. Ins. Fasc., 158, p. 3, pl. i., fig. 1 a, b.

*Hab.*—New Holland, Walk. The habitat of this species is, I think, somewhat doubtful.

I have not seen anything quite typical of the specimen figured by Distant in the *Genera Insectorum*, but I have one specimen in my collection—the only one I can refer to this species—from Western Australia. The colouration of this specimen is darker than the one figured, and the fuscous fascia across the bases of the apical areas of the tegmina only extend as far as the fourth.

TETTIGIA BURKEI, Distant.

*Tibicen burkei*, Dist. Proc. Zool. Soc., 1882, p. 126, pl. vii., fig., 3 a, b.

*Tettigia variegata*, God. and Frog. Proc. Linn. Soc. N.S.W., 1904, p. 594, pl. xviii., fig. 9, 9a.

*Tettigia burkei*, Dist. Syn. Cat. Hom. Cicad., 1906, p. 74. Specimens in all Museums. *Hab.*—Queensland.

TETTIGIA HILLI, Ashton.

*Tettigia hilli*, Asht. Proc. Roy. Soc., S.A.

Specimens in Macleay Museum (labelled by Goding and Froggatt *Tettigia tristigma*, Germ.), South Australian Museum, National Museum, Melbourne, and Coll. H.A. (types). *Hab.*—Northern Territory (Darwin).

SYNOPSIS OF SPECIES.

*T. interrupta*. Fuscous fascia extending unbrokenly along bases of apical areas.

*T. burkei*. Fuscous spots to anastomoses and tips of apical veins.

*T. hilli*. First two anastomoses only infuscated.

Genus **Tamasa**, Distant.

Type *T. tristigma*, Germar.

TAMASA TRISTIGMA, Germ.

*Cicada tristigma*, Germ. Silb. Rev. Ent., ii., p. 69.

*Tibicen kurandae*, God. and Frog. Proc. Linn. Soc., N.S.W., 1904, p. 603.

*Tibicen doddi*, God. and Frog. Proc. Linn. Soc. N.S.W., 1904, p. 602.

*Tamasa tristigma*, Dist. Syn. Cat. Hom. Cicad., 1906, p. 75; id. Gen. Ins. Rasc., 158, p. 4, pl. 1, fig. 3 a, b, 1914; Asht., Mem. Nat. Mus. Melb., pl. iv., fig. f 1, 2, 1912.

In all Museums. *Hab.*—Queensland, New South Wales.

I do not feel at all sure that *T. doddi*, God. and Frog., is not entitled to specific rank. This species is without the three distinct infuscations of the tegmina which give the name to Germar's species. Correlated with this feature is the considerably larger size. I have seen many large ranges of both these Cicadas. The two exist in the same localities, without any intermediate forms to link them. At all events, I certainly must regard *T. doddi* as a distinct variety.

#### TAMASA RAINBOWI, Ashton.

*Tamasa rainbowi*, Asht. Rec. Aust. Mus. Sydney., ix., 1, 1912, p. 106, fig. 41 a, b.

Types, male and female in Australian Museum (Sydney).  
*Hab.*—Northern New South Wales.

#### SYNOPSIS OF SPECIES.

*T. tristigma*. First two anastomoses and apex infuscated in tegmina.

*T. rainbowi*. All anastomoses and tips of longitudinal veins infuscated.

#### GENERA OF DOUBTFUL HABITAT.

Goding and Froggatt include *Tympanoterpes hilaris*, Germ., *Huechys vidua*, and *Gaeana maculata*, Drury, amongst the Australian Cicadas. I do not know their authority for the first, and the authority for *G. maculata* is one specimen out of three in the South Australian Museum, Adelaide, labelled :“ Northern Territory.” It may be Australian, but that evidence is not good enough. I have *T. (Proarua) hilaris* from S. America, and *G. maculata* from China. I certainly cannot consider them as Australian on the available evidence.