

REVISION OF THE GENUS *MACROTRISTRIA* STÄL
(CICADIDAE—HOMOPTERA—HEMIPTERA)
WITH DESCRIPTIONS OF NEW SPECIES.

A. N. Burns, Assistant Director, National Museum of Victoria.

ABSTRACT.

This genus which until now contained 16 species was erected by Stål in 1870, and until 1900 included three species only. Thirteen more were added between the years 1901 and 1914. So far as is at present known, the genus is purely Australasian, all species coming from the mainland and closely adjacent islands with exception of Tasmania. Most of the species are tropical or sub-tropical, one only being found as far south as Sydney and the far north-west of Victoria. All the species are either large or fairly large in size, *M. angularis* (Germ.) being the largest with a total wingspan of 175 mm. (5 inches), and *M. vulpina* Ashton the smallest with total wingspan of 65 mm. (app. 2½ inches). All the species are showy insects—which occur during the summer months and inhabit open bushland or savannah forests. Within the genus the species fall into three groups as follows:—

- (a) those with infuscation bordering cross veins and terminal branches of veins in forewings,
- (b) infuscation bordering cross veins and with a spot at the end of each terminal branch,
- (c) no infuscation at all.

Descriptions of six new species are given in this paper, two unfortunately being from single specimens only both of which are females; they are however quite distinct.

INTRODUCTION.

The distribution of species of *Macrotristria* is interesting, and ranges over varying types of country, especially in the tropical portions of the Continent where most species occur mainly in areas of rainfall of 50 inches and less. By far the most widely distributed and common species is *M. angularis* (Germ.) which ranges from the Mildura–Irymple area in Victoria, (the only area in that State where it is known to occur), New South Wales from a little south of Sydney to the Atherton tableland in North Queensland. Most of the other species are very much more restricted in their range of distribution, several are known only from very few specimens and single localities. All the species have a similar superficial appearance although the range and degree of colouration is very variable. All like to rest fairly high up in large trees and the song of the species of which I have records is loud, shrilling and audible at a considerable distance. Quite a number of species inhabit the dry interior and drier parts of the tropical north and north-west of the Continent, and even in these areas where similar conditions exist over very large

areas, are apparently fairly local. This really has yet to be proved because so little systematic collecting of these insects has been done in the more remote parts of the centre and north-west. Normally these are not easy insects to collect as they keep high up in the trees and so elude capture. To the known list of 16 species six more are now added, which are described and figured in this paper.

SUMMARY OF EXTERNAL MORPHOLOGY.

Large to medium sized insects in which the sexes are very similar in appearance. Body robust and fairly long, its length averaging $2\frac{1}{2}$ times its width. Width of head equal to length of pro. and mesonotum; wider or equal to but not less than width of pronotum. Length of the latter equal to the portion of the mesonotum from its anterior margin to the proximal margin of the cruciform elevation. Pronotum with three sulci on either side of midline, its lateral margins with an anterior lobe. Head and thorax not strongly sculptured, in most species either smooth or slightly "marbled", slightly vermiculate in a few. Frons strongly convex, length exceeding twice its width; rostrum extending as far as the anterior margin of the posterior coxae. Ocelli closely or fairly closely grouped, anterior ocellus in line with or in front of anterior margin of eyes. Anterior wings three times as long as broad, approximately one and a quarter times body length. Length of posterior wings more than half that of anterior. Front femora only fairly strongly developed and with two large spines and a third very small spine or tubercle; posterior tibiae with five spines, two exteriorly, three interiorly. Cruciform elevation fairly strongly developed, the boundaries of the apex forming either a square or slight rectangle. Opercula at least reaching posterior margin of first abdominal segment beneath, may overlap slightly or have their inner margins close together but never widely separated. Opercular basal spine triangular and well developed, normally directed backwards and slightly outwards. The colour range of species in the genus is fairly wide, the ground colour usually being some shade of light or blackish brown, yellow or greenish; the head and thorax may be patterned with darker markings or be unmarked excepting for fasciae bordering the ocelli.

KEY TO THE SPECIES OF *MACROTRISTRIA*.

1. Anterior wings with infuscation bordering all or some of cross veins and terminal branches of main veins, head wider than pronotum, opercula (males) extending only to posterior margin of first abdominal segment 2

2. (1) Frons reddish-brown with a yellow spot on vertex; cruciform elevation reddish-brown, its anterior arms curving inwards in a semi-circle, opercula brownish-black darkening towards base, their external angles openly rounded, internal angles acutely so .. *angularis*.
 Frons with more than one yellow spot on vertex; cruciform elevation not reddish-brown, anterior arms of latter curving inwards more openly than in a semi-circle; opercula not brownish-black .. 3
3. (1) Frons deep black and with two small dark-yellow spots on vertex; cruciform elevation orange-brown; opercula yellowish-brown, basally black, their external angles rounded at about 90 degrees, internal about 70 degrees *maculicollis*.
 Frons not deep black, cruciform elevation not orange-brown; opercula silvery pubescent and only yellowish-brown at base, their external angles obtuse, internal sharply rounded 4
4. (1) Frons dark brownish-black, cruciform elevation dark yellow with brown central marking, anterior arms slightly longer than posterior and almost straight; opercula yellowish-brown, silvery pubescent, their external angles obtuse, internal acutely rounded .. *hillieri*.
 Frons and cruciform elevation lighter in colour, opercula not unicolorous, their external angles not obtuse 5
5. (1) Frons light chestnut-brown; cruciform elevation yellowish-brown lined yellow dorsally; opercula yellowish, dark brown basally, their external angles openly and evenly rounded, internal evenly so .. *occidentalis*.
 Frons and cruciform elevation not light coloured; pseudopercula (female) not yellowish 6
6. (1) Frons blackish-brown; cruciform elevation blackish-brown anteriorly, reddish-brown posteriorly; pseudopercula (female) blackish-brown with external margins yellowish-brown .. *nanda*, sp. nov.
 Frons and cruciform elevation not blackish-brown; pseudopercula (female) lighter in colour and graded 7
7. (1) Frons and cruciform elevation reddish-brown; pseudopercula dark brown grading to yellowish-brown basally .. *kabikabia*, sp. nov.
 Anterior wings with infuscation bordering all or some of cross veins, terminal branches of main veins with a small infusate spot adjoining ambient vein 8
8. Frons reddish-brown; cruciform elevation yellowish-brown; opercula dark reddish-brown, silvery pubescent, their external angles openly rounded, internal acutely so *thophoides*.
 Frons similar but darker in colour and marked; cruciform elevation not yellowish-brown; opercula with external angles more than openly rounded 9
9. (8) Frons dark reddish-brown with a yellowish-brown marking down front; cruciform elevation dark reddish-brown; opercula dark reddish-brown, silvery pubescent, their external angles obtusely rounded, internal acutely so *hieroglyphica*.
 Cruciform elevation and opercula not dark reddish-brown .. 10

10. (8) Frons dark reddish-brown, yellowish at junction with clypeus; cruciform elevation yellowish, its posterior arms longer than anterior; opercula black, may be yellowish near external margins, their external angles widely obtuse, internal acutely rounded *godingi*.
 Cruciform elevation not yellowish, its posterior arms shorter than anterior 11
11. (8) Frons reddish-brown with a central black marking on vertex; cruciform elevation cinnamon-brown, its anterior arms slightly longer than posterior *nigronervosa*.
 Frons slightly darker in colour and without a black marking on vertex; cruciform elevation not cinnamon-brown 12
12. (8) Frons dark reddish-brown with a yellow patch on vertex; cruciform elevation yellowish-brown; opercula yellow, silvery pubescent, their external angles openly rounded, interior acutely so .. *doddi*.
 Frons not dark reddish-brown; cruciform elevation not yellowish-brown; opercula not yellow 13
13. (8) Frons green on vertex, middle front black, sides tinged brownish; cruciform elevation yellowish-green; opercula yellowish-green, silvery pubescent, their external angles about 90 degrees, internal evenly rounded *sylvara*.
 Anterior wings without infuscation bordering cross veins; terminal branches of main veins without infuscation or infusate spots .. 14
14. Frons and cruciform elevation reddish-brown; posterior arms of the latter slightly paler; opercula pale reddish-brown, silvery pubescent, their external angles obtusely open, internal very acute *nigrosignata*.
 Frons not reddish-brown; opercula not pale reddish-brown, their internal angles not very acute 15
15. (14) Frons yellowish-brown; cruciform elevation pale yellowish-brown suffused pinkish, its posterior arms longer than anterior; opercula brownish-black, lighter near external margins, silvery pubescent, their external angles openly obtuse, internal rounded about 90 degrees *frenchi*.
 Cruciform elevation not pale yellowish-brown its anterior arms slightly longer than posterior; opercula not brownish-black, their external angles not obtuse 16
16. (14) Frons and cruciform elevation yellowish-brown, anterior arms of latter slightly longer than posterior; opercula pale yellowish, minutely pustulate, their external angles about 90 degrees, internal fairly evenly rounded *extrema*.
 Frons and cruciform elevation not yellowish-brown; opercula not unicolorous nor pustulate 17

17. (14) Frons and cruciform elevation dark chocolate-brown; anterior arms of the latter longer than posterior; opercula yellowish, chocolate-brown near basal spine, their external angles about 90 degrees, internal semi-circular *vulpina*.

Frons and cruciform elevation not dark chocolate brown, arms of latter not of unequal length; opercula with their external angles greater than 90 degrees and internal not semi-circular 18

18. (14) Frons and cruciform elevation yellowish-green or pale yellowish-brown, arms of latter equal in length, opercula pale yellowish-brown, their internal angles very openly obtuse, internal acutely rounded *dorsalis*.

Arms of cruciform elevation not of equal length; internal angles of opercula not obtuse 19

19. (14) Frons and cruciform elevation greenish-yellow; arms of latter short, posterior slightly longer than anterior; opercula yellow, minutely punctate, their external angles openly and gently rounded, internal acutely so *kulungura* sp. nov.

Frons partly greenish-yellow only; cruciform elevation not greenish-yellow; opercula not entirely pale yellow, their external angles not openly rounded 20

20. (14) Frons yellowish-green, its transverse ridges frontally marked with black; cruciform elevation yellowish-brown, its posterior arms slightly longer than anterior; opercula pale yellow, basally dark brownish-black, their external angles about 90 degrees, internal sharply rounded *bindalia* sp. nov.

Frons not yellowish-green; cruciform elevation not greenish-yellow or unicolorous; opercula not unicolorous 21

21. (14) Frons light reddish-brown; cruciform elevation yellowish becoming reddish at extremities of arms; opercula with inner halves black and outer yellowish, their external angles rounded at about 90 degrees, internal acutely but evenly rounded *douglasi* sp. nov.

Frons not entirely pale reddish-brown; cruciform elevation not yellowish; opercula unicolorous 22

22. (14) Frons pale reddish-brown, darker on vertex; cruciform elevation dark chocolate brown, its anterior arms longer than posterior; opercula pale yellow, their external angles about 90 degrees, internal rounded *worora* sp. nov.

Frons not reddish-brown; cruciform elevation not dark coloured, its anterior arms not longer than posterior; opercula not unicolorous, their internal angles not equally rounded 23

23. (14) Frons yellowish, transverse ridges marked with black on either side of mid-line; cruciform elevation pale yellowish-brown, its posterior arms longer than anterior; opercula pale yellowish, dark brownish-black basally, their external angles openly and gradually rounded, internal acutely so *intersecta*.

Macrotristria angularis (Germar).

- Cicada angularis* Germar, 1834, in Silb. "Rev. Ent." 2: 68.
Fidicina angularis Walker, 1850, "List. Hom. Br. Mus.": 78.
Cicada angularis Stål, 1858, "Eugenies Resa." 4: 269.
Macrotristria angularis Stål, 1870, "Ofv. Vet.-Ak. Forh.": 714.
Macrotristria angularis Froggatt, 1895, Proc. Linn. Soc. N.S.W.: 529.
Macrotristria angularis Froggatt, 1903, Agric. Gaz. N.S.W. 14: 418, fig. 1.
Macrotristria angularis Froggatt, 1903, "Misc. Public. No. 643": 8, pl. 2, fig. 1.
Cicada angularis Goding and Froggatt, 1904, Proc. Linn. Soc. N.S.W. 29: 580.
Macrotristria angularis Distant, 1906, "Syn. Cat. Hom." 1: 31.
Macrotristria angularis Froggatt, 1907, "Australian Insects": 350, fig. 157.
Macrotristria angularis Ashton, 1914, Trans. roy. Soc. S. Aust. 38: 347.
Macrotristria angularis Ashton, 1921, Proc. roy. Soc. Vict. (N.S.) 33: 99.
Macrotristria angularis Tillyard, 1926, "Insects of Australia and New Zealand": 162.
Macrotristria angularis McKeown, 1942, "Australian Insects": 98.

This is the largest and one of the first species included in the genus. Around Sydney it is commonly called "Fiddler" on account of the resemblance of its song to the rise and fall of loud notes of a fiddle. Another reason for that name may have arisen from its habit of sometimes moving its forelegs backwards and forwards as if using a fiddle bow. It is also sometimes referred to as "Cherry Nose" on account of the reddish colour of the frons. It has a wide range of distribution, could be regarded as the commonest species in the genus, and, with *M. hillieri* is the only representative of *Macrotristria* so far recorded from Victoria. It is particularly abundant along a wide coastal strip from Sydney to Brisbane, and its range extends as far north as the Cairns and Atherton tableland districts of North Queensland. Over this wide range it has developed slight colour changes; the typical form (described below) ranges from Sydney to Brisbane. Victorian specimens (Irymple-Mildura district only) have a slightly "blackier" appearance due to the darker infuscation bordering the cross and terminal veins in the anterior wings and the paler (creamy-yellow) spots on the head and thorax. Specimens from Mackay and North Queensland on the other hand are considerably paler in colour being brownish-black with larger and sometimes coalescing yellow spots on the head and thorax, and lighter infuscation bordering the cross and terminal veins in the anterior wings. It usually frequents high trees. Average body length, males (10) 45.7 mm., + 1.5 — 3.7; females (12) 46.4 mm.; + 3.6 mm. — 4.4 mm. Head black, almost smooth, with an orange transverse frontal band from eyes to frons, a triangular orange spot on vertex of frons, and a large similar spot adjoining each eye; a fine sulcus on either side of ocelli and medianally from anterior ocellus to posterior margin. Frons reddish brown, openly grooved medianally from vertical angle to clypeus, transverse ridges normally 14-15 in number. Ocelli pinkish orange vitreous, not equidistant, anterior slightly in front of eyes. Genae dull black or brownish black, lightly golden pubescent, exterior margins carinate and sometimes marked with orange below eyes. Antennae black; clypeus dark brownish black, keeled medianally, half length of frons; labrum shining brownish black, sides planate; labium black, reaching posterior margin of middle coxae. Eyes opalescent brownish black.

Thorax average width, males, 17.5 mm., females 18.9 mm. Pronotum black, almost smooth, three open sulci on either side of midline; median elongate orange spot with a smaller one (sometimes joined) adjoining posterior marginal

band, another orange spot on either side between first and second sulci; posterior marginal band wide, reddish brown or black, without markings, transversely striate; anterior margin dark yellow finely edged black, and with a distinct anterior lobe. Mesonotum black with an elongate orange spot on either side of midline and a more elongate similar spot just above lateral margins. Cruciform elevation reddish brown with anterior arms black from posterior margin of anterior depression. The latter often with a small, trilobed, dull orange spot. Metanotum dull black tinged orange laterally. Wings, anterior, average length, male, 53.5 mm., width 17.9 mm.; females 55.4 mm., 16.7 mm. Clear vitreous, veins yellowish brown, excepting costal which is black. Cross veins from R3 to R4 + 5, R4 + 5 to M1, M2 to M3, M4 to CU1a and CU1 to CU2 bordered black or blackish brown infuscation; also terminal branches of R3, R4 + 5, M1, M2, M3, M4, CU12, ambient vein from CU2 to terminal of R2, and portions of R4 + 5 and M1 between junctions of cross veins. Legs dark brownish black, anterior tibiae and tarsi black, anterior femora with 3 spines, anterior at halfway, second near distal, third and smallest almost at distal. Posterior tibiae with five spines, two on outer, three on inner margins; the first on outer at halfway, second near distal; first on inner margin opposite first on outer, second slightly less than half-way to distal, third half-way between second of outer and distal. Underside of thorax dull brownish black, silvery pubescent, prosternum yellowish laterally. Abdomen black, lightly invested with brown pubescence. Opercula brownish black gradually blackening towards base; left (seen from ventral) sometimes slightly overlapping right, external angles openly rounded, internal sharply curved, basal spine short, brownish black. Underside of abdomen dark brownish or brownish black, brown pubescence thickest along intersegmental margins and junction of tergites and sternites.

Type: ?

Macrotristria maculicollis Ashton

Macrotristria maculicollis Ashton, 1914. Trans. roy. Soc. S.Aust. 38: 347, pl. 12, fig. 1.

Macrotristria maculicollis Ashton, 1921, Proc. roy. Soc. Vict. (N.S.) 33: 102.

This species in general appearance is very similar in colouration to the preceding, but may be at once separated by the four large yellowish spots on the posterior marginal band of the pronotum, its slightly smaller size, and the black frons with one large and two minute yellowish spots on its vertex. I have been able to examine three specimens only—(1♂ 2♀♀) all are from Dalby in Southern Queensland which may indicate that its distribution is local. These specimens were taken by Mrs. F. H. Hobler a niece of the late W. B. Barnard of Lepidoptera fame, at Toowoomba, Queensland.

Body length, male, 40.5 mm., female (average 2 specimens) 40.25 mm. Head wider than pronotum, deep black, almost smooth, an irregular shaped broad dark yellow band across front from each eye to posterior margin of frons, another large and two minute similar spots on vertex of frons; a shallow median groove from anterior ocellus to posterior margin, and a shallow open groove on either side of ocelli. Frons deep black, with a wide median groove from vertical angle almost to clypeus, transverse ridges normally 15–16. Ocelli pale pinkish vitreous, not equidistant; two posterior separated about one and a half times distance anterior and each posterior, anterior in front of line of eyes. Genae pale yellowish brown with black central patch, silvery pubescent, margin strongly carinate. Antennae black, Clypeus black, silvery pubescent, sharply keeled medianally; labrum dark brown anteriorly, sides black, planate, grooved medianally; labium black, also grooved, almost reaching posterior

margins of hind coxae. Eyes opalescent dark reddish brown. Thorax, width, male, 15.0 mm., female, 15.7 mm., black with dark yellow markings. Pronotum with three sulci on either side of midline, finely and openly sculptured; a dark yellow elongate spot crossing the inner sulcus on each side of median, posterior marginal band very wide, finely striate transversely, two elongate dark yellow dorsal spots and another smaller rectangular spot near each lateral margin; the latter black, carinate, with an openly rounded anterior lobe. Mesonotum black, smooth, two small dark yellow spots close together on mid-dorsal; on each side of these two larger elongate similar spots, one on dorsal the other near the lateral margin which is golden pubescent. Cruciform elevation not large, orange brown with ends of anterior arms black. Metanotum dark brown lined black. Wings, anterior, length, male, 50.0 mm., width 17.0 mm.; female 48.5 mm., 16.5 mm. Clear vitreous with veins dark brown excepting radial which is yellowish brown; cross veins from R3 to Cu1a and terminals of all veins from these finely margined with translucent dark brown giving a thickened appearance. Posterior, length, male, 27.5 mm., width, 15.5 mm.; female, 18.5 mm., 16.25 mm.; clear vitreous, veins pale yellowish brown excepting 2A and 3A which are brown, margined pale yellowish brown. Legs with femora dark brown, tibiae and tarsi darker. Anterior femora with two large and one very small spine, anterior just before half-way, second near distal, third at distal. Posterior tibiae with five spines, two externally and three internally; first exterior at half-way, second near distal; first interior at one-third, second two-thirds, third almost at distal. Underside of thorax yellow, silvery pubescent, black round coxal insertions and near lateral margins. Abdomen black, smooth, with very light scattered silvery pubescence. Opercula yellowish brown with basal portions black, transversely striate; inner margin of left (seen from ventral) overlapping that of right; internal angles rounded at about 70 degrees, external openly rounded at about 90 degrees. A short pale yellowish brown triangular shaped spine at base of each operculum. Underside of abdomen brown (paler in female) with pale golden pubescence near and on lateral margins of sternites.

It is likely that the song of this cicada is loud and penetrating like that of *M. angularis*, and that it, too, inhabits tall trees.

Cotypes: 1♂ Aust. Mus.; 2♀♀ S.A. Mus.

Macrotristria hillieri Distant.

Macrotristria hillieri Distant, 1907, Ann. Mag. nat. Hist. (7) 20: 413.

Macrotristria hillieri Ashton, 1914, Trans. roy. Soc. S. Aust., 38: 347.

Macrotristria hillieri Ashton, 1921, Proc. roy. Soc. Vict. (N.S.) 33: 102.

This is a species of the drier interior and coastal parts of Western Australia where the rainfall probably does not exceed 20 inches. It extends over a wide area though it appears to be rather local in habitat. The majority of the specimens examined have come from the region of Alice Springs-Hermannsburg area; other localities include Mildura, Victoria; Carnarvon, W.A.; Roeburne, W.A.; Charlotte Waters, N.T.; and Flinders Ranges, S.A. Its general colouration is dark chocolate brown with a few fine yellow markings on the head and thorax; in general appearance and size it resembles another dry country species, *M. occidentalis* Dist. Body length, male, average (14) 32.3 mm., + 2.2 mm., — 2.3 mm.; female (9) 32.3 mm. + 4.2 mm., — 1.8 mm. Head blackish or dark chocolate brown, longitudinally striate, considerably wider than pronotum; a narrow yellow frontal band from eyes to frons which is keeled

and narrowly marked yellow at the vertical angle; a small yellow median depressed spot posterior to ocelli, and a smaller similar spot alongside each lateral ocellus; posterior margin with an irregular yellowish marking on either side of mid-line; frons dark brownish black with transverse ridges clearly defined and interstitial grooves silvery pubescent; front below vertical angle almost planate; transverse ridges normally 13-14 in number. Ocelli not quite equidistant, dark golden or pale orange vitreous; anterior well in front of line of eyes. Genae black, densely silvery pubescent, margins yellow, carinate. Antennae with two basal segments dark brownish, others (3) yellowish. Clypeus dark brownish black; silvery pubescent; keeled medianally, slightly more than half length of frons; labrum yellowish, grooved medianally; labium brownish black, grooved as labrum, reaching anterior margin of posterior coxae. Eyes brownish opalescent.

Thorax, average width 13.8 mm.; brownish black or dark chocolate brown, with yellow and lighter brown markings. Pronotum with three sharply cut sulei on either side of midline, raised areas between openly sculptured, depressions with silvery pubescence; an elongate narrow, median yellow marking and lighter brown obscure patches dorso-laterally; posterior marginal band fairly wide, transversely striate; a small yellow median spot on its anterior margin; posterior margin widely lined yellow which extends round laterally to near margins where it widens; anterior portion of lateral margin yellow, slightly lobed. Mesonotum slightly paler than pronotum, almost smooth; depressed areas silvery pubescent; lateral margin yellow, carinate. Crueiform elevation well developed, dark yellow with dark brown central marking, anterior arms longer than posterior. Metanotum dark brownish black; finely lined yellow dorsolaterally. Wings, anterior, average length, male, 44.4 mm., width, 14.1 mm.; female 44.1 mm., 14.2 mm.; clear vitreous with veins C, R, M, M1 (to stigma beyond first branch) M3 and CU1 (to first forks) yellow; SC, ambient, and remaining portions of all other veins dark brown; cross veins from R3 to CU1a infuseated translucent brown. Posterior, average length, male, 26.6 mm., width, 12.5 mm., female, 25.9 mm., 13.0 mm., clear vitreous with veins RS, M, (to first branch) ambient, 2A and 3A dark brown, remainder yellow; 2A and 3A margined translucent fuscous. Legs dark brown, finely silvery pubescent, marked with yellow at joints, anterior femora, and tarsi. Anterior femora with 2 large and 1 very small spines, anterior almost at half-way, second three quarters, third distally at base of second. Posterior tibiae with five spines, two exteriorly, three interiorly; the first exterior just before half-way, second near distal; first interior at half-way, second at three-quarters, third just beyond second exterior. Underside of thorax brown, thickly silvery pubescent. Abdomen dark brown or chocolate, last two segments floeculent whitish, other segments finely golden pubescent. Opercula yellowish brown, whitely pubescent, fairly widely separated; their external angles obtuse, internal sharply rounded. Underside of abdomen brownish, junctions of tergites and sternites with white floeculenee; basal margins of segments widely yellowish, silvery pubescent.

Type: British Museum.

Macrotristria occidentalis Distant.

Macrotristria occidentalis Distant, 1912, Ann. Mag. nat. Hist. (8) 10: 438.

Macrotristria occidentalis Ashton, 1914, Trans. roy. Soc. S.Aust., 38: 348.

Macrotristria occidentalis Ashton, 1921, Proc. roy. Soc. Vict. (N.S.) 33: 102.

This dry country Western Australian species is apparently not well represented in collections; in all I have been able to examine only five males

and two females. The following description of the male has been made from a specimen in the collection of the Western Australian Museum and which has been labelled accordingly. It is from Waddi Forest and bears the identification number 41-249 16. All the specimens have been collected in an area bounded by Mullewa (near Geraldton) in the north, Mt. Jackson in the south, and Dedari in the east. Although I have examined much cicada material from the north-west and centre, no specimen of *M. occidentalis* has been included from those areas. Unfortunately none of the specimens bears a date of capture, but it is safe to assume that it is a late spring and early summer species. In Distant's original description (1912 (b)) he adds the following footnote: "I have only seen the female sex of this species which may be placed near *M. hillieri* Distant. Habitat: Southern Cross, W.A., H. Brown (Brit. Mus.). Body length male, average (5) 28.0 mm., + 2.0 mm., - 2.0 mm.; female, average (2) 27.7 mm. + 0.8 mm. - 0.7 mm. Head, including frons, chestnut brown; openly ridged longitudinally; a yellow frontal band, widest near eyes, to frons and extending round posterior margin of the latter as a fine line, and an obscure yellow patch near each eye bordering posterior margin. An open median groove from anterior ocellus to posterior margin. Ocelli pinkish brown; vitreous, the distance between anterior and each posterior half that between the two latter; anterior in line with front margin of eyes. Frons light chestnut brown, prominently rounded; openly grooved at vertical angle; transverse ridges well defined, 14-16 in number, interstitial grooves silvery pubescent. Genae yellowish brown, evenly silvery pubescent; external margins strongly carinate. Antennae chestnut brown; clypeus chestnut brown, silvery pubescent, sharply keeled; labrum yellowish brown, grooved medianally, sides planate and shining; labium yellowish, tipped brownish, reaching anterior margin of posterior coxae. Eyes opalescent brown.

Thorax, average width, male, 11.8 mm., female 11.5 mm.; chestnut brown, almost devoid of markings. Pronotum sculptured; three deep sulci on either side of mid-line, raised areas between first and second and outer sulcus slightly paler in colour; posterior marginal band fairly wide, yellowish, bordered anteriorly chestnut brown. Lateral margin of pronotum yellow anteriorly and slightly lobed. Mesonotum light brown with darker brown median patch from anterior margin narrowing to cruciform elevation; in this patch a fine yellow line on either side of median curving inwards and reaching mid dorsal. Upper lateral margin thickly silvery pubescent; lower, yellow, carinate. Cruciform elevation yellowish brown, anterior arms longer than posterior. Metanotum chestnut brown, lined yellow dorsally. Wings, anterior, male, average length, 39.4 mm., width, 13.3 mm., female, 39.25 mm., 12.75 mm.; clear vitreous; costal, Sc, R, and CU2 yellow, all others chestnut brown. Cross veins from R2 to CU1a bordered translucent brown, also terminal branches of veins R2 to CU1a. Posterior, male, average length, 23.3 mm., width, 11.3 mm.; female, 22.7 mm., 10.2 mm.; clear vitreous; veins RS and M to first branches, 3A and ambient, brown, others yellowish; 2A and 3A widely margined translucent brownish white. Legs pale brown; coxae and femora finely silvery pubescent; anterior femora with two large and one very small spines, anterior just before half-way, second almost at distal, third and smallest at base of second. Posterior tibiae with five spines, two exteriorly, three interiorly; first exterior almost at half-way, second mid-way between second and third interior; first interior opposite first exterior, second at two-thirds, third close to distal. Underside of thorax light brown, silvery pubescent. Abdomen brown with wide transverse dark brown median area on each segment; silvery pubescent along intersegmental margins. Opercula not very large, yellowish, widely dark brown at base; interior

margins fairly widely separated, external angles openly and evenly rounded, internal evenly rounded. Underside of abdomen chestnut brown, a wide transverse yellowish median area on each segment; thickly silvery pubescent near and at junctions of tergites and sternites.

Type: Brit. Mus.

Macrotristria nanda sp. nov.

This large and dark coloured species resembles the female of *M. angularis* (Germar) in size and shape. It is labelled Murchison River district, N. W. Australia, February, 1902. Unfortunately I have not been able to examine a male of this fine species. It is named *nanda* after the aboriginal tribe that inhabited the area near the mouth of the Murchison river. Body length, 42.0 mm. Head equal in width to pronotum; openly striate longitudinally; blackish brown (including frons), a transverse narrow frontal reddish yellow band from either side of frons to half-way to eyes, a small reddish brown patch adjoining posterior margin near each eye; vertex of frons with a sharp groove, another open groove from anterior ocellus to posterior margin; ocelli reddish vitreous, closely grouped, distance between two lateral almost twice that between anterior and each lateral. Frons prominent, medianally grooved from near vertical angle to clypeus. Transverse ridges fairly clearly defined; twelve in number; sparsely golden pubescent. Genae black, golden pubescent; exterior margins widely reddish brown; carinate. Clypeus black, finely golden pubescent; sharply keeled medianally, lateral margins lined reddish brown. Labrum reddish brown, grooved medianally, sides planate; labium (not entire in specimen) dark reddish brown, reaching anterior margin of posterior coxae. Eyes opalescent dark reddish brown. Thorax, width, 19 mm., blackish brown, pronotum sculptured; three sulci on either side of midline; a median longitudinal narrow reddish brown marking from anterior almost to posterior margin; depressed areas slightly golden pubescent. Transverse lateral band fairly wide, transversely striate; posterior margin narrowly yellowish brown, lateral margin lobed anteriorly. Mesonotum blackish brown very finely punctate; an inwardly curving very fine groove on either side of midline from anterior margin to half-way; exterior to this on each side, a slightly paler dorso-lateral patch; upper lateral margin reddish brown anteriorly. Cruciform elevation fairly strongly developed, anterior arms blackish brown, apex and posterior arms reddish brown; depression golden pubescent; area between each posterior and anterior arm transversely striate. Lower margin of mesonotum reddish brown, carinate. Metanotum reddish brown. Wings, anterior length, 56.0 mm., width 20.0 mm.; clear vitreous with costal, terminal branches of other veins, and ambient dark brown; subcostal, radial and other veins to ends of main cells, and basal cell, yellowish brown, external veins of basal cell, black. Posterior, length, 33.0 mm., width 15.0 mm.; clear vitreous with ambient, veins 2A and 3A dark brown, others yellowish brown; 3A widely margined translucent pinkish brown. Legs blackish brown, very sparsely golden pubescent. Anterior femora with two large spines and two minute tuberculate spines; anterior spine not quite at half-way, second at three-quarters; the first of the two minute tuberculate spines near base of second large spine, the second half-way to distal. Posterior femora with six spines, two exteriorly, four interiorly; first exterior at half-way, second three-quarters; first interior opposite first exterior, second close to first, third almost opposite second exterior, fourth midway to distal. Underside of thorax blackish brown. Abdomen uniformly blackish brown, fairly golden pubescent along inter-segmental margin. Pseudopercula (♀) blackish brown

with exterior margins yellowish brown; basal spines dark brownish black tipped reddish brown, situated at base of posterior coxae. Underside of abdomen blackish brown; very lightly golden pubescent.

Type: S.A. Mus. (Murehison River district, N.W. Australia, February, 1902.)

Macrotristria kabikabia sp. nov.

This interesting specimen was included amongst cicada material kindly loaned to me for study from the University of Queensland. At first glance it resembled a diminutive female of *M. angularis* (Germar), but closer inspection revealed it as being quite distinct from any other species of *Macrotristria* I have studied. It is labelled "Yabba—6.12.47. A. C. Arvier", and confirmation of this data from Dr. T. Woodward, Department of Entomology, University of Queensland, reveals that it should read "Yabba Creek" which embraces an area near Imbil in the Gympie district. As the specimen is quite distinct from any other known *Macrotristria*, it is named *M. kabikabia* after the tribal name (Kabi Kabi) of aborigines which lived in that area. Body length, 37.5 mm.; head considerably wider than pronotum, smooth; reddish brown, blackish on vertex and posterior to frons; behind each eye, a creamy yellow spot in the black area on each side of anterior ocellus; exterior to each lateral ocellus two small similar spots, and a medium creamy yellow groove from anterior ocellus to posterior margin; on each side near the posterior margin another larger creamy yellow patch. Area behind eyes and extending across posterior margin silvery pubescent. Ocelli fairly closely grouped; pinkish vitreous; anterior in front of line of anterior margin of eyes. Frons reddish brown, slightly darker on ridges and median groove; transverse ridges twelve in number, clearly defined; interstitial grooves silvery pubescent near lateral margins excepting middle one where the pubescence extends half-way across front. Genae black, almost completely obscured with silvery white pubescence; external margins pale yellow, carinate; clypeus brownish black, sharply keeled, silvery pubescent, not quite half as long as frons; labrum brown, shining; paler near clypeus, grooved medianally, sides planate; labium black, grooved as labrum, extending just beyond anterior margin of posterior coxae. Antennae (last two joints missing) dark brownish black. Eyes opalescent reddish brown. *Thorax*, width 14.0 mm. Pronotum smooth, reddish brown anteriorly, yellowish brown posteriorly; three sulci on either side of midline, black in depressions and black spots in raised areas between sulci; a medium dorsal black marking from anterior to posterior margins enclosing an elongate yellowish linear marking; posterior marginal band wide, yellowish, transversely striate; blackish along anterior border, the black extending as a band across to the posterior border near lateral margins. Lateral margins of pronotum blackish, earinate, weakly lobed anteriorly. Mesonotum smooth, yellowish brown; on either side of midline a triangular black marking from anterior margin almost to half-way; exterior to each of these another larger triangular dorso-lateral black marking from anterior margin to anterior arms of cruciform elevation; the latter weakly developed, reddish brown; anterior arms longer than posterior; anterior depression black with a yellowish spot; all these depressions silvery pubescent. Upper lateral margin of mesonotum blackish, silvery pubescent; lower as upper. Metanotum brownish black. Wings, anterior, length, 48.0 mm., width, 14.5 mm.; clear vitreous with all veins brown excepting subcostal and radial which are yellow. Cross veins from R3 — R4 + 5, R4 + 5 — M1, M2, — M3, M4 — CU1a, and terminal arms of veins R3 to CU1a bordered translucent brown; basal cell dark brown; membrane from 1A to body pinkish. Posterior, length, 26.0 mm., width, 12.0 mm.; clear vitreous with

veins yellowish, ambient pale brown, basal third of RS, M, CU1, CU2 and entire length of 2A and 3A edged translucent brown, the two latter margined pinkish. Legs dark brown, finely pubescent; anterior femora with two large and one very small spines, anterior just before half-way, second three-quarters, third and smallest nearer base of second than distal. Posterior tibiae with five spines, two externally, three internally; first exterior about one-third, second three-quarters; first interior half-way, second two-thirds, third close to distal. Underside of thorax yellowish; silvery pubescent. Abdomen dark brownish black; finely golden pubescent along anterior margins of segments. Underside dark brownish black; segments 2-6 inclusive lighter brown mid-ventrally, lateral parts of segments and junctions of tergites and sternites densely silvery pubescent.

Type: Queensland Museum. (Yabba, 6.12.47, A. C. Arvier.)

Macrotristria thophoides Ashton.

Macrotristria thophoides Ashton, 1914, Proc. roy. Soc. Vict. (N.S.) 27: 13, pl. 2, fig. 1, a.

Macrotristria thophoides Ashton, 1921, Proc. roy. Soc. Vict. (N.S.) 33: 99.

This large and interesting West Australian species bears a superficial resemblance to *M. hieroglyphica* (G. & F.) from which it may easily be separated by the infuscation bordering four of the cross veins in the anterior wings, its larger size, and the more reddish colour of the head and frons. I have been privileged to examine the type female from the Australian Museum collection and the single male in the S.A. Museum collection. Description of the male was made from this specimen which has been labelled accordingly. Neither of these specimens bears a date, they were collected at Norseman and Cue, Western Australia, respectively, by the late H. W. Brown. No data seems to be available regarding the habits or time of appearance of this cicada. Body length, male, 38.0 mm., female, 41.0 mm. Head slightly wider than pronotum, smooth; reddish brown (including frons) finely silvery pubescent in depressions; an angular median groove from anterior ocellus to posterior margin, and exterior to each lateral ocellus a weak sulcus. Ocelli pinkish brown vitreous, closely grouped, not equidistant; anterior ocellus in line with front margin of eyes. Frons reddish brown, prominent, an extremely shallow and open groove from vertical angle almost to clypeus; transverse ridges 15 in number, clearly defined; interstitial grooves silvery pubescent towards and at lateral margins of frons. Genae reddish brown, densely silvery pubescent; exterior margins sharply carinate. Antennae reddish brown. Clypeus reddish brown; sharply keeled, sides planate; silvery pubescent. Labrum reddish brown in front, grooved medianally; sides yellowish brown, planate, silvery pubescent. Labium pale yellowish brown, grooved as labrum; reaching middle of posterior coxae. Eyes opalescent reddish brown. Thorax, width, male 15.0 mm., female, 17.5 mm.; pronotum dark yellowish brown, finely sculptured on areas between sulci; three sulci on either side of midline, blackish in grooves and silvery pubescent; a narrow elongate median area enclosed with a fine brownish line which expands into a small patch at anterior and posterior margins; posterior marginal band wide, yellowish brown, finely transversely striate; lateral margins of pronotum yellowish brown, black anteriorly. Mesonotum smooth, brownish black with faint reddish suffusion; two yellowish brown markings on either side of midline, one near mid dorsal, other adjoining upper lateral margin. Cruciform elevation well developed, yellowish brown, silvery pubescent in depressions. Upper lateral margin of mesonotum brownish black, silvery pubescent; lower dark reddish

brown, carinate. Metanotum dark reddish brown. Wings, anterior, male, length, 45.0 mm., width, 16.0 mm.; female, 50.0 mm., 18.0 mm.; clear vitreous with veins dark brown excepting costal and subcostal which are pale yellowish brown. Cross veins between R3, R4 + 5, — M1, — M2, — M3, — M4, — CU1a margined translucent brown; CU1-CU2—faintly and narrowly so; terminal branches of veins from R4 + 5 to CU1a each with a small translucent brown spot near ambient vein. Basal cell brownish. Posterior male, length, 29.0 mm., width, 15.0 mm.; female 31.0 mm., 15.0 mm.; clear vitreous; veins yellowish brown; M, CU2 and 3A, margined translucent brown also margin of cell 3A. Legs dark reddish brown; anterior femora with two large spines and a small tubercle; anterior spine at half-way, second just beyond three-quarters, tubercle at base of second spine. Posterior tibiae with five spines; two exteriorly, three interiorly; first exterior half-way, second midway between second and third interior, first interior opposite first exterior, second just beyond three-quarters, third almost at distal. Underside of thorax dark reddish brown; densely silvery pubescent. Abdomen dark brownish black, first three segments silvery pubescent mid-dorsally, penultimate segment and posterior margin of one before it, silvery pubescent, other segments finely golden pubescent. Opercula dark reddish brown; finely silvery pubescent, interior margin of left (seen from ventral) slightly overlapping right; margins recurved, external angles openly rounded, internal acutely. Basal spine very short, tipped yellowish. Underside of abdomen reddish brown; silvery pubescent, densely so at and near junctions of tergites and sternites.

Type: (♀) Aust. Museum.

Macrotristria hieroglyphica (Goding and Froggatt).

Cicada hieroglyphica Goding and Froggatt, 1904, Proc. Linn. Soc. N.S.W. 29: 581.

Rihana hieroglyphica Distant, 1906, "Syn. Cat. Hom." 1: 38.

Cicada hieroglyphicalis Kirkaldy, 1910, Canad. Ent. 41: 391.

Macrotristria hieroglyphica Ashton, 1914, Trans. roy. Soc. S. Aust., 38: 347.

This is an apparently rare and local species found in the north-west of Western Australia. It is a large and strikingly marked insect, the pattern of markings on the thorax resembling hieroglyphics. As far as I am aware no recorded specimens have been taken for many years. The four specimens (1♂ 3♀♀) I have been able to examine were collected between the years 1887 and 1893 and these include the types from the collection of the Macleay Museum, Sydney. No data relating to habits or actual dates of appearance seems to be available.

Body length, male, 34.5 mm., female, 36.0 mm. Head equal in width to pronotum, smooth; dark reddish brown (including frons) faintly silvery pubescent in depressions; a weak sulcus exterior to ocelli on either side and on median groove from anterior ocellus to posterior margin. A greenish brown wide frontal band across head between eyes but not embracing vertex of frons; another suffused yellowish brown marking from each eye along posterior margin of head almost to sulcus near ocelli; the latter closely grouped; dark golden vitreous, not equidistant; anterior ocellus in line with front margin of eyes. Frons dark reddish brown with a wide yellowish brown marking on front from near vertical angle almost to clypeus. Transverse ridges clearly defined; 10 in number; interstitial grooves shallow, silvery pubescent only near junction of genae and frons. Genae reddish brown; densely silvery pubescent, external margins sharply carinate. Antennae reddish brown. Clypeus yellowish brown;

finely keeled, sides silvery pubescent. Labrum brownish; grooved medianally, sides planate; labium dark reddish brown, keeled as labrum, reaching posterior margins of hind coxae. Eyes opalescent reddish brown. Thorax, width, male, 14.5 mm., female, 14.5 mm., smooth; pronotum reddish brown with three sulci on either side of mid line, raised areas on each side between first and second sulcus and part of first yellowish; transverse marginal band wide; transversely striate, anterior margin reddish brown; lateral margins of pronotum reddish brown; carinate, slightly lobed anteriorly. Mesonotum smooth; yellowish brown, with a triangular median reddish brown marking from anterior margin to cruciform elevation; on either side dorso-laterally another triangular reddish brown marking with the apex meeting the upper lateral margin at extremity of anterior arms of cruciform elevation; the latter dark reddish brown, depressions silvery pubescent; upper lateral margin of mesonotum reddish brown, silvery pubescent, slightly carinate; lower margin reddish brown, finely and sparsely silvery pubescent, carinate. Metanotum dark reddish brown. Wings, anterior, male, length, 41.5 mm., width, 15.5 mm.; female, 43.5 mm., width, 14.0 mm.; clear vitreous with veins M, M1, M2, M3, M4, CU1a and cross veins from CU1 to CU2 dark brown; costal, sub-costal, radial, and CU2 yellowish. A very narrow infuscation bordering cross veins from R3 to M3, and on terminal branches near ambient vein; a faint infuscated spot on R4 + 5, M1, M2, M3, M4, and CU1a. Basal cell dark brown, semi-translucent. Posterior length, male, 25.0 mm., width, 13.5 mm.; female 26.0 mm.; 12.5 mm.; clear vitreous, veins yellowish excepting ambient 2A and 3A which are brown. Legs, reddish brown, coxae lighter; anterior femora with two large and a minute spine, anterior at half-way, second near distal, minute spine at base of second nearer distal. Posterior tibiae with five spines, two externally, three internally; first exterior half-way, second three-quarters; first interior not quite half-way, second midway between first and second interior; third almost at distal. Underside of thorax dark reddish brown, silvery pubescent. Abdomen dark reddish brown sparsely palely golden pubescent along intersegmental margin. Opercula dark reddish brown, short silvery pubescent; external angles very openly obtuse, internal acutely rounded; left (seen from ventral) slightly overlapping right; basal spine in centre of posterior margin; lined yellowish. Underside of abdomen dark reddish brown; silvery pubescent mainly at and near junctions of tergites and sternites.

Types: Macleay Museum.

Macrotristria godingi Distant.

Macrotristria godingi Distant, 1907, Ann. Mag. nat. Hist. (7) 20: 412.

Macrotristria godingi Distant, 1912, "Gen. Ins." 142: 26, pl. 3, figs. 23a, b, c.

Macrotristria godingi Ashton, 1921, Proc. roy. Soc. Viet. (N.S.) 33: 99.

A large and beautiful North Queensland species which appears to be confined to the coastal strip from Townsville in the south to about Mt. Molloy in the north. I have been able to examine altogether ten specimens (4 ♂♂ 6 ♀♀) and the localities include on label data, Mt. Molloy 1♀, Sellheim, N.Q. 2♂♂ 1♀, Kuranda, N.Q. 2♂♂ 1♀, Cairns N.Q., 1♀, and one female labelled "Hamilton Q." which is regarded doubtfully as correct. It is a summer species occurring mainly during January. I have no information regarding its habits. Body length, male, average (4), 38.8 mm., + 1.2 mm., — 1.3 mm., female, average (6) 38.2 mm., + 1.3 mm., — 1.7 mm. Head wider than pronotum, smooth; yellowish brown (excepting frons which is reddish brown) with interrupted fairly wide black fascia surrounding ocelli; a narrow black margin bordering eyes;

Macrotristria nigronevosa Distant.

Macrotristria nigronevosa Distant, 1904, Ann. Mag. nat. Hist. (7) 14: 329.

Macrotristria nigronevosa Distant, 1906, "Syn. Cat. Hom." 1: 31.

Macrotristria nigronevosa Ashton, 1921. Proc. roy. Soc. Vict. (N.S.) 33: 100.

I have not been able to see a specimen of this species, but am greatly indebted to Mr. R. J. Izzard of the British Museum (Natural History) for an excellent life sized photograph and detailed description of the Type. Though smaller, this cicada bears a strong superficial resemblance to *M. godingi* Distant, but lacks the black markings present on the pro and mesonotum of *godingi*. In his original description, Distant, 1904, Ann. Mag. nat. Hist. (7) 14: 329 states, "Allied to *M. intersecta* Walk. from which it differs by the more prominent face, spotted tegmina, different colour markings, &c. "Its habitat is given as North Queensland." I am able to give a description of the female only.

Body length, 41.5 mm., Head, equal in width to pronotum, cinnamon brown (may be green in life), smooth, ocelli surrounded by narrow black fascia. A median groove from anterior ocellus to posterior margin, ocelli vitreous amber, grouped rather closely, almost equidistant. Frons prominent, reddish brown with faint central black marking on vertex, transverse ridges eight in number, interstitial grooves finely silvery pubescent. Genae blackish, densely white pubescent. Antennae, dark brownish. Clypeus dark brown, labrum and labium dark brown, the latter reaching posterior coxae. Eyes dark opalescent brown, inner margin from front to half-way lined black. Thorax, width 14.0 mm. Pronotum cinnamon brown with three sulci on either side of mid-line, a small dark central spot adjoining posterior marginal band, the latter wide, yellow and finely striate transversely. Lateral margins unicolorous with pronotum and lobed anteriorly. Mesonotum cinnamon brown, smooth, anterior margin bordered black, on either side of midline a V shaped black marking extending to one-third. Cruciform elevation well developed, cinnamon brown, apex wide transversely, anterior arms slightly longer. Lateral margin of pronotum cinnamon, silvery pubescent. Metanotum blackish with sparse silvery pubescence. Wings, anterior, 44.0 mm., width, 14.0 mm., clear vitreous with veins black, excepting Costal and subcostal which are yellowish, and Radial which is yellowish brown. Cross veins between R3, R4 + 5, M, margined translucent dark brown, and a small similarly coloured spot on the terminal branches (near ambient vein) of R4 + 5, M1, M2, M3, and M4. Basal cell translucent yellowish brown. Posterior, length, 23.0 mm., width, 12.0 mm.; veins dark brownish black excepting M, CU1a and 1A which are lighter in colour, 2A and 3A bordered translucent brown. Legs with femora cinnamon brown, tibiae and tarsi darker brown. Anterior femora with two spines, the posterior, black, near middle, apical near junction of tibia. Posterior tibiae probably with five spines (apparently some missing from specimen), information given reveals two only, brown, one at middle, other near distal. Abdomen black, silvery pubescent, brown at intersegmental margins, broadly so in penultimate segment and preceding one.

Type: British Museum. *Label data*: North Queensland, Dr. Heath.

The following note is kindly supplied by Mr. Izzard. "Closely allied to *M. intersecta* Walk, and *M. sylvanella* (G. & F.) but somewhat larger in size."

vertex of frons with an oval shaped yellowish brown patch in which is a suffused reddish median longitudinal marking; a narrow sharp median groove from anterior ocellus to posterior margin. Ocelli bright red, vitreous; very closely grouped, not quite equidistant, anterior ocellus in line with front margin of eyes. Frons prominent, openly rounded, dark reddish brown faintly yellowish at junction with clypeus; front planate towards clypeus and with a faint median groove from about half-way to latter. Transverse ridges clearly defined 12-14 in number; interstitial grooves not pubescent. Clypeus black, not sharply keeled, half length of frons; medianally yellowish brown, sides planate, silvery pubescent. Labrum yellowish, grooved medianally; labium black, sides of upper portion yellowish, grooved as labrum, reaching anterior margin of posterior coxae. Genae black, silvery pubescent; exterior margins yellowish, strongly carinate. Antennae dark brownish black. Thorax, width, male average (4), 16.0 mm., female, average (6) 15.9 mm.; yellowish (may be greenish in life) with black markings. Pronotum smooth with three deep sulci on either side of mid line; irregularly lined black, a median longitudinal rectangular black marking almost from anterior to posterior margin enclosing a wide yellowish brown line; posterior marginal band wide, concolorous with pronotum, finely striate transversely; lateral margins of pronotum anteriorly lobed. Mesonotum slightly paler than pronotum; on either side of midline a black triangular marking from anterior margin to about one-third; from anterior arms of cruciform elevation a black marking extending forwards on each side almost or completely coalescing with the median triangular black markings; dorso-laterally on each side a larger black marking from anterior margin to three-quarters; cruciform elevation yellowish, fairly strongly developed, posterior arms slightly longer than anterior; depressed areas slightly silvery pubescent; upper lateral margins lined black, lower margins yellowish and strongly carinate. Mesonotum yellowish brown. Wings, anterior, male, average length (4) 52.0 mm., width, 18.00 mm.; female, average (6), 50.7 mm., width, 16.6 mm.; clear vitreous with all veins, excepting Costal, Subcostal, Radial and 1A which are yellow, (may be green in life), dark brown; terminals of R4 + 5, M1, M2, M3, M4 and CU1a with a faint translucent brown spot near junction with ambient vein. Upper portion of basal cell, yellowish. Posterior, male, length, average (4) 29.0 mm., width 15.3 mm.; female, average (6) 27.3 mm., 14.8 mm.; clear virescent; veins Rs. M and branches of these, 2A, 3A, and ambient, dark brown, others yellow; 2A and 3A bordered yellowish white, widest basally. Legs yellowish brown; coxae and femora marked with dark brown, anterior and middle tibiae and tarsi dark brown, posterior yellowish brown. Anterior femora with two large and one small spines, anterior just before half-way, second three-quarters, third and smallest distally near base of second. Posterior tibiae with five spines, two exteriorly three interiorly; first exterior half-way, second just beyond three-quarters; first interior a little anterior to first exterior, second a little more than half-way between two exterior, third closer to distal than second exterior. Underside of thorax black, silvery pubescent. Opercula usually black, sometimes with a blackish yellow area near exterior margins; right or left may overlap at internal angles; external angles widely obtuse, internal rather acutely rounded; basal spine small, edged yellow. Abdomen dull blackish or blackish brown; very sparsely and finely pale golden pubescent; anterior margin of second segment, and posterior margin of segments (normally) 4-9 yellow on posterior margins, the width of the yellow increasing on each segment towards apex. Underside of abdomen shining blackish, posterior margins of segments yellowish, finely silvery pubescent near and at junctions of tergites and sternites.

Type: Brit. Mus.

Macrotristria doddi Ashton.

Macrotristria doddi Ashton, 1912, Proc. roy. Soc. Viet. 24:

Macrotristria doddi Ashton, 1921, Proc. roy. Soc. Viet. (N.S.) 33: 101.

This is an apparently rare far northern species described as recently as 1912 from three male specimens collected by the late F. P. Dodd at Kuranda, North Queensland. Ashton states, locality doubtful, either North Queensland or Northern Territory. I have been privileged to examine the Type (Australian Museum) and one other male only from the collection of Mr. F. E. Wilson (Victoria). Although no date is given the locality is Adelaide River, N.T. (H. W. Brown). The female is apparently unknown. In general appearance it resembles *Macrotristria occidentalis* Distant, but is slightly larger, the front of the head is less prominent, and the general body colour is darker and more patterned with yellowish brown. The infuscation bordering the cross veins in the anterior wings is much less pronounced. It is probably a summer species.

Body length, male, average (2 specimens) 32.5 mm. Head smooth, slightly wider than pronotum, yellowish brown with a black transverse band below eyes to frons, ocelli reddish orange vitreous, enclosed within a rectangular black central patch which has a line or extension running across head towards each eye and extends round posterior margin as a black line. A very sharp fine median groove runs from anterior ocellus to posterior margin. Frons dark reddish brown with a yellowish patch on vertex which extends and narrows round vertical angle. Transverse ridges well defined, 9-10 in number. Interstitial grooves golden pubescent near outer ends. Width between posterior ocelli almost double that between anterior and each lateral ocellus, anterior in line with front margin of eyes. Genae yellowish, densely golden pubescent, external margins carinate. Antennae (2 basal segments only, others absent from specimens) dark brown. Clypeus dark brownish red, golden pubescent, half length of frons; labrum yellow, finely grooved medianally, sides planate, brownish yellow; labium yellowish, posterior third dark brown, finely grooved as labrum, reaching posterior margins of hind coxae. Eyes opalescent yellowish brown. Thorax, av. width, 12.5 mm., reddish brown with black and yellowish brown markings. Pronotum with three open sulci on either side of midline, raised areas between finely sculptured, a yellowish brown (probably suffused greenish in life) central marking widest at anterior margin, narrowing to posterior margin; posterior marginal band fairly wide, yellowish, its posterior margin black. Lateral margin of pronotum with anterior half yellow, lobed anteriorly, posterior half-brownish black. Mesonotum smooth, yellowish brown, anterior margin black, a black central marking enclosing a small triangular yellowish brown area, this black marking bordered yellowish on either side and contiguous with anterior arms of cruciform elevation; a triangular reddish brown marking dorso-laterally on each side. Cruciform elevation fairly well developed, yellowish brown, pale golden pubescent in depressions, lateral margin of mesonotum reddish brown, pale golden pubescent. Metanotum brownish black dorsally, becoming yellowish brown laterally. Wings, anterior, male length 41.5 mm., width 12.5 mm., clear vitreous with all veins brown, 2A and 3A margined translucent brown. Legs chestnut brown, joints and anterior coxae paler. Anterior femora with two large and one very small spines, anterior at half-way, second about three-quarters, third and smallest just beyond base of second. Posterior tibiae with five spines, three interiorly, two exteriorly; first exterior just beyond half-way, second beyond three-quarters, first interior before half-way, second at two-thirds, third midway between second of exterior and distal. Underside of thorax yellowish, finely silvery pubescent. Abdomen dark

brownish black, anterior margin of first segment reddish brown, sides of all segments silvery pubescent. Opercula yellow, finely silvery pubescent, external angles openly rounded. Internal acutely; margin carinate, left (seen from ventral) slightly overlapping right at interior margin. Underside of abdomen yellowish brown excepting last two or three segments which are dark brown; pale golden pubescent densest at junction of tergites and sternites.

Type: Aust. Mus.

Macrotristria sylvana (Distant).

Cicada sylvana Distant, 1901, Trans. ent. Soc. Lond.: 591, pl. 16, figs. 1a, b.

Cicada sylvana Goding and Froggatt, 1904, Proc. Linn. Soc. N.S.W. 29: 580.

Macrotristria sylvana Distant, 1906, "Syn. Cat. Hom." 1: 31.

Macrotristria sylvana Ashton, 1914, Trans. roy. Soc. S.Aust. 38: 347.

Macrotristria sylvana Ashton, 1921, Proc. roy. Soc. Vict. (N.S.) 33: 100.

One of the largest species of the genus which is found from the Cairns district to Cape York in Northern Australia and some of the Torres Straits islands. I have little data regarding its habits, excepting that it is a mid-summer species (December–February) and frequents shrubs locally known as "Horse bush" and "White Currant bush". The series of specimens I have before me are from Cairns, Kuranda, Barron River (Kamerunga Crossing), Moa Island (Torres Straits), Stewart River, and Coen district, Cape York.

Body length, male, average (10), 39.8 mm., + 2.2 mm., — 2.3 mm.; female, average, (10), 37.5 mm., + 2.5 mm., — 5.0 mm. Head considerably wider than pronotum, smooth, green, posterior margin of vertex of frons finely lined black, front of orbits of eyes to vertex lined black, at the vertex the black leaves each orbit and extends a little distance towards posterior margin of head. Ocelli large, not quite equidistant, very closely grouped, yellowish green vitreous, surrounded by black fascia which tend to coalesce, and sometimes a small transversely elongate minute spot exterior to each lateral ocellus; a sharply defined median groove from anterior ocellus to posterior margin. Frons green on vertex, middle front from vertical angle to clypeus black, sides tinged brownish, transverse ridges rather regular, fairly well defined, 12–14 in number, interstitial grooves not pubescent; genae black, silvery pubescent, exterior margins pale yellowish green, sharply carinate. Clypeus black, half length of frons, silvery pubescent excepting on keel which has a brownish longitudinal marking about the middle; labrum yellowish brown, grooved medianally, sides planate; labium dark brown near labrum quickly merging into black, grooved as labrum, reaching just beyond anterior margins of posterior coxae. Antennae dark brownish black; eyes opalescent greenish yellow.

Thorax, width, male, average (10), 15.7 mm., female, average (10), 15.7 mm. Pronotum green, smooth, three strongly developed deep sulci on either side of midline, anterior margin slightly carinate, posterior marginal band wide, rather evenly striate transversely, lateral margin of pronotum carinate, lobed anteriorly. Mesonotum green, smooth, on either side of midline fairly close to it, a black inwardly curving depressed line to about half-way, base of anterior depression of cruciform elevation black, the latter yellowish green, fairly well developed, apex broad transversely, posterior arms slightly longer than anterior, depressions silvery pubescent, upper lateral margin of mesonotum silvery pubescent, lower yellowish, carinate, silvery pubescent. Metanotum black.

Wings, anterior, male, average length (10), 57.8 mm., width, 17.0 mm., female, average (10), 50.9 mm., 16.6 mm. Clear vitreous, veins brown excepting costal, sub-costal and radial to branch with R.; cross veins between

R3 and R4 + 5, — M1 and M2-M3 faintly and narrowly margined translucent brown, terminals near ambient vein of R4 + 5, M1, M2, M3, M4 and CU1a with a brown infusate spot, basal cell with upper half green. Posterior, male, average length (10), 27.9 mm., width, 14.5 mm.; female, average (10), 27.3 mm., 14.2 mm. Clear vitreous with all veins brown excepting M to first fork and 1A which are yellowish green; 2A and 3A margined dark translucent brown. Legs with coxae and femora green or greenish yellow with brown markings, tibia and tarsi dark brown. Anterior femora with two large and one small spines anterior just before half-way, second three-quarters, third and smallest distally at base of second. Posterior tibiae with five spines, two exteriorly, three interiorly; first exterior beyond half-way, second beyond three-quarters; first interior half-way, second just anterior to second exterior; third midway between the latter and distal. Underside of thorax greenish yellow, densely silvery pubescent, brown round insertions of legs. Abdomen brownish black with anterior margin of second segment brown and a brown transverse dorsal marking on third segment, posterior margins of remaining segments lined brown, widely so on seven and eight, segments silvery pubescent laterally. Opercula yellowish green, left (seen from ventral) slightly overlapping right, finely silvery pubescent, external angles almost at 90 degrees, internal evenly rounded, margins recurved. Underside of abdomen yellowish green or yellowish, finely silvery pubescent along anterior segmental margin, densely so at junctions of tergites and sternites.

Type: British Museum.

Macrotristria nigrosignata Distant.

Macrotristria nigrosignata Distant, 1904, Trans. ent. Soc. Lond.: 673, pl. 29, figs. 7a, b.

Macrotristria nigrosignata Distant, 1906, "Syn. Cat. Hom." 1: 32.

Macrotristria nigrosignata Ashton, 1914, Trans. roy. Soc. S.Aust. 38: 348.

Macrotristria nigrosignata Ashton, 1921, Proc. roy. Soc. Vict. (N.S.) 33: 101.

Two specimens, fortunately a pair, in the collection of the Western Australian Museum were included amongst a lot of material kindly loaned to me for study from that institution. In size, colouration, general pattern and appearance, this interesting species very closely resembles *M. frenchi* Ashton, but may at once be distinguished by its reddish brown colour, in the male by the rather small pale yellowish fawn opercula, and in both sexes by the absence of black fascia bordering the ocelli and the presence of a yellow frontal band on the head between the eyes and frons. The female specimen unfortunately does not bear a date on the label, but the male was taken in January, 1957, so it is a summer species.

Body length, male, 34.0 mm., female, 36.0 mm. Head, wider than pronotum, including frons, reddish brown, openly and slightly ridged longitudinally, a narrow yellow frontal band from eyes to frons where it curves back as a fine line on either side to its margin; a faint yellowish patch adjoining each eye and extending to beyond first sulcus of pronotum. An interrupted groove on each side of ocelli and a rather deep median groove from anterior ocellus to posterior margin. Ocelli reddish brown vitreous, not quite equidistant, fairly closely grouped, anterior in line with front margin of eyes. Frons prominent, rather acutely rounded, faintly grooved from vertical angle to clypeus, transverse ridges well defined, 12 in number, interstitial grooves silvery pubescent. Genae reddish brown, silvery pubescent, margins yellowish and strongly carinate. Antennae reddish brown. Clypeus reddish brown, keeled

medianally, sides sparsely silvery pubescent. Labrum slightly paler in colour, grooved medianally, sides very slightly convex. Labium pale reddish brown with dark brownish black tip, grooved as labrum, reaching almost to middle of posterior coxae.

Thorax, width, male, 14.0 mm.; female, 13.5 mm. reddish brown, concolorous with head. Pronotum with three well defined sulci either side of midline, very finely sculptured (almost punctate), anterior margin finely lined yellow, posterior marginal band very wide, posterior two-thirds yellowish, transversely striate. Lateral margin of pronotum yellowish, slightly and acutely lobed anteriorly. Mesonotum dark reddish brown with a faint, depressed, inwardly curving fine line on either side of mid-line from anterior margin to half-way; upper lateral margin silvery pubescent, cruciform elevation well developed, reddish brown, posterior arms slightly paler, depressions lightly silvery pubescent, two lateral ones transversely striate, lower posterior margin edged pinkish yellow, strongly carinate. Wings, anterior, length, male, 44.0 mm., width, 14.0 mm.; female, 42.0 mm., 14.5 mm., clear vitreous, all veins reddish brown excepting Sc, CU2 and 1A, which are yellowish brown, basal cell reddish brown.

Posterior, male, length 25.5 mm., width, 12.0 mm.; female, 26.0 mm., 12.5 mm. Clear vitreous, all veins reddish brown excepting CU1a, CU1b, CU2 and 2A which are yellowish brown; 3A widely margined translucent brown to half-way. Legs, reddish brown, posterior pair slightly paler, finely silvery pubescent; anterior femora with two large and one very small spines first just anterior to half-way, second at three-quarters, third and smallest at base of second. Posterior tibiae with five spines, two exteriorly, three interiorly, first exterior at half-way, second slightly more than three-quarters; first interior a little anterior to first exterior, second at two-thirds, third midway between second exterior and distal. Underside of thorax light reddish brown suffused yellowish and silvery pubescent. Abdomen reddish brown, silvery pubescent, especially dorso-laterally and laterally. Opercula small, concolorous with underside of thorax, which is pale reddish brown and silvery pubescent, external angles obtusely open, internal very acute, internal margins fairly widely separated. Underside of abdomen pale reddish brown and almost uniformly silvery pubescent, median portions of first three segments widely suffused yellowish, others less so excepting penultimate segment which is almost completely pale yellowish brown.

Type: Brit. Mus. (♂)

Macrotristria frenchi Ashton.

Macrotristria frenchi Ashton, 1914, Proc. roy. Soc. Vict. (N.S.) 27: 12, pl. 2, fig. 2.

Macrotristria frenchi Ashton, 1921, Proc. roy. Soc. Vict. (N.S.) 33: 102.

An apparently rather rare species found only in the north of the Northern Territory and Western Australia; it is similar in shape to *M. sylvara* (Distant) a common North Queensland species. It is one of the dullest coloured species of the genus and in general appearance and size comes very close to *M. nigrosignata* Dist. from North Western Australia. I have been able to examine nine specimens only, three males and six females (one being the type), one pair from the type locality (Catherine River, N.T.), one female from Derby,

North Western Australia, and two males and three females from Tennants Creek, N.T. Unfortunately no information is available regarding its habits, it is a summer species occurring from December to February. Body length, male, average (3), 32.2 mm., + .2 — .2 mm.; female, average (6), 30.6 mm., + .4 — 1.1 mm. Head considerably wider than pronotum, smooth, yellowish brown (including frons) a slight depression on either side anterior to ocelli, and a short open median groove from anterior ocellus to posterior margin. Ocelli garnet vitreous, not quite equidistant, closely grouped, surrounded by a narrow dull black fascia. Anterior ocellus slightly in front of line of eyes. Frons, rounded and prominent, openly grooved from vertical angle to clypeus, transverse ridges 9–10 in number, slightly darker in colour, interstitial grooves very finely and sparsely silvery pubescent. Genae dull black, silvery pubescent, margins sharply carinate, yellowish. Antenna with first basal joint brownish, second brownish with apical portion black, remainder dark brownish black. Clypeus pale greenish brown, widely keeled, dark shining brown, silvery pubescent; labrum shining chestnut brown, grooved medianally, sides slightly convex; labium shining chestnut brown, tip blackish brown, grooved as labrum; reaching anterior margin of posterior coxae. Eyes opalescent brownish yellow. Thorax, width, male 32.0 mm., female, average (3), 31.4 mm., dark brown, almost devoid of markings. Pronotum dark chestnut brown, almost smooth, three well defined sulci on either side of midline, a small central oval shaped black marking on anterior margin of posterior marginal band which is yellowish, wide, and transversely striate. Lateral margin of pronotum yellowish, openly lobed anteriorly. Mesonotum very dark chestnut brown, smooth, sometimes its anterior margins bordered black, on either side of median from anterior margin to half-way a fine inwardly curved darker line faintly lined yellowish along anterior margin. Upper lateral margin yellowish, silvery pubescent. Cruciform elevation well developed, pale yellowish brown with a faint pinkish suffusion, posterior arms slightly longer than anterior, depressions silvery pubescent, lower lateral margin carinate and concolorous with cruciform elevation. Metanotum brownish. Wings, anterior male, length, average 42.0 mm., width, 13.5 mm., female, average (6) 41.4 mm., 13.4 mm., clear vitreous with all veins beyond first branch dark brown; Costal, Sc. R. and others pale yellowish brown to first branch. Posterior, length, male, 22.5 mm., width, 10.25 mm., female, average, 22.6 mm., 11.0 mm., clear vitreous with veins dark brown excepting RS, M, and Cu1a which are yellowish to a little beyond first branches; 2A and 3A bordered translucent pale brown, 3A very widely towards base. Legs chestnut brown, coxae and junctions of femora and tibiae marked yellowish. Anterior femora with two large and one very small spines, anterior at less than half-way, second (largest) at three-quarters, third and smallest near base of second. Posterior tibiae with five spines, two exteriorly, three interiorly; first exterior at half-way, second close to distal; first interior directly opposite first exterior; second at three-quarters, third closer to distal than second exterior. Underside of thorax dark brownish black, silvery pubescent especially along junctions of sclerites. Abdomen dark brownish black, paler dorsally on segments 1–4, short silvery pubescence along intersegmental margins, penultimate segment with its posterior margin widely yellow. Opercula large, dark brownish black with lighter area towards external margins, finely silvery pubescent; external angles obtuse and open, internal rounded at almost 90 degrees; interior margins not widely separated. Underside of abdomen black, shining mid ventrally, penultimate segment yellowish-brown black; anterior margins silvery pubescent along intersegmental margins, densely so at junctions of tergites and sternites.

Type—(female) Aust. Mus.

Macrotristria extrema (Distant).

Cicada extrema Distant, 1892, Ann. Mag. nat. Hist. (6) 10: 56.

Cicada extrema Goding and Froggatt, 1904, Proc. Linn. Soc. N.S.W., 29:: 583.

Macrotristria extrema Distant, 1906, "Syn. Cat. Hom." 1: 32.

Macrotristria extrema Ashton, 1914, Trans. roy. Soc. S.Aust., 38: 347.

Macrotristria extrema Ashton, 1921, Proc. roy. Soc. Vict. (N.S.) 33: 101.

This species bears a superficial resemblance to *M. dorsalis* Ashton but is larger; in his note following the original description Distant states, "This somewhat large species of cicada is allied to *C. (Macrotristria) intersecta* Walker, and like that species has the pale apex to the abdomen; but *C. extrema* may be at once recognized by the more robust and less symmetrical body, the head and thorax being relatively wider, the unspotted head and thorax, the longer second apical area to the tegmina, &c." The habitat given is Australia, Swan River. All the specimens I have before me (4 ♂♂ 4 ♀♀) are from Fortescue River, Hammersly Road, Western Australia. No dates are given; also 1♂ from Nullagine, W.A., January, 1957, A. Douglas, and 1♀ from Derby, W.A., October, 1955, A. Douglas, and Canarvon, W.A., 1♂. Body length, male, average (4), 31.8 mm., + 0.7 mm., — 0.8 mm.; female, average (4), 30.2 mm., + 1.3 mm. — 2.7 mm. Head equal in width to pronotum, smooth, yellowish brown (including frons) without markings excepting for a fine black line surrounding each ocellus. A weak sulcus exterior to ocelli on each side and a median shallow groove from anterior ocellus to posterior margin. Ocelli pinkish yellow vitreous, closely grouped, distance between two posterior almost twice that between anterior and each posterior. Frons concolorous with head, prominently rounded, transverse ridges, 8 in number, fairly well defined, interstitial grooves silvery pubescent only near junction of frons and genae; front of frons not actually grooved but weakly lined darker from vertical angle to clypeus. Genae slightly darker yellowish brown, silvery pubescent, external margins carinate. Clypeus concolorous with frons, keeled medianally, sides planate, silvery pubescent; labrum yellow, grooved medianally, sides planate; labium yellowish, base gradually becoming dark brown at tip, grooved as labium, almost reaching anterior margins of posterior coxae. Eyes opalescent yellowish brown.

Thorax, width, male, average (4), 13.1 mm., female 13.1 mm. Concolorous with head, three well defined sulci on either side of midline, posterior marginal band wide, finely striate transversely, lateral margins of pronotum carinate, lobed anteriorly. Mesonotum yellowish brown very faintly and obscurely marked dark brown, on either side of midline from anterior margin almost to half-way an inwardly curving linear groove; upper and lower margins carinate, finely silvery pubescent. Cruciform elevation well developed, yellowish brown, apex broad, anterior arms slightly longer than posterior, depressions silvery pubescent. Metanotum yellowish brown. Wings, anterior, male, average length (4), 41.1 mm., width 13.7 mm.; female, average (4), 40.2 mm., 13.8 mm. Clear vitreous, veins yellowish (may be green in life) becoming yellowish brown towards first cross veins, beyond these to, and including ambient vein, brown; 1A also brown; basal cell almost all clear vitreous. Posterior, average length, male, 23.8 mm., width, 11.5 mm.; female, 22.8 mm., 11.6 mm. Clear vitreous with veins yellowish becoming yellowish brown towards first cross veins, beyond these brown; ambient vein also brown; CU2, 2A and 3A margined opalescent whitish. Legs pale yellowish or yellowish brown with darker markings mainly on middle and posterior femora and tibiae. Anterior femora with two large and one small spines, first half-way, second just beyond three-quarters, third

dorso lateral areas paler chocolate brown. Lateral margin becoming yellow anteriorly and forming a very slight lobe. Posterior marginal band wide, dark chocolate brown, finely striate transversely, posterior margin lined yellow. *Mesonotum* dark chocolate brown, on either side of midline a fine inwardly curving yellow line to half-way, a little exterior to termination of this line a small obscure yellow spot. Upper lateral margin yellowish, finely silvery pubescent. Cruciform elevation well developed, acutely convex at apex, dark chocolate brown with arms yellowish brown, depressed areas densely silvery pubescent, anterior arms longer than posterior. Lateral margin yellowish, also silvery pubescent. *Metanotum* dark chocolate brown. Wings, length, anterior, male, 31.0 mm., width 10.5 mm.; female, average (4) 32.7 mm., 10.1 mm. Clear hyaline with veins dark chocolate brown excepting R, M from junction with M1, and terminal portions of R4 + 5, M1, M2, M3 and M4 from discal cross veins to near ambient vein where they become chocolate brown; basal cell translucent brown. Posterior, male, length, 18.5 mm., width 8.5 mm.; female, average (4) 18.6 mm., 8.8 mm. Clear vitreous with most of veins yellow, others including ambient, RS, M, to ends of cells enclosed by them, and basal half of CU2, chocolate brown; 3A widely margined translucent brown. Legs pale chocolate brown, tibiae and tarsi slightly darker, very finely and sparsely silvery pubescent, anterior femora with two large spines and a small tuberculate spine, anterior half-way, second three-quarters, third (tuberculate) almost at base of second. Posterior tibiae with five spines, two externally, three internally; first exterior less than half-way, second just beyond three-quarters; first interior opposite first exterior, second at two-thirds, third midway between second exterior and distal. Underside of thorax centrally chocolate brown shading to yellowish brown towards lateral margins, finely though densely silvery pubescent. Opercula fairly large, chocolate around basal spine, otherwise yellowish; external angles almost 90 degrees, internal semicircular, interior margins close together but separated. Underside of abdomen dull chocolate brown, minutely silvery pubescent, posterior margin of segments yellowish, penultimate segment widely so.

Type, female, S.A. Museum, Cotypes, Aust. Mus.

Macrotristria dorsalis Ashton.

Macrotristria dorsalis Ashton, 1912, Mem. nat. Mus. Vict. 4: 30, pl. 4, figs. 1, 2.

Macrotristria dorsalis Ashton, 1921, Proc. roy. Soc. Vict. (N.S.) 33: 101.

This cicada is an inhabitant of Northern Queensland and appears to be found mainly in the Cairns and Atherton Tableland district. Specimens examined have come from Cairns, Mareeba, Herberton, Mt. Molloy, &c. It is not uncommon. I have little data regarding its habits, it seems to be mainly found in places where there is an intermingling of savannah and rain forest. It is quite a pretty species easily recognizable by the triangular shaped black marking on the abdomen dorsally. Ashton (Mem. Nat. Mus. Vict. 1912, No. 4: 30) states that it is allied to *M. intersecta* Walk. and *M. sylvanella* G. & F. by its shorter abdomen and overlapping opercula. The latter is not always the case because about 40 per cent. of the specimens examined have the internal margins of the opercula close together but not overlapping. "Differing from *extrema* Dist. by the narrower head and thorax; the dark fascia on the dorsum renders it easily recognizable". The sexes are very similar in size and appearance. Body length, male, average (10) 24.6 mm. + 2.4 mm. — 1.6 mm.; female, average (10),

and smallest approximately half-way from second to distal. Posterior tibiae with fine spines, two exterior, three interior; first exterior just beyond half-way, second just beyond three-quarters; first interior half-way, second three-quarters, third midway between second exterior and distal. Underside of thorax pale yellowish brown, very finely silvery pubescent. Abdomen reddish brown, silvery pubescent, posterior margin of seventh segment and almost all of eighth yellowish. Opercula pale yellowish, minutely pustulate, external angles almost 90 degrees—internal fairly evenly rounded, right (seen from ventral) slightly overlapping left, basal spine long, situated almost at centre of basal margin. Underside of abdomen yellowish brown excepting segments eight and nine, finely silvery pubescent.

Type: British Museum.

It is rather doubtful if the type locality given by Distant (Ann. Mag. nat. Hist., 1892 (6) 10: 56) "Australia, Swan River" is correct. In recent years a good deal of systematic collecting has been done near Perth and I have been privileged to examine most of the Cicada material from S.W. Australia, but no specimen of this species has been noted from that area. All the above mentioned localities are remote from Swan River districts.

Macrotristria vulpina Ashton.

Macrotristria vulpina Ashton, 1914, Trans. roy. S.Aust. 33: 348, pl. 12, fig. 2.

Macrotristria vulpina Ashton, 1921, Proc. roy. Soc. Viet. (N.S.) 33: 102.

This is the smallest species in the genus and in general appearance resembles *M. occidentalis* Distant excepting that there is no infuscation bordering the cross veins or terminals of main veins in the anterior wings. I have been able to examine in all only five specimens; one male and one female from the collection of the late F. E. Wilson, and three females (including Type female) from the S.A. Museum collection. This is essentially a Western Australian species ranging as far as is at present known, from Carnarvon across to Cue and to the coast at Roeburne. None of the specimens bears a date on the labels, so its actual time of appearance is uncertain. I would expect it to be late spring or early summer. All the specimens examined have been collected by the late H. W. Brown. Body length, male, 22.0 mm., female, average (4), 23.6 mm., + 1.4 mm., — 1.1 mm. Head, equal in width to pronotum; including frons, dark chocolate brown, coarsely sculptured, pale golden pubescent in depressions, a frontal yellow band from margin of frons almost to eyes, another yellow spot on vertical angle of frons, a median groove from anterior ocellus to posterior margin. Ocelli bright red vitreous, closely grouped, not quite equidistant, anterior ocellus a little in front of line of eyes. Frons prominent, rather acutely rounded, front from vertical angle to clypeus planate, transverse ridges 9–10 in number, fairly well defined, interstitial grooves silvery pubescent. Genae chocolate brown and densely silvery pubescent, lateral margins finely carinate. Antennae chocolate brown. Clypeus chocolate brown, silvery pubescent, finely keeled, a small pale spot in centre of front; labrum yellow, grooved medianally, sides slightly convex; labium dark chocolate brown shading almost to black at tip, grooved as labrum, reaching middle of posterior coxae. Eyes opalescent dark brown. Thorax, width, male, 10.0 mm., female, average (4), 10.1 mm., dark chocolate brown almost without markings. Pronotum with three sulci on either side of midline, the one nearest it being the deepest; anterior margin dark chocolate brown which extends as a wide mid dorsal longitudinal band to posterior margin,

25.9 mm. + 1.1 mm. — 4.9 mm. Head slightly wider than pronotum, smooth, yellowish green and brown (including frons), devoid of pubescence, a weak open sulcus exterior to ocelli on either side and a median fairly open groove from anterior ocellus to posterior margin. Insertion of frons dorsally finely lined black, ocelli each narrowly encircled black, usually just exterior to each lateral ocellus a small black irregular marking which occasionally tends to coalesce with the black surrounding these ocelli; the latter closely grouped and nearly equidistant, anterior ocellus in line with front margin of eyes. Frons concolorous with head, prominent and openly rounded, transverse ridges clearly defined, 9-10 in number, interstitial grooves without pubescence; front smooth with a faint median darker line from just below vertical angle to clypeus. Genae black, silvery pubescent, external margins finely yellowish, carinate. Antennae black. Clypeus yellowish with a black marking on either side, usually in upper part, front acutely rounded, sides silvery pubescent. Labrum pale brown, grooved medianally, sides planate; labium pale brown with tip blackish, grooved as labrum, reaching anterior margin of posterior coxae. Eyes opalescent brownish. Thorax, width, male, 10.1 mm., female, 10.1 mm., smooth, concolorous with head; three rather deep well defined sulci on either side of midline, a faint darker median longitudinal marking from anterior margin to posterior marginal band, the latter fairly wide, transversely striate, lateral margin slightly lobed anteriorly. Mesonotum with a triangular black marking (variable in size in different specimens) from anterior margin almost to half-way on either side of midline, the former finely lined black; just in front of each anterior arm of cruciform elevation a small blackish spot. Cruciform elevation well developed, unicolorous with mesonotum, arms short and of equal length; depressions finely silvery pubescent; upper lateral margin finely brown, silvery pubescent, lower as upper, carinate. Metanotum dark brown. Wings, anterior, male, average length, (10), 34.3 mm., width, 11.3 mm.; female, (10), 33.8 mm., 11.3 mm. Clear vitreous, costal, subcostal and radial veins yellow (probably green in life) to junction with R2 from which they are black, 1A black, others yellowish brown, basal cell infuscated translucent yellow. Posterior, male, average length, (10), 18.5 mm., width, 9.6 mm.; female, 18.4 mm., 9.3 mm.; clear vitreous, veins yellowish (probably green in life) excepting ambient which is yellowish brown or brown, 2A and 3A margined translucent brown. Legs, coxae and femora yellowish, anterior and middle tibiae and tarsi brown, posterior yellowish. Anterior femora with two large and a minute spine, anterior about half-way, second three-quarters, third and smallest near base of second towards distal. Posterior tibiae with five spines, two externally, three internally; first exterior half-way, second, three-quarters; first interior slightly in front of first exterior, second posterior to second exterior, third almost at distal. Underside of thorax and opercula yellowish or pale yellowish brown. Abdomen yellowish brown, each segment to penultimate with a black dorsal band transversely widest on first and gradually decreasing in width in each segment towards apex thus forming a triangular black dorsal patch, and a row of small black spots on 4-7 inclusive (normally) just above this lateral margin. Opercula with the external angles very openly obtuse, internal angles acutely rounded, margins carinate, basal spines fairly long and, near middle of base of opercula. Underside of abdomen yellowish brown, posterior margin of segments 2-6 inclusive very narrowly lined darker brown; sparsely and finely silvery pubescent at junction of tergites and sternites. This species bears a very close resemblance to *M. extrema* Ashton, but is smaller, the head less prominently rounded, and opercula with the exterior angles much more obtusely rounded.

Type: Nat. Mus.

Macrotristria kulungura sp. nov.

Amongst the material before me are 3 ♂♂ and 7 ♀♀ of this interesting new species which bears a general appearance to *M. dorsalis* Ashton, but is larger and in shape resembles *M. extrema* (Distant). It is a coastal species, and the specimens examined are from Port Denison (Bowen) 2 ♂♂, Barron R., January, 1 ♂, one female labelled N.S.W. 11'04, 2 ♀♀ Mackay, December; Green Island 2 ♀♀, December and January respectively; Brisbane 1 ♀, January; and 1 ♀, Dunk Island, January. There is some doubt as to the correctness of the two localities, Brisbane and New South Wales. The only information I have regarding its habits is that it is found in rain forest. Body length, male, average (3), 31.0 mm.; female, average, (7), 30.3 mm. Head considerably wider than pronotum, smooth, yellow (may be greenish in life), almost entirely without markings. The ocelli are very narrowly margined black, and exterior to each lateral ocellus another very small black spot, posterior margin thinly lined black. A median groove from anterior ocellus to posterior margin. Ocelli fairly closely grouped, pale reddish vitreous, distance between two lateral twice that between anterior and each lateral. Frons concolorous with head, prominently rounded, transverse ridges 10-12 in number, slightly darker in colour, a longitudinal open groove from vertical angle to near clypeus. Genae yellow with inner half-black, silvery pubescent, external margins carinate, clypeus yellow, silvery pubescent excepting on keel, a black triangular shaped marking on either side of keel adjoining frons and extending downwards to about one-third; labrum yellow, grooved medianally, sides planate and shining; labium yellow with tip dark brownish black, grooved as labrum, reaching anterior margin of posterior coxae. Antennae black, eyes opalescent yellowish green.

Thorax, width, male, average (3), 12.1 mm., female, average (7), 12.7 mm. Pronotum very minutely sculptured, concolorous with head, and without any markings, three deep sulci on either side of midline, posterior marginal band wide, transversely and evenly striate, lateral margins of pronotum carinate, lobed anteriorly. Mesonotum almost concolorous with pronotum but a little darker, smooth but faintly and obscurely marked, on either side of midline a slightly inwardly curving fine groove from anterior margin to about one-third, cruciform elevation concolorous with mesonotum, wide across apex, arms rather short, posterior slightly longer than anterior, lateral depressions silvery pubescent, upper lateral margin of pronotum sparsely silvery pubescent, lower carinate and slightly paler in colour. Metanotum yellow or yellowish green. Wings, anterior, male, average length (3), 39.8 mm., width 12.3 mm.; female, average (7), 41.3 mm., 13.6 mm. Clear vitreous, costal, subcostal and radial veins yellow (or green in life), R1, R2, dark brownish black, all others excepting 1A which is blackish, to ends of main cells, yellow (or green), beyond yellowish brown or pale brown. Basal cell with upper half translucent greenish. Posterior, male, average length (3), 21.1 mm., width, 11.0 mm.; female, average (7), 22.7 mm., 10.8 mm. Clear vitreous with all veins yellow (or green) excepting ambient, 2A and 3A, which are brownish; these two latter margined translucent white. Legs yellow or greenish yellow, middle tarsi and anterior tibiae and tarsi pale brown; anterior femora with two large and one small spines, the anterior spine rather slender and at half-way, second much shorter and fairly close to distal, third and smallest distally at base of second. Posterior tibiae with three spines, two exterior and three anterior, first exterior half-way, second fairly close to distal; first interior opposite first exterior, second at three-quarters, third midway between second and distal. Underside of thorax

pale yellowish brown with blackish margin surrounding coxal insertions, silvery pubescent laterally and in depressions surrounding joints. Abdomen dark yellowish brown, anterior margins of segments 2-7 transversely on dorsal black, and diminishing in width on each segment towards 7, posterior margin of 7 broadly yellow, and almost all black with faint brownish suffusion on posterior margin; segments 3 to 7 with a black marking on each side above lateral margin; smallest on 3 and 4, larger on the others. All segments sparsely silvery pubescent. Opercula yellow, left overlapping right, (seen from ventral), minutely punctate, silvery pubescent, basal spine yellow, black at base. External angles openly and gently rounded, internal acutely so. Underside of abdomen yellowish brown, silvery pubescent at junctions of tergites and sternites.

Holotype male, S.A. Museum. (Port Denison, another label reads N.W.A. Det. H. Ashton.)

Allotype female, (Green Island N.Q. 21.1.35, A.B.). Coll. A.N.B. to be deposited in National Museum of Victoria.

Macrotristria bindalia sp. nov.

This interesting species bears a superficial resemblance to *M. frenchi* Ashton, but is slightly smaller and the mesonotum is considerably darker in colour. The head and frons are narrower and the latter is more acutely prominent and in all the specimens (7 ♂♂ 2 ♀♀) examined, and marked with black. Apparently rather local but not uncommon where it occurs—of the specimens before me, 6 ♂♂ and 1 ♀ are from Ayr, North Queensland, December 1957, and 1 ♂ 1 ♀ from Haughton Valley, North Queensland, (in same geographical region as Ayr), 6th January, 1959. The sexes are very similar and all the specimens exhibit very little variation in size and colour. It has been named *bindalia* from the name Bindali, the aboriginal tribe which inhabited the Ayr and surrounding district. Body length, male, average 29.8 mm. + 0.7 mm. — 1.8 mm.; female, average (2), 29.25 mm. + 0.75 mm. — 0.75 mm. Head considerably wider than pronotum, smooth, yellowish or yellowish green, a black spot on inner margin of each eye, ocelli margined black, posterior margin lined black dorsally, dorsal margin and upper part of lateral margins of frons finely lined black. An open median groove from anterior ocellus to posterior margin. Ocelli fairly closely grouped, reddish orange vitreous, anterior in line with front margin of eyes, distance between two posterior almost twice that between anterior and each posterior. Frons slightly darker in colour, marked frontally on transverse ridges with black, ridges 8-9 in number, interstitial grooves only fairly clearly defined. Genae black, silvery pubescent, external margin carinate, yellowish. Clypeus yellowish brown on keel, sides blackish, silvery pubescent, about half length of frons; labrum brown, shining, grooved medianally, sides planate, labium dark brownish black, grooved as labrum, almost reaching anterior margin of posterior coxae. Eyes opalescent yellowish brown or green. Thorax, width, male, average, 11.9 mm., female, 12.5 mm. Pronotum concolorous with head, anterior margin lined black; three rather deep sulci on either side of midline, these finely lined black in depressions, a small blackish median spot adjoining posterior marginal band which is wide, finely transversely striate and minutely punctate. Lateral margin of pronotum finely carinate, prominently lobed anteriorly. Mesonotum smooth, dark brownish black with obscure lighter brown dorsal markings and on either side of midline a fine depressed inwardly curving line to almost half-way; upper lateral margin brown, sparsely silvery pubescent, cruciform elevation yellowish brown, not transversely wide at apex, posterior arms slightly longer than anterior, anterior and lateral depressions sparsely

silvery pubescent, lower lateral margin of pronotum yellowish brown, carinate, sparsely silvery pubescent. Metanotum brown. Wings, anterior, male, average length (7), 40.2 mm., width, 12.2 mm.; female, average (2), 41.75 mm., width, 13.25 mm. Clear vitreous with veins brown excepting costal, subcostal and radial which are yellowish or greenish and 1A which is blackish. Cross veins from R3, — R4 + 5, — M, very faintly bordered translucent brown, basal cell with upper third translucent yellow. Posterior, average length, male, 21.2 mm., width, 10.2 mm.; female, 22.0 mm., 11.25 mm. Clear vitreous with most veins brown, CU1a and CU1b yellowish, 2A and 3A margined opalescent white. Legs yellowish or yellowish green with distal half of middle tibiae and tarsi brown, and anterior tibiae and tarsi. Anterior femora with two long sharply pointed spines and one very minute one, anterior spine at almost half-way, second two-thirds, third and smallest distally at base of second. Posterior tibiae with five spines, two externally, three internally, first exterior at half-way, second four-fifths; first interior opposite first exterior, second at two-thirds, third almost at distal. Underside of thorax dark brown mid ventrally, yellowish laterally, finely silvery pubescent. Abdomen dark brownish black, posterior margins of segments 2-6 inclusive, brown, 1-2 widely so; seven widely yellowish. Opercula pale yellow, basally dark brownish black, left overlapping right, (seen from ventral) external angles at an angle of about 90 degrees, internal sharply rounded. Basal spine long, fairly sharply pointed, situated exteriorly to half-way. Underside of abdomen yellowish or yellowish green, segments 1-7 inclusive brownish black midventrally; silvery pubescent along junctions of tergites and sternites.

Types: Holotype ♂ (Haughton Valley, Q., 6.1.59, G.B.), and Allotype ♀ (Haughton Valley, Q., 6.1.59, G.B.). Coll. A. N. Burns; to be deposited in the National Museum of Victoria.

Macrotristria douglasi sp. nov.

An interesting and pretty species so far recorded from Wotjulum near Yampi, and Yampi in north-western Australia. Apparently local but not uncommon when it occurs. I have had numerous specimens of cicadas from Yampi but only one (female) specimen of this species has so far been included. All the specimens examined belong to the W.A. Museum, and were collected by Mr. A. Douglas. Body length, male, average (10), 25.8 mm. + 0.7 mm. — 1.8 mm.; female, average (5), 26.9 mm. + 1.6 mm. — 1.4 mm. Head considerably wider than pronotum, anterior margin adjoining frons silvery pubescent, smooth, dark reddish brown with a transverse yellowish band between the eyes near the posterior margin, posterior margin of frons also narrowly yellowish. A slight sulcus on either side external to each lateral ocellus, an open longitudinal median groove from anterior ocellus to posterior margin. Ocelli closely grouped, not quite equidistant, pale red vitreous, anterior slightly in front of anterior margin of eyes. Frons light reddish brown in front and sides, transverse ridges 12-13 in number, fairly clearly defined, interstitial grooves slightly silvery pubescent. Genae yellowish, silvery pubescent, exterior margins carinate. Clypeus concolorous with frons, half the length of the latter, slightly keeled, sides silvery pubescent; labrum yellowish brown, grooved medianally, sides planate and shining, labium dark brownish black, grooved as labrum, reaching middle of posterior coxae. Antennae dark reddish brown, eyes opalescent reddish brown, margin slightly silvery pubescent.

Thorax, width, male, average (10), 10.5 mm.; female, average (5), 10.8 mm. Pronotum yellowish with three sulci on either side of midline, anterior margin carinate, margin lined dark brownish black and which extends on either side

of midline into a triangular shaped marking, grooves of sulci silvery pubescent and marked brownish black, which extends irregularly on to the intervening raised areas. Posterior marginal band fairly wide, reddish brown lined yellow along posterior margin, and extending along lateral margin of pronotum, very finely striate transversely; lateral margin feebly lobed anteriorly. Mesonotum dark brownish black, smooth, a median shaped yellowish linear marking, on either side of midline, another triangular shaped yellow marking, and near anterior margin dorso-laterally another small yellowish quadrate spot; from anterior margin on each side a pale chocolate inwardly curving line extending as far as the base of each dorsal triangular spot. Cruciform elevation yellowish becoming reddish brown at extremities of arms, the anterior of which are slightly longer than the posterior, the two lateral depressions yellowish, silvery pubescent, anterior dark brownish black, also silvery pubescent. Upper lateral margin of prothorax lined yellow, carinate, silvery pubescent; lower also yellow slightly carinate, silvery pubescent. Metanotum yellowish brown. Wings, anterior, male, average length (19), 34.3 mm., width 11.2 mm.; female, average (5), 34.9 mm., 11.1 mm. Clear vitreous, costal vein yellowish, all others pale brown to ends of main cells then dark brown; basal cell with upper half palely translucent yellowish brown. Posterior length, male, average (10), 19.0 mm., width, 9.0 mm.; female, 19.7 mm., 9.8 mm. Clear vitreous with veins dark brown excepting CU1, CU1a, CU1b, CU2 and 1A which are yellowish, CU2, margined left side translucent pale greenish yellow, 2A and 3A broadly so on both sides. Legs with middle femora and tibiae dark brown, posterior femora dark brown, anterior with yellowish markings and two large and one small spines; the anterior half-way, second fairly close to distal, third and smallest at base of second and nearer it than distal. Posterior tibiae yellowish, two spines exteriorly, three interiorly; first exterior half-way, second beyond three-quarters; first interior before half-way, second midway between first and second exterior, third midway between second exterior and distal. Underside of thorax black midventrally, sides yellowish and silvery pubescent. Abdomen black, anterior marginal lobes of second segment lined yellow, posterior half of seventh segment yellow, each segment broadly pale golden pubescent across its anterior margin. Opercula with inner halves black, outer yellowish, faintly silvery pubescent, right slightly overlapping left (seen from ventral), external angles openly rounded about 90 degrees, internal, rather acutely and evenly rounded. Underside of abdomen shining black, silvery pubescent, thickly so at junction of tergites and sternites.

Types: ♂ Holotype (Wotjulum W.A. 12.X.55, A. Douglas), and ♀ Allotype (Wotjulum W.A., 12.X.55, A. Douglas)—Western Australian Museum.

Macrotristria worora sp. nov.

This species very closely resembles *M. douglasi* sp. nov. especially the pattern of markings, and also inhabits the same area. The specimens I have before me are from Wotjulum, W.A., October, 1955 (2 ♂ ♂ 2 ♀ ♀), Yampi, W.A. November, 1959 (5 ♂ ♂ 3 ♀ ♀) and Forrest River Mission (near Wyndham, W.A.) one male, January, 1954. From this data it evidently has a long season, from October until January but times of emergence may largely be governed by the occurrence of the early summer rains. It can easily be distinguished from *M. douglasi* by its larger size, yellow markings on the mesonotum, brownish red pronotum and much larger opercula which are normally yellow, one male examined shows a large black area on the inner sides.

Body length, male, average, (8), 28.6 mm. + 1.4 mm. — 2.6 mm.; female average, (5), 27.3 mm. + 1.2 mm. — 0.8 mm. Head considerably wider than

pronotum, smooth, yellowish brown with a wide transverse brownish black band, which encloses the ocelli, across vertex between eyes, orbits of the latter lined black, a weak sulcus exterior to each lateral ocellus and a weak median longitudinal groove from anterior ocellus to posterior margin; anterior margin along vertex of frons finely silvery pubescent. Ocelli closely grouped, not quite equidistant, garnet red vitreous; anterior in line with front margin of eyes. Frons pale reddish brown, darker on vertex, front with a fine median groove from near vertical angle to clypeus. Transverse ridges clearly defined, 10–12 in number, interstitial grooves finely silvery pubescent. Genae pale yellowish, silvery pubescent interior margin blackish, exterior sharply carinate. Clypeus pale yellowish brown, silvery pubescent, openly keeled, a small brown marking on keel beyond half-way to labrum, the latter concolorous with clypeus, grooved medianally, sides planate and shining; labium pale yellow tipped blackish, grooved as labrum, reaching posterior margin of hind coxae. Antennae blackish excepting basal and sub-basal segments which are yellowish, the distal end of the latter blackish. Eyes opalescent yellowish brown.

Thorax, width, male, average (8), 12.1 mm.; female, average (5), 12.2 mm. Pronotum very finely sculptured, chocolate brown, three rather sharp sulci on either side of midline, anterior margin blackish, carinate, a median yellowish brown longitudinal marking from near anterior to near posterior margin. Posterior marginal band fairly wide, finely striate transversely, yellowish with anterior half-dark blackish brown. Lateral margin of pronotum edged dark brown, openly lobed anteriorly. Mesonotum blackish brown, smooth, a median shaped linear yellow marking, on either side of midline another yellow marking extending from anterior margin to base of anterior arms of cruciform elevation; exterior to these markings an irregular shaped small yellow spot near anterior margin. Cruciform elevation dark chocolate brown, anterior arms longer than posterior; depressions silvery pubescent. Upper lateral margin of prothorax broadly lined yellow, silvery pubescent; lower yellow, carinate, silvery pubescent. Metanotum brownish black lined yellow dorsally. Wings, anterior; male, average length, (8), 38.0 mm.; width, 12.7 mm.; female, average (5), 38.4 mm., 12.5 mm. Clear vitreous; all veins brown excepting costal, yellow; basal cell with upper half translucent yellow. Posterior, length, male, average (10), 20.4 mm.; width, 9.8 mm.; female, average (5), 20.4 mm., 10.2 mm. Clear vitreous with most of veins brown, R to end of first cell, M and CU1, yellowish brown; CU2 margined on left side to translucent whitish, R2 and R3 broadly so on both sides. Legs yellowish brown with pale brown markings, terminal joint of tarsi blackish; anterior femora with two large and one small spines, anterior almost half-way, second three-quarters, third and smallest distally at base of second. Posterior tibiae with five spines, two externally, three internally; first exterior just beyond one third, second just beyond three-quarters; first interior almost half-way, second two-thirds, third midway between second exterior and distal. Underside of thorax pale yellowish and silvery pubescent, blackish round insertions of coxae. Abdomen black, finely pale golden pubescent, anterior lobes of second segment widely margined yellow, posterior margin of segments 3–6 yellow, 7 widely so, 8 yellow with posterior margin black. Opercula pale yellow, minutely punctate, right overlapping left (seen from ventral), external angles almost 90 degrees, internal rounded. Underside of abdomen yellow, silvery pubescent, second, fifth and sixth segments marked black midventrally.

Types: ♂ Holotype (Yampi, W.A., Nov. 1959, B. Clarke). ♀ Allotype (Yampi, W.A., Nov., 1959, B. Clarke)—Coll. A. N. Burns—to be deposited in National Museum of Victoria.

Macrotristria intersecta (Walker).

- Fidicina intersecta* Walker 1850, "List. Hom. Br. Mus.": 97.
Fidicina internata Walker, 1850, *ibid.*: 98.
Fidicina prasina Walker, 1850, *ibid.*: 100.
Fidicina prasina Stål, 1862, "Ofv. Vet.-Ak. Forh.": 481.
Cicada sylvanella Goding and Froggatt, 1904, Proc. Linn. Soc. N.S.W. 29: 582.
Cicada intersecta Goding and Froggatt, 1904, *ibid.*: 584.
Macrotristria intersecta Distant, 1906, "Syn. Cat. Hom." 1: 32.
Macrotristria sylvanella Distant, 1906, *ibid.* 1: 32.
Macrotristria intersecta Distant, 1912, "Gen. Ins." 142: 26.
Macrotristria intersecta Ashton, 1914, Trans. roy. Soc. S.Aust. 38: 347.
Macrotristria intersecta Ashton, 1921, Proc. roy. Soc. Vict. (N.S.) 33: 101.

This is essentially a northern Australian species, the Type coming from Port Essington. I have been able to examine a very long series of specimens of this extremely variable cicada: which varies very much in size as well as colour. The description given is that of a typical medium coloured male. Apparently three well defined colour varieties are met with, the yellowish green without markings on the thorax, the ocelli with a narrow black fascia, the frons with brownish black marking on the front on either side of the midline, the opereula blackish brown basally and the abdomen dark brown along the anterior margin of each segment. Medium coloured specimens which have the colour of the head and pronotum yellowish green with the black ocellular fasciae wider, the frons more heavily marked, the opereula with more extensive brownish black basally, the thorax considerably darker, and the mesonotum brown with blackish markings. Very dark specimens which are less common have the head and pronotum yellowish or pale yellowish brown with blackish markings on frons, head and opereula, as in medium specimens, the abdomen is brownish with the anterior margin of the segments widely blackish, and the mesonotum brown with black markings. I have been privileged to examine Goding and Froggatt's type of *M. sylvanella* (Proc. Linn. Soc. N.S.W., 1904: 582-583) and agree with Ashton (Trans. roy. Soc. S.Aust. 1914: 347) where he states "After careful examination of the type specimen of Goding and Froggatt's *M. sylvanella* in the Macleay Museum, Sydney, I have no hesitation in declaring that this is merely a pale and narrow bodied variety of Walker's species". Amongst the many specimens of *M. intersecta* I have examined are over twenty which agree in colour with *sylvanella*. These vary much in size and careful examination (including genitalia) shows them all to agree with *intersecta*, the only differences being in size. Specimens examined have come from Yampi and near Wyndham, N.W.A., Darwin; Groote Eylandt; Coen; several localities on Cape York, Kuranda, Port Denison (Bowen), Mt. Isa., Katherine, Townsville and Magnetic Island. Measurements were made of 20 males and 20 females which included a graded range in sizes from the smallest to the largest specimens. Body length, male, average (20), 28.0 mm., + 2.5-3.0 mm.; female, average (2) 25.9 mm., + 2.1-4.9 mm. Head slightly wider than pronotum, smooth, yellowish green with black markings which vary in extent and tendency to coalesce in individuals. An angular median groove from anterior ocellus to posterior margin, exterior to ocelli on either side a weak sulcus from near anterior to posterior margin. Adjoining each eye a dorsal black marking, ocelli surrounded black which extends beyond each lateral ocellus and continues back to the posterior margin thus enclosing a yellowish green area behind the ocelli which are fairly closely grouped, not equidistant, pinkish yellow vitreous. Anterior ocellus in line with front margin of eyes. Frons more yellowish and slightly darker in colour than

head, a dorsal W shaped marking on vertex, transverse ridges 7–8 in number and marked black on either side in front forming an inverted U shaped marking, interstitial grooves not pubescent. Genae black, silvery pubescent, exterior margins lined yellow, carinate. Clypeus yellowish, not sharply keeled, sides black, silvery pubescent, an obscure very small divided brown marking on centre of the keel which is slightly more than half the length of the frons; labrum pale yellowish, grooved medianally, sides planate, shining; labium dark brownish black, grooved as labrum, reaching anterior margin of posterior coxae. Antennae dark brown, eyes opalescent yellowish or yellowish brown, margins silvery pubescent posteriorly.

Thorax: width, male, average (20), 11.0 mm., + 1.0–2.0 mm.; female, average (10), 11.4 mm., + 1.1–2.4 mm. Pronotum yellowish or yellowish green, anterior margin slightly carinate, three well defined rather deep sulci on either side of midline, these lined black along depressions, a small median black spot adjoining posterior marginal band; this fairly wide, slightly paler in colour, very finely striate transversely, lateral margin of pronotum with a distinct anterior lobe. Mesonotum reddish yellow or pale reddish brown, on either side of midline, a triangular shaped black marking from anterior margin to almost one-third; dorso-laterally another longer triangular black marking from anterior margin to ends of anterior arms of cruciform elevation yellowish or yellowish brown, its anterior depression black, posterior arms longer than anterior, apex fairly broad, depressions finely and sparsely silvery pubescent. Upper lateral margin of mesonotum finely carinate, silvery pubescent; lower pale yellowish, strongly carinate, silvery pubescent. Metanotum yellowish. Wings—anterior male, average length 33.8 mm., width, 11.2 mm.; female 36.2 mm., 11.5 mm. Clear vitreous, costal, subcostal, and radial veins yellowish green to junction with R2, other veins including ambient and excepting 1A which is blackish-brown. Basal cell faintly translucent yellowish. Posterior, male, average length, 18.0 mm., width, 10.1 mm.; female, 18.8 mm., 9.4 mm. Clear vitreous with veins brown, CU1 yellowish to junction with CU1a and CU1b; 2A and 3A bordered translucent greyish white. Legs pale yellowish, anterior and middle tibiae and tarsi brown, middle and posterior femora marked with brown. Anterior femora with two large and one small spines, anterior at half-way, second three-quarters, third and smallest near base of second. Posterior tibiae with five spines, two exteriorly, three interiorly; first exterior half-way, second beyond three-quarters; first interior opposite first exterior, second midway between two exteriors, third not quite half-way between second exterior and distal. Underside of thorax brownish black, yellowish or pale yellowish brown laterally, silvery pubescent.

Abdomen reddish yellow or pale reddish brown with anterior margins of segments two (sometimes one) to seven broadly blackish; posterior margins of these segments (excepting seven) narrowly lined yellowish, seven widely so. Opercula pale yellowish, dark brownish black basally, very finely punctate, margins recurved; right (seen from ventral) slightly overlapping left, external angles openly and gradually rounded, internal acutely so. Underside of abdomen medianally blackish, lighter laterally, last two segments yellowish, shortly silvery pubescent at junctions of tergites and sternites.

Type: Brit. Mus.

ACKNOWLEDGMENTS.

The writer wishes to thank the following:—

Mr. R. J. Izzard of the British Museum (Natural History) for valuable assistance in the loan of specimens, photographs and descriptions; Dr. J. Evans, Director of the Australian Museum, Sydney, for the loan of Types and specimens; Dr. W. D. L. Ride, Director of the Western Australian Museum, for the loan of specimens; Mr. H. M. Hale, Director, and Mr. G. Gross, Curator of Insects, South Australian Museum, for loan of specimens; Dr. A. R. Woodhill, Macleay Museum, Sydney, for loan of Types; Dr. T. E. Woodward, Department of Entomology, University of Queensland, for loan of specimens; the late Mr. F. E. Wilson, Hon. worker in Entomology, National Museum of Victoria, for loan of specimens; Mr. G. Brooks, Cairns, North Queensland, for sending specimens; Dr. J. Kerr of Brisbane, Queensland, for sending specimens; Mr. J. Macqueen of Mount Emlyn, Queensland, for sending specimens; Mr. B. Clarke, Head Teacher of the Government School, Yampi, Western Australia, for sending specimens; Mr. L. Wassell of Coen, North Queensland for sending specimens; Mr. C. King of Brisbane, Queensland, for sending specimens; and Mr. H. Thomas of Irymple, also for sending specimens.

The kind assistance rendered by the above is greatly appreciated.

REFERENCES.

- Ashton, J. H., 1912A.—Mem. nat. Mus. Vict. 4: 30, Pl.
 Ashton, J. H., 1912B.—Proc. roy. Soc. Vict. 24: 223, Pl.
 Ashton, J. H., 1914A.—Trans. roy. Soc. S.Aust. 38: 347, 348.
 Ashton, J. H., 1914B.—Proc. roy. Soc. Vict. (N.S.), 27: 12, Pl.
 Ashton, J. H., 1921.—Proc. roy. Soc. Vict. (N.S.) 33: 99–102.
 Distant, W. L., 1901.—Trans. ent. Soc. Lond.: 591, Pl.
 Distant, W. L., 1904.—Ann. Mag. nat. Hist. (7) 14: 329.
 Distant, W. L., 1892.—Ann. Mag. nat. Hist. (6) 10: 56.
 Distant, W. L. 1906.—“Syn. Cat. Hom.” 1: 31, 32, 38.
 Distant, W. L. 1907.—Ann. Mag. nat. Hist. (7) 20: 412, 413.
 Distant, W. L., 1912A.—“Gen. Ins.” 142: 26.
 Distant, W. L., 1912B.—Ann. Mag. nat. Hist. (8) 10: 438.
 Goding and Froggatt, 1904.—Proc. Linn. Soc. N.S.W. 29: 580–583.
 Froggatt, W. W., 1895.—Proc. Linn. Soc., N.S.W.: 529.
 Froggatt, W. W., 1903A.—Agric. Gaz., N.S.W., 14: 418, Fig.
 Froggatt, W. W., 1903B.—“Misc. Publ., No. 643”: 8, Pl.
 Froggatt, W. W., 1907.—“Australian Insects”: 350, Fig.
 Kirkaldy, G. W., 1910.—Canad. Ent 41: 391
 McKeown K. W., 1942.—“Australian Insects”: 98.
 Tillyard, R. J.—“Insects of Australia and New Zealand”: 162.
 Walker, F., 1850.—“List. Hom. Br. Mus.”: 97, 98, 100.



PLATE 1.

1. *Macrotristria maculicollis* Ashton, Type. (S.A. Museum.) 2. *Macrotristria nanda* sp. nov. Type female. (S.A. Museum.) 3. *Macrotristria angularis* (Germar), male. 4. *Macrotristria thophoides* Ashton, male.



In.



PLATE 2.

5. *Macrotristria doddi* Ashton, male. 6. *Macrotristria vulpina* Ashton, male. 7. *Macrotristria occidentalis* Distant, male. 8. *Macrotristria frenchi* Ashton, Type female. (Aust. Mus.)



PLATE 3.

9. *Macrotristria hieroglyphica* (Goding and Froggatt), male. 10. *Macrotristria bindalia* sp. nov., male. 11. *Macrotristria kabikabia* sp. nov., female.

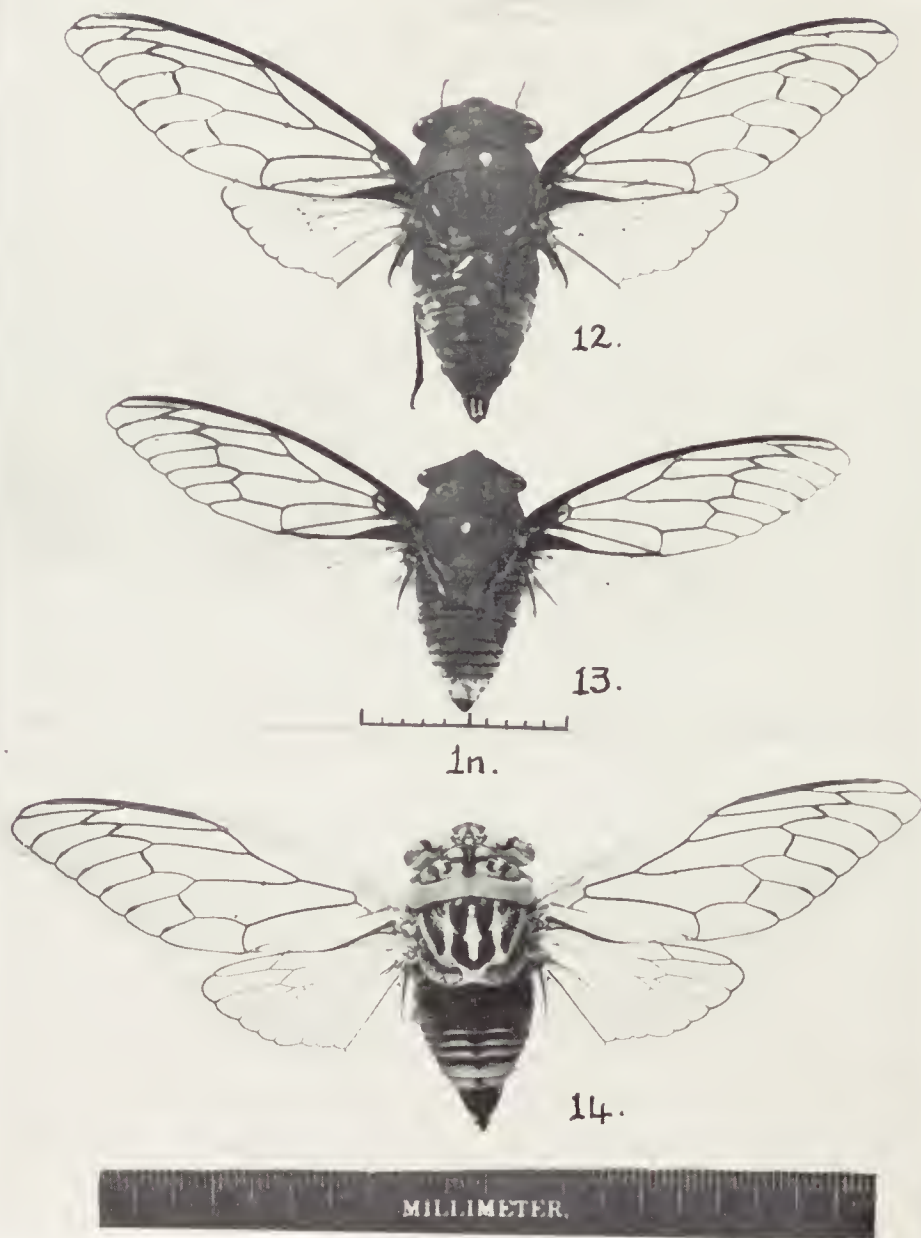


PLATE 4.

12. *Macrotristria sylvara* Distant, male. 13. *Macrotristria hillicri* Distant, male.
14. *Macrotristria godingi* Distant, female.



PLATE 5.

15. *Macrotristria worora* sp. nov., male. 16. *Macrotristria douglasi* sp. nov., male.
17. *Macrotristria kulungura* sp. nov., male. 18. *Macrotristria dorsalis* Ashton, male.

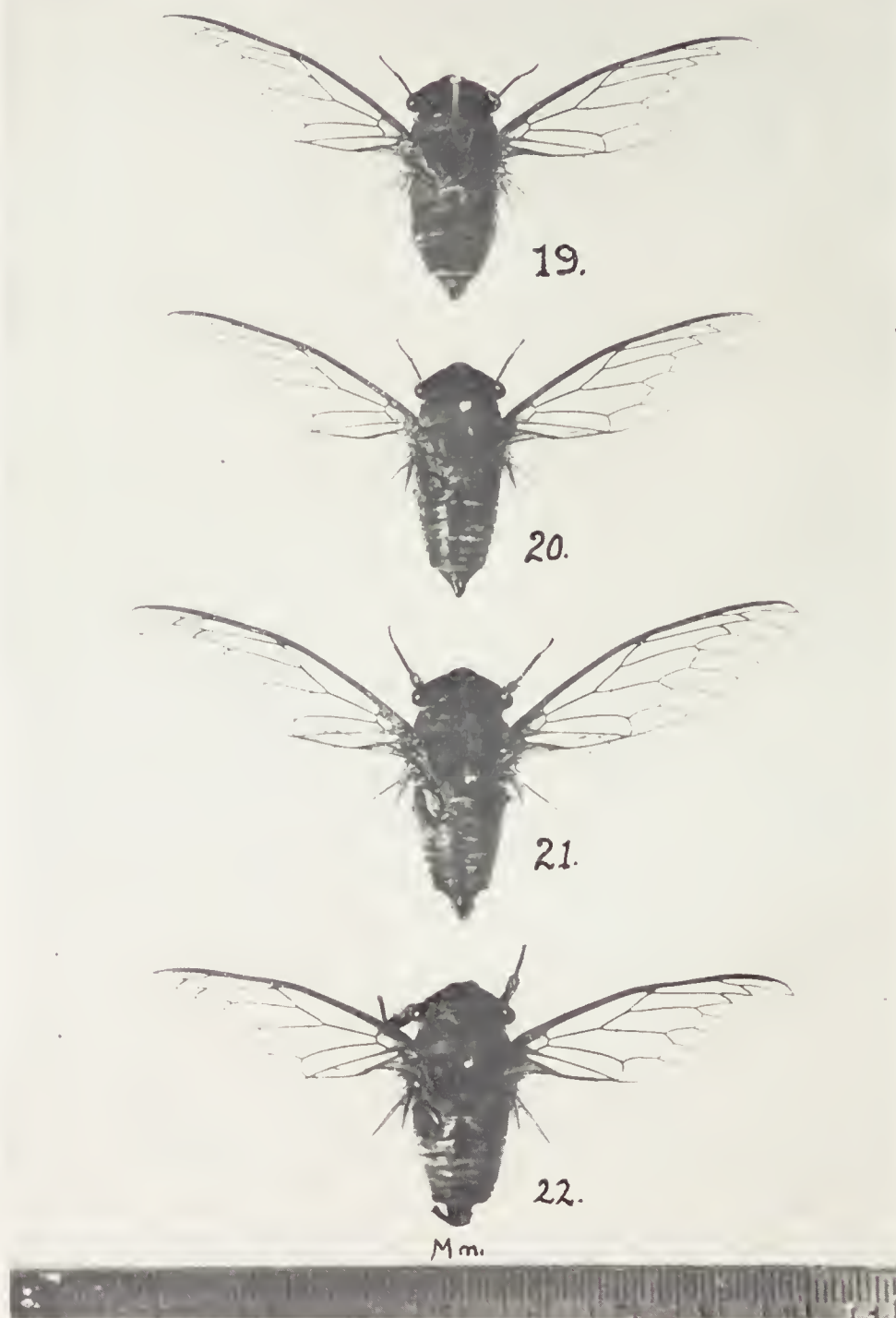


PLATE 6.

19. *Macrotristria intersecta* (Walker) normal male. 20. *Macrotristria intersecta* (Walker) pale coloured male. 21. *Macrotristria intersecta* (Walker) large normal male. 22. *Macrotristria intersecta* (Walker) large dark coloured male.



PLATE 7.

- 23. *Macrotristria extrema* (Distant) male, Type, Brit. Museum.
- 24. *Macrotristria nigrosignata* Distant, male, Type, Brit. Museum.
- 25. *Macrotristria nigronervosa* Distant, female, Type, Brit. Mus.

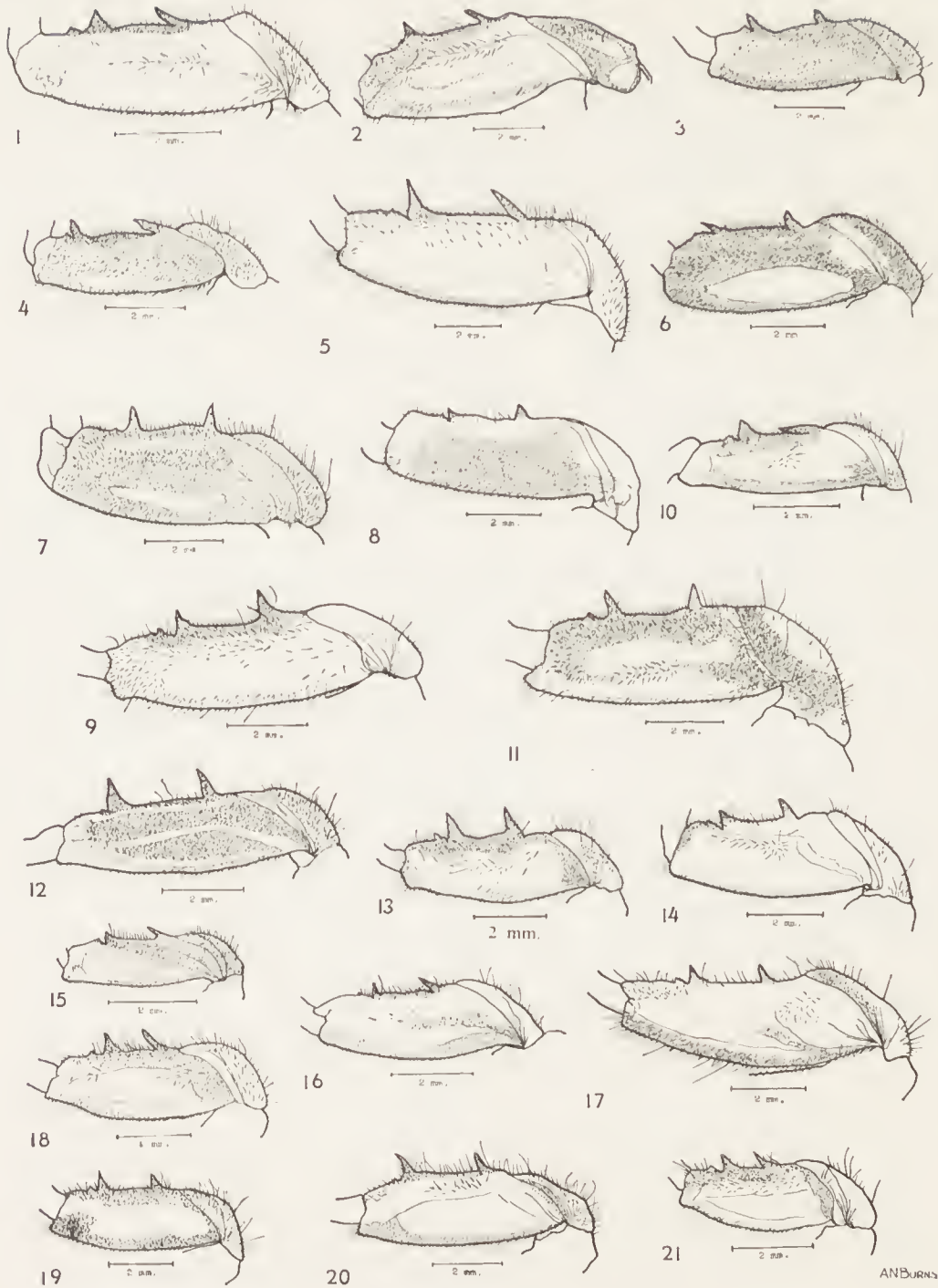


FIG. A.

Anterior Femora of Species of *Macrotristria*.

1. *Macrotristria angularis*. 2. *Macrotristria maculicollis*. 3. *Macrotristria hillieri*.
 4. *Macrotristria occidentalis*. 5. *Macrotristria nanda*. 6. *Macrotristria kabikabia*.
 7. *Macrotristria thophoides*. 8. *Macrotristria hieroglyphica*. 9. *Macrotristria godingi*.
 10. *Macrotristria doddi*. 11. *Macrotristria sylvana*. 12. *Macrotristria nigrosignata*.
 13. *Macrotristria frenchi*. 14. *Macrotristria extrema*. 15. *Macrotristria vulpina*.
 16. *Macrotristria dorsalis*. 17. *Macrotristria kulungura*. 18. *Macrotristria bindalia*.
 19. *Macrotristria douglasi*. 20. *Macrotristria worora*. 21. *Macrotristria intersecta*.

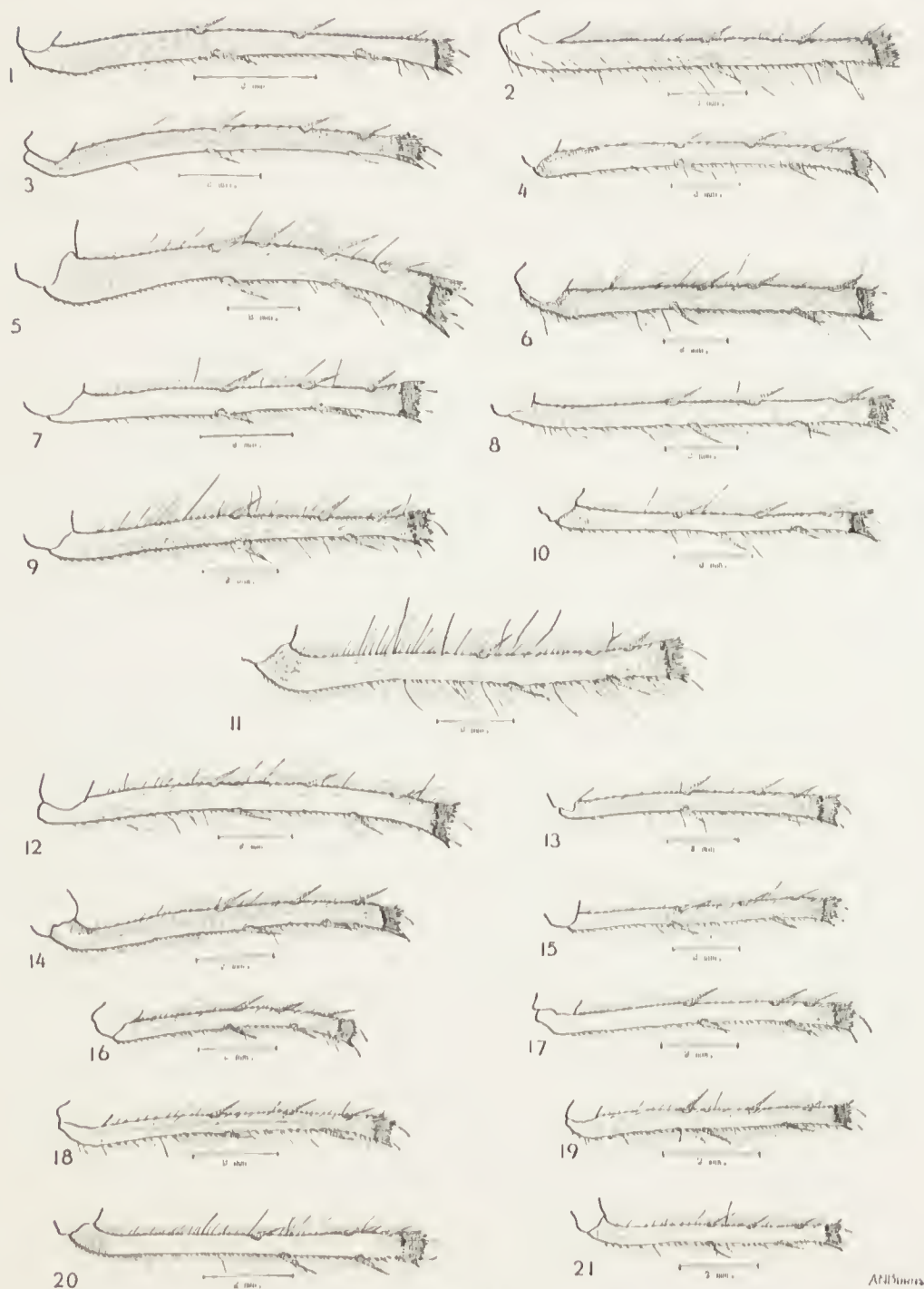


FIG. B.

Posterior Tibiae of Species of *Macrotristria*.

1. *Macrotristria angularis*, 2. *Macrotristria maculicollis*, 3. *Macrotristria hillieri*,
 4. *Macrotristria occidentalis*, 5. *Macrotristria nonda*, 6. *Macrotristria kabikabia*,
 7. *Macrotristria thophaoides*, 8. *Macrotristria hieroglyphica*, 9. *Macrotristria godungi*,
 10. *Macrotristria doddii*, 11. *Macrotristria sylvana*, 12. *Macrotristria nigrosignata*,
 13. *Macrotristria frenchi*, 14. *Macrotristria extrema*, 15. *Macrotristria vulpina*,
 16. *Macrotristria dorsalis*, 17. *Macrotristria kulungura*, 18. *Macrotristria lindalia*,
 19. *Macrotristria douglasi*, 20. *Macrotristria worora*, 21. *Macrotristria intersecta*.



ANBURNS

FIG. C.

Opercula of Species of *Macrotristria*.

1. *Macrotristria angularis*. 2. *Macrotristria maculicollis*. 3. *Macrotristria hillieri*.
 4. *Macrotristria occidentalis*. 5. *Macrotristria nanda*. 6. *Macrotristria kabikabia*.
 7. *Macrotristria thophoides*. 8. *Macrotristria hieroglyphica*. 9. *Macrotristria godingi*.
 10. *Macrotristria doddi*. 11. *Macrotristria sylvara*. 12. *Macrotristria nigrosignata*.

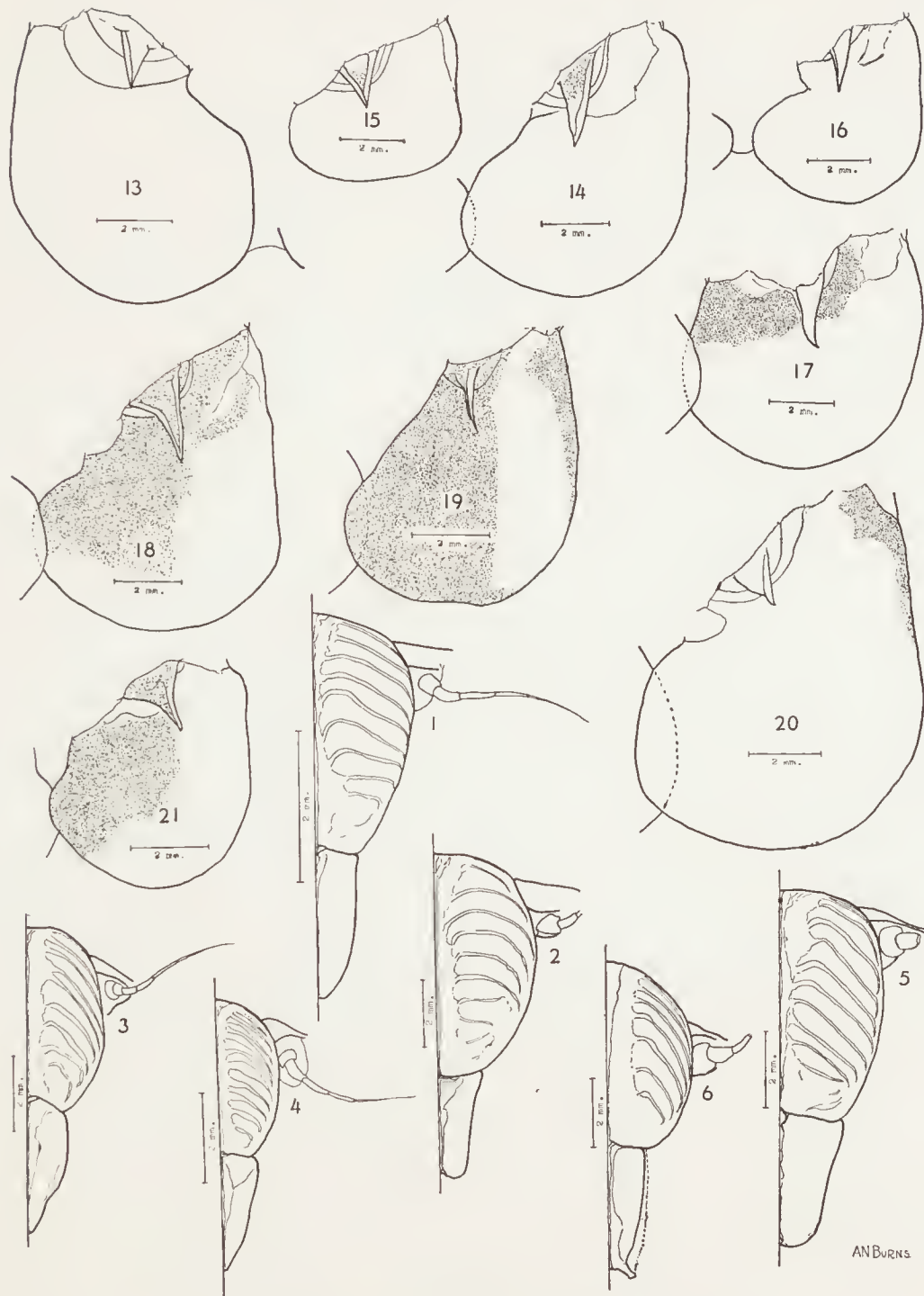


FIG. D.

 Opercula and Frons of Species of *Macrotristria*.

Opercula.

13. *Macrotristria frenchi*. 14. *Macrotristria extrema*. 15. *Macrotristria vulpina*.
 16. *Macrotristria dorsalis*. 17. *Macrotristria kulungura*. 18. *Macrotristria bindalia*.
 19. *Macrotristria douglasi*. 20. *Macrotristria worora*. 21. *Macrotristria intersecta*.

Frons.

1. *Macrotristria angularis*. 2. *Macrotristria maculicollis*. 3. *Macrotristria hillieri*.
 4. *Macrotristria occidentalis*. 5. *Macrotristria nanda*. 6. *Macrotristria kabikabia*.



FIG. E.

Frons of Species of *Macrotristria*.

7. *Macrotristria thophoides*. 8. *Macrotristria hieroglyphica*. 9. *Macrotristria godingi*.
 10. *Macrotristria doddi*. 11. *Macrotristria sylvana*. 12. *Macrotristria nigrosignata*.
 13. *Macrotristria frenchi*. 14. *Macrotristria extrema*. 15. *Macrotristria vulpina*.
 16. *Macrotristria dorsalis*. 17. *Macrotristria kulungura*. 18. *Macrotristria bindalia*.
 19. *Macrotristria douglasi*. 20. *Macrotristria worora*. 21. *Macrotristria intersecta*.



FIG. F.

Male Genitalia of Species of *Macrotristria*.

1. *Macrotristria dorsalis*.
2. *Macrotristria douglasi*.
3. *Macrotristria extrema*.
4. *Macrotristria worora*.
5. *Macrotristria bindulia*.
6. *Macrotristria intersecta*.
7. *Macrotristria kulungura*.