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LXI.—*The Hemiptera of Christmas Island.* By R. J. IZZARD, Department of Entomology, British Museum (Nat. Hist.).

THIS paper is based on a collection made by Dr. F. Harms during the first four months of 1933. It has been thought advisable, however, to collect together all the previously known records for the Island, so that the list will be more or less complete.

The first species of Hemiptera from Christmas Island were collected in 1887 by J. J. Lister, the naturalist accompanying H.M. Surveying-ship 'Egeria.' These were described by W. F. Kirby in the Proceedings Zool. Soc. p. 553 (1888), and consisted of five species, all new.

In 1900 the Trustees of the British Museum published a monograph of Christmas Island based on the collections made by the late Dr. C. W. Andrews. The Hemiptera were again worked out by Kirby, who recorded twelve additional species, ten of which were new to science. Kirby only included the more easily determined species in his report, and stated that about twice as many species were represented in the collections than were noticed in his paper. The following year Distant recorded in the 'Annals and Magazine of Natural History,' (7) viii. pp. 465-507, seven more Lygaeids from Andrews's material including five new species, thus bringing the total to

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Family *Lygædiæ*.7. *Nysius spectabilis* Dist.

*Nysius spectabilis* Distant, Ann. & Mag. Nat. Hist. (7) viii. p. 465 (1901).

An endemic species not taken by Dr. Harms.

8. *Nysius andrewsi*, sp. n.

*Colour*.—Head black covered with silvery pubescence, a broad stripe between ocelli extending to apex of each of the juga brown, tylus and a small spot between ocelli yellow; bucculæ whitish yellow, gula on each side below the antenniferous tubercle pale yellow; antennæ pale yellow, fourth segment fuscous; rostrum ferruginous-brown, becoming black apically. Pronotum dull yellow with a broad transverse fascia across the anterior disc extending on each side to the anterior lateral angles, and a spot on each of the humeral angles black, a central and two lateral longitudinal fasciæ on posterior lobe dull brown. Scutellum yellowish brown, the basal margin and a longitudinal central fascia black, extreme apex yellow. Sternum black, the anterior margin of prosternum, the acetabulæ and posterior margins of meso- and metasternum, and the odoriferous orifice whitish yellow, the metapleura brownish shading to black laterally. Hemelytra hyaline, the claval commissure and three elongate stripes along apical margin of corium dark brown; membrane hyaline. Venter black (♂) with a short transverse fascia on fourth segment pale yellow, the whole covered with dense fine silvery pubescence. Abdomen of ♀ pale yellow with dark markings on lateral margins.

*Structure*.—Head moderately deflexed, a little more than half as long as wide across eyes (30 : 55), with the ocelli much nearer to eyes than to each other, rugosely punctate. Relative lengths of antennal segments 15 : 38 : 35 : 30, last segment fusiform. Rostrum terminating between the hind coxæ; bucculæ reaching to a line drawn between middle of eyes. Pronotum anteriorly a little wider than long in middle, posteriorly one and three-fifths as wide as the anterior margin; strongly punctate, calli smooth impunctate; scutellum strongly punctate, except for a median lævigata ridge. Pleura

sparsely punctate, posterior margin of metasternum laminate and broadly emarginate, the outer angles angularly rounded; costal margin of corium slightly dilated, widening apically. Abdomen below shining impunctate; femora slightly incrassate, tibiae simple, tarsi with basal joint as long as the remaining two together, fringed with pale hairs.

Total length, ♂, 3.14 mm., width across humeral angles 0.8 mm.; ♀, 3.66 mm., width across humeral angles 1.10 mm.

Indian Ocean: Christmas Island, 1 ♂ (type), i.-iv. 1933 (*F. Harms*); 21 specimens (paratypes), i.-iv. 1933 (*F. Harms*).

This species is allied to *N. spectabilis* Dist., but differs in the shorter head and bucculae, and the colour-pattern on the pronotum, as well as the different markings on the hemielytra and the relative length of the antennal segments.

This species is dedicated to Dr. Andrews in recognition of his early work on the Christmas Island fauna.

#### 9. *Nysius dissimilis*, sp. n.

Colour very similar to the preceding species, but this species differs in the following structural points:—

Head somewhat longer than in *andrewsi*, although having the same ratio to the width across eyes (38:60) the length of the antennal segments are generally shorter (10:29:30:28). The bucculae are a little shorter and narrowed more sharply towards their apices; the pronotum is somewhat narrower across the humeral angles, and the outer angles of the posterior margin of metasternum longer and more gradually rounded; the costal margin of corium straight along its basal third, and thence suddenly and obliquely widening to form the dilatation.

Total length, ♂, 3.11 mm., width across humeral angles 1 mm.; ♀, 3.36 mm., width across humeral angles 1.8 mm.

Indian Ocean: Christmas Island, 1 ♂ (type), i.-iv. 1933, 2 specimens, i.-iv. 1933 (paratypes) (*F. Harms*).

#### 10. *Geocoris vestitus* Dist.

*Geocoris vestitus* Distant, Ann. & Mag. Nat. Hist. (7) viii. p. 471 (1901).

An endemic species, not taken by Dr. Harms.

22. *Peregrinator biannulipes* (Montr. et Sign.).

*Opiscætus biannulipes* Montrouzier et Signoret, Ann. Soc. Ent. France, (4) i. p. 69 (1861).

*Microcleptes biannulipes* Stål, Kongl. Svensk. Vet.-Ak. Handl. xii. 1, p. 79 (1874).

*Reduvius laniger* Butler, Ann. & Mag. Nat. Hist. (4) xvii. p. 411 (1876).  
*Allæocranum biannulipes* Kirkaldy, Proc. Linn. Soc. N.S. Wales, xxxiii. p. 369 (1908).

*Peregrinator biannulipes* China, Ann. & Mag. Nat. Hist. (9) xv. p. 164 (1925).

Indian Ocean: Christmas Island, 1 specimen, i.-iv. 1933 (*F. Harms*).

Recorded from Central America, Cuba, Renunion, Rodriguez, Philippines, New Caledonia, Fiji, and Samoa. Apparently widely distributed.

## Family Mesoveliidæ.

23. *Mesovelia orientalis* Kirk.

*Mesovelia orientalis* Kirkaldy, Ann. Mus. Genov. xl. p. 808 (1900).

Indian Ocean: Christmas Island (immature forms in spirit), i.-iv. 1933 (*F. Harms*).

*Distribution*.—Ceylon, Sumatra, Java, Lombok, Philippines, Formosa, and New Guinea.

## Family Nabidæ.

24. *Reduviolus capsiformis* (Germ.).

*Nabis capsiformis* Germar, Silberman, Rev. Ent. v. p. 132 (1837).

*Reduviolus innotatus* B. White, Ann. & Mag. Nat. Hist. (4) xx. p. 112 (1877).

*Reduviolus* sp., ? Kirkaldy, Proc. Linn. Soc. N.S. Wales, xxxiii. p. 366 (1908).

*Reduviolus capsiformis* Reuter, Mem. Soc. Ent. Belg. xv. p. 114 (1908) (synonymy); Kirkaldy, Faun. Hawaii Hemipt. Suppl. p. 546 (1909).

Indian Ocean: Christmas Island, 8 specimens, i.-iv. 1933 (*F. Harms*).

*Distribution*.—Europe, Africa, N. America, and Pacific region.

## Family Capsidæ.

25. *Trigonotylus dohertyi* (Dist.).

*Megaloceræa dohertyi* Distant, Faun. Brit. India, Hem. ii. p. 425 (1904).

Indian Ocean: Christmas Island, 23 specimens, i.-iv. 1933; 20 specimens, Shore Terrace, N.E. Point, i.-iv. 1933 (*F. Harms*).

*Distribution*.—India.

26. *Creontiades pallidifer* (Walk.).

*Capsus stramineus* Walker, Cat. Het. vi. p. 120 (1873).

*Capsus pallidifer* Walker, nom. nov., Cat. Het. vi. p. 199 (1873).

*Kangra dudgeoni* Kirkaldy, Trans. Ent. Soc. London, p. 257 (1902).

*Megacelum stramineus* Distant, Faun. Brit. India, Hem. ii. p. 428 (1904).

*Creontiades stramineus* Poppius, Öfv. Finska Vet. Soc. Förh. liii. Afd. A, no. 2, p. 11 (1911); Poppius, Archiv f. Naturges. lxxx. Abt. A, p. 14 (1915).

Indian Ocean: Christmas Island, 5 specimens, i.-iv. 1933 (F. Harms).

*Distribution*.—India, Ceylon, Java, Formosa, and widely throughout the Pacific regions.

27. *Lygus aldrichi*, sp. n.

*Colour*.—♀. Pale yellow, with eyes and apical fifth of second antennal segment black; sides of apical half of clypeus, first antennal segment, basal fourth of second segment, apical two-thirds of third segment, a broad stripe down claval and corial commissure extending on to apical half of scutellum, a rather pallid suffusion towards apex of corium, membranal veins, and an obscure stripe down each side of venter, all brown, base of third segment pallid (fourth missing); cuneus immaculate; some obscure very pale brown markings on apical third of hind femora and bases of tibiae. The whole insect covered with more or less dense semi-erect golden pubescence.

*Structure*.—♀. Head about one-fourth shorter than pronotum; vertex not carinate along base; relative length of antennal segments 26:75:45:—; rostrum extending beyond the middle coxæ, but barely reaching the hind coxæ. Pronotum strongly punctate, sides almost straight, the anterior collar not quite as thick as the first antennal segment at apex; scutellum smooth and shining. Hemelytra distinctly and regularly punctate; costal margin somewhat dilated; underside of femora with a row of long fine hairs; hind tibiae without spine-like bristles.

Total length 4.2 mm., width 1.26 mm.

Indian Ocean: Christmas Island, 1 ♀ (type), i.-iv. 1933 (F. Harms).



Runs down to *rambeensis* in Poppius's key \*, but differs in the following characters:—Without the brown markings on either side of the calli and the cuneus. The vertex is without a furrow, the first antennal segment is only half the length of the head and the second segment a little more than three times length of first. The tibiae are covered with dense hairs, but not spines, and the width across humeral angles is somewhat less than in *rambeensis*.

This species is dedicated to Captain Pelham Aldrich, R.N., in consequence of whose discoveries on the Island in 1887 it was formally annexed to the British Crown in 1888.

28. *Lygus murrayi*, sp. n.

*Colour*.—♀. Golden brown; head towards apex more or less suffused with red; eyes black; antennæ pale yellow; rostrum pale yellow with extreme apex black. Apex of embolium, base of cuneus, inner margin, and apex of cuneus all red; apex of corium suffused with dark brown; membrane infumate with a large spot in basal cell and another between outer cell and costal margin hyaline; veins pale. Dorsal surface of abdomen dark brown, margins pale yellow. Venter pale yellow, a brown spot in middle of base, tip of abdomen red. Legs pale yellow, some indistinct broken brown annulation at apices of femora; spines of tibiae and last tarsal segment with claws brown. The whole insect covered with golden depressed pubescence.

*Structure*.—♀. Head seen from front about one-fifth shorter than pronotum (16 : 19), vertically deflexed, vertex with a sharp edge posteriorly between eyes overhanging the neck; eyes transverse, overlapping anterior margin of pronotum at sides; relative length of antennal segments 11 : 37 : 22 : —; the first segment shorter than head seen from front; rostrum extending to hind coxæ, first segment swollen. Pronotum very finely and obscurely punctate, about twice as wide across humeral angles as across anterior collar, sides straight, anterior collar slightly thinner than second antennal segment at base. Scutellum transversely wrinkled. Hemielytra very finely and obscurely punctate, costal margin feebly convex, embolium

\* Ann. Mus. Nat. Hung. xii. p. 382 (1914).

very narrow. Underside of hind femora with a few long fine hairs; hind tibiae with strong, spine-like, brown bristles arising from brown spots.

Total length 4 mm., width across humeral angles 1.25 mm.

Indian Ocean: Christmas Island, 2 ♀♀ (including type), i.-iv. 1933 (*F. Harms*).

1 ♀, North Coast, Jan. 1898, 1 ♀, Murray Hill, 26-28. ix. 1908 (*C. W. Andrews*).

Runs down in Poppius's key\* to *L. muiri* Popp. from Fiji, to which it is closely allied. Differs in strongly carinate posterior margin of vertex, absence of longitudinal furrow on vertex, and in slightly different colour-pattern without black tip to cuneus.

Dedicated to Sir John Murray in recognition of his distinguished association with Christmas Island.

## 29. *Fulvius brevicornis* Reut.

*Tetratodella anthocoroides* Reuter, Bihang Svensk. Vet.-Ak. Handl. iii. no. 1, p. 8 (1875) (nec Stål, 1862).

*Fulvius brevicornis* Reuter (nom. nov.), Ent. Tidsk. xvi. p. 135 (1895).

Indian Ocean: Christmas Island, 2 specimens, i.-iv. 1933 (*F. Harms*).

This species has so far only been recorded from the French port Rouen, where it was said to have been imported by ships from Senegal. The Christmas Island specimens agree very well indeed with Reuter's description, and the differences are not sufficient to warrant description of a new species. It seems very doubtful whether *F. brevicornis* really came from Senegal, although a species which can travel in ships is likely to be a cosmopolitan one. Unfortunately, no males of the Christmas Island species are available for comparison with those collected at Rouen.

## 30. *Cylapofulvius listeri*, sp. n.

*Colour*.—Head above dirty yellow, irrorated with red, a furcate brown marking arising from the base upwards and fading at apex of eyes, the tylus on either side with two short brown stripes; eyes grey; first segment of antennae yellow at the base, thence becoming red and

\* Ann. Mus. Nat. Hung. xii. p. 342 (1914).

yellow again at apex, second segment brown, white at apex and covered with short pale hairs; rostrum with the first segment reddish brown, remaining segments dirty yellow. Pronotum pale brown, darkly suffused over the calli, a triangular spot in the centre of apical margin suffused over the calli, a triangular spot in the centre of apical margin and diminishing to a median line between the calli, and the apical fifth of lateral margins narrowly red. Scutellum pale yellowish brown with two short, broad, median, basal stripes and a spot in each basal angle dark brown, apex almost white. Hemelytra with the background pale yellow, two series of fused spots down either side of clavus and three series running diagonally from base to apex of corium, fused into patches at apex, blackish brown; costal margin pale yellow with a stripe about a third of its length in the middle and fused on to corium dark brown, from the brown stripe to apex narrowly margined with pale red; cuneus entirely dark brown; membrane fuscous, veins dark brown. Underside reddish brown, except for a median longitudinal stripe pale yellow; legs pale yellow.

*Structure.*—Head long and narrow, slightly deflexed, with eyes scarcely broader than anterior margin of pronotum, eyes oval (seen from side), fairly large, not touching anterior margin of pronotum; tylus moderately prominent; bucculae very short; antennae inserted well in front of eyes, first segment robust, about two-thirds length of head, second segment slender, just over twice as long as first (remaining segments missing). Pronotal collar indistinct; pronotum strongly narrowed anteriorly, sides almost straight, anterior margin less than half width of posterior margin (40:90), length slightly more than width of anterior margin; calli strongly raised and reaching posteriorly over disc, giving the lateral margins a laminate appearance, posterior margin almost straight, surface rugosely granulate. Scutellum with the basal portion strongly elevated, thence suddenly deflexed to apex, the two basal ridges obliquely inclined towards the centre, sides straight. Rostrum very long, reaching to posterior margin of seventh ventrite, the first segment robust, as long as the head, remaining segments more slender. Hemelytra



finely granulate, costal margins convex at base, thence sharply narrowed to apex; embolium dilated, costal margin somewhat reflexed; cuneus indistinctly delimited; membrane extending well beyond apex of abdomen. Abdomen tumid, dull, impunctate, with a broad median impression posteriorly.

Total length 3.62 mm., width across humeral angles 1.22 mm.

Indian Ocean: Christmas Island, 1 ♂ (type), iii. 1897 (rotting wood) (*C. W. Andrews*).

This species is dedicated to J. J. Lister, who accompanied Capt. Aldrich in H.M.S. 'Egeria' as naturalist to the expedition.

From Poppius's descriptions\* this species comes nearest to *grisescens*, but differs entirely in the colour-pattern, and is slightly larger, the rostrum is distinctly longer, and the length of the antennal segments do not agree.

### Family Gerridæ.

#### 31. *Limnogonus luctuosa* (Montr.).

? *Gerris luctuosa* Montrouzier, Ann. Soc. Linn. Lyon, xi. p. 242 (1864).

*Limnometra lineata* Carpenter, Scientific Proc. Royal Dublin Soc. (new series), vii. p. 141 (1891).

*Gerris luctuosa* Distant, Sarasin & Roux, 'Nova Caledonia,' Zool. i. pt. 4, no. 10, p. 384 (1914).

*Limnogonus luctuosa* Esaki, 'Insects of Samoa,' Aquatic Hemiptera, pt. 2, fasc. 2 (1928).

Indian Ocean: Christmas Island, 6 specimens, i.-iv. 1933 (*F. Harms*).

*Distribution*.—New Caledonia, Samoa.

### Subfamily HALOBATINÆ.

#### 32. *Halobates princeps* B. White.

*Halobates princeps* B. White, Rep. Pelagic Hemipt. ('Challenger' Rep. xix.), p. 44, pl. i. fig. 3 (1883); Kirby, Mon. Christmas Is. p. 129 (1900).

Indian Ocean: Christmas Island, 1 specimen, i.-iv. 1933 (*F. Harms*).

*Distribution*.—Malayan and China Seas.

\* Acta Soc. Sci. Fenn. tom. xxxvii. no. 4, p. 21 (1909).

33. *Halobates proavus* B. White.

*Halobates proavus* B. White, *loc. cit.* p. 54; Kirby, *loc. cit.*

Recorded from Gilolo and West Coast of Malay Peninsula.

Not taken by Dr. Harms.

## Family Naucoridæ.

34. *Heleocoris nebulosus* Mont.

var. *thienemanni* Lundb.

*Heleocoris nebulosus* Mont. var. *thienemanni* Lundblad, 'Archiv für Hydrobiologie,' Suppl.-Bd. xii., "Tropische Binnengewässer, iv.," p. 72 (1933).

Indian Ocean: Christmas Island, 1 specimen, i.-iv. 1933 (*F. Harms*).

*Distribution*.—Java and Sumatra.

35. *Laccocoris montandoni*, sp. n.

Suboval, somewhat flattened; head large, obtusely rounded in front, yellowish brown with a central triangular brown punctate fascia commencing at the base and graduating into two elongate lines to the apex, two short irregular punctate fasciæ on either side of the central one; two punctate black spots close to inner margins of eyes on the apical half. Eyes grey, large, subparallel on their inner margins, the outer margins forming an oblique line, the lateral process triangular and well defined, just covering anterior angle of pronotum. Pronotum a little longer than the head, yellowish brown strongly punctured with an irregular pattern, a short median broad stripe broad yellow; the anterior margin narrowly transversally striate; the lateral margins obliquely and outwardly directed to the rounded lateral angle, bright yellow with the puncturation concolorous. Scutellum brownish, finely but densely punctate, sides very slightly sinuate. Hemielytra dark brown, densely covered with fine whitish granules; clavus narrowly margined with yellow and forming a spot at the apex of the claval suture; margin of the elytra broadly rounded at embolium and thence sharply declined to membrane; embolium at the base light brown, punctate, a bright yellow spot in the middle and then fading to dark brown, exterior margin narrowly margined with bright yellow and fringed

with very short sparse brown hairs, and a small bright yellow spot at the apex of the interior margin of the embolium. Connexivum visible from above for the last three segments, whitish, fringed with minute hairs. Head beneath pale yellow, labrum triangular, yellow, rostrum with the last segment brown; antennæ pale yellow. Sternum yellowish brown. Abdomen yellow; legs yellow, the anterior femora strongly incrassate, fore and middle tibiæ with strong brown spines, posterior tibiæ and tarsi also with strong brown spines, extreme apex of hind tarsi and claws brown.

Total length 10 mm., breadth 6 mm.

Indian Ocean: Tabameer Propat, F.S., 2 specimens (type and paratype), 1933 (*F. Harms*).

Closely allied to *L. nervicus* Mont., but differing chiefly in the smaller structure and less brilliant coloration, the absence of the spot at apex of scutellum, and in the dilation of the lateral margins of the pronotum, which is narrower.

This species is dedicated to Dr. A. L. Montandon in recognition of his work on this family.

## HOMOPTERA.

### Family Cicadidæ.

#### 36. *Platypleura calypso* (Kirby).

*Oxypleura calypso* Kirby, Proc. Zool. Soc. p. 553 (1888).

*Pæcilopsaltria calypso* Distant, Mon. Orient. Cicad. p. 6, tab. x. fig. 3 a, b (1889).

*Platypleura calypso* Distant, Synonymic Cat. Homopt. pt. i., Cicadidæ, p. 7 (1906).

Indian Ocean: Christmas Island, 2 specimens, i.-iv. 1933 (*F. Harms*).

Apparently an endemic species.

#### 37. *Dundubia rufivena* Walk.

*Dundubia rufivena* Walker, List Homopt. i. p. 59 (1850); Distant, Mon. Orient. Cicad. p. 40, tab. vi. fig. 6 a, b (1889).

Indian Ocean: Christmas Island (no other data), 1 specimen.

*Distribution*.—Malaya.

Superfamily **FULGOROIDEA.**Family **Ricanidæ.**38. *Ricania flavifrontalis* Kirby.

*Ricania flavifrontalis* Kirby, Mon. Christmas Is. p. 131, pl. xv. fig. 5 (1900).

Indian Ocean: Christmas Island, 12 specimens, i.-iv. 1933 (*F. Harms*); 4 specimens, 1908 (*C. W. Andrews*).

Apparently an endemic species.

39. *Varcia flavicostalis* (Kirby).

*Ricania flavicostalis* Kirby, Proc. Zool. Soc. p. 554 (1888).

*Varcia flavicostalis* Melichar, Ann. Nat. Hofmuseums, xiii. p. 319 (1899); Kirby, Mon. Christmas Is. p. 133, pl. xv. fig. 7 (1900).

Indian Ocean: Christmas Island, 1 specimen, i.-iv. 1933 (*F. Harms*).

Apparently an endemic species.

40. *Varcia affinis* (Kirby).

*Ricania affinis* Kirby, Proc. Zool. Soc. p. 554 (1888).

*Nogodina affinis* Melichar, Ann. Nat. Hofmuseums, xiii. p. 309 (1899); Kirby, Mon. Christmas Is. p. 134, pl. xv. fig. 8 (1900).

*Varcia affinis* Melichar, Wytsman, Gen. Ins. Homopt. p. 163, fasc. 182 (1923).

Indian Ocean: Christmas Island, 4 specimens, i.-iv. 1933 (*F. Harms*); 1 specimen, Irving Hill, Aug. 1908 (*C. W. Andrews*).

Apparently an endemic species.

41. *Salona oceanica* Kirk.

*Ricania hyalina* Kirby, Proc. Zool. Soc. p. 555 (1888).

*Nogodina hyalina* Kirby, Mon. Christmas Is. p. 134, pl. xv. fig. 9 (1900).

*Nogodina oceanica* Kirkaldy, nom. nov. for *R. hyalina* Kirby, nec Germar, 'The Canadian Entomologist,' xli. p. 392 (1909).

*Salona oceanica* Melichar, Wytsman Gen. Ins. Homopt. fasc. 182, p. 173 (1923).

Indian Ocean: Christmas Island, 19 specimens, i.-iv. 1933 (*F. Harms*); 5 specimens, Ross Hill, 16. ix. 1908, 4 specimens, 12. ix. 1908, 1 specimen, 1908 (*C. W. Andrews*).

Apparently an endemic species.

42. *Paurostauria delicata* Kirby.

*Paurostauria delicata* Kirby, Mon. Christmas Is. p. 133, pl. xv. fig. 6 (1900).

Indian Ocean: Christmas Island, 1 specimen, i.-iv. 1933 (F. Harms); 4 specimens, 1908, 1 specimen, Murray Hill, Aug. 1908 (C. W. Andrews).

Apparently an endemic species.

43. *Sassula subviridis* (Kirby).

*Nogodina subviridis* Kirby, Mon. Christmas Is. p. 135, pl. xv. figs. 10, 11 (1900).

*Sassula subviridis* Distant, Ann. & Mag. Nat. Hist. iv. p. 335 (1909).

Indian Ocean: Christmas Island, 5 specimens, i.-iv. 1933 (F. Harms); 1 specimen, 1908 (C. W. Andrews).

Apparently an endemic species.

44. *Pochazia sinuata* Stål.

*Pochazia sinuata* Stål, Öfv. Vet.-Akad. Förh. xx. p. 160 (1865); Atkinson, Journ. Asiat. Soc. Bengal, lv. p. 54 (1886).

Indian Ocean (no exact locality), 1 specimen.

*Distribution*.—Java, Sumatra, Sungei, Bulu, Ben Koelen, Borneo, Malacca, Philippines.

Family **Acanaloniidæ**.

ANDREWSIELLA, gen. nov. (Fig. 1.)

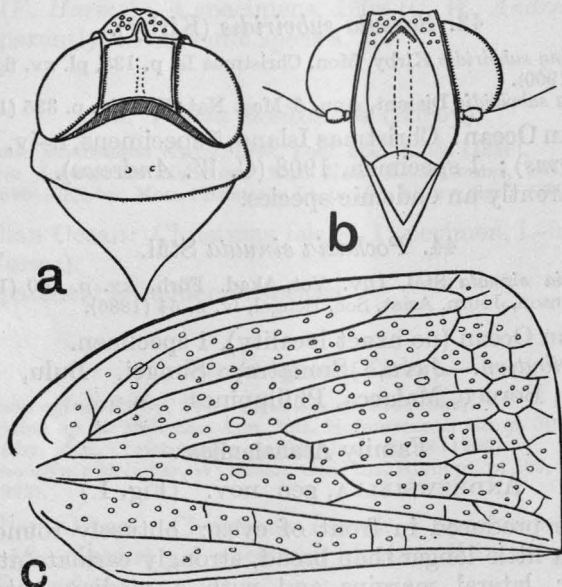
Frons produced in front of eyes; obtusely rounded; vertex a little longer than broad, strongly carinate at the anterior lateral margins and with a median anterior acuminate V-prolongation; eyes very large, reaching anterior margin of pronotum; face longer than broad, margins slightly convex, gradually widening towards clypeus, disc slightly elevated, lateral margins carinate, a median obscure percurrent ridge, and continuing throughout clypeus; clypeus almost as long as face, triangular. Pronotum narrow, arched in front between eyes, posterior margin straight, surface lightly granulate. Scutellum a little longer than pronotum. Hemelytra about twice as long as broad, costal margin convex at the basal third, thence straight to the apical angle which is rounded, apical margin straight, surface granulate particularly on the clavus, and a few scattered rounded tubercles; claval suture with a narrow coriaceous margin; wings fully developed.



Genotype : *A. oceanica*, sp. n.

In Melichar's key \* this genus approaches *Oxychara* Mel., but has a much shorter face and head, which is not conically produced, and is without the carinae on the pronotum. The hemielytra are not narrowed behind and the sutural angle is almost straight.

Fig. 1.



*Andrewsiella oceanica*, gen. et sp. n.

a, dorsal view of head, pronotum, and scutellum;  
b, facial view of head; c, tegmen.

45. *Andrewsiella oceanica*, sp. n.

Head, pronotum, scutellum, and body greenish ochraceous, a series of whitish granules on frons at either side of the apex of vertex, base of front margined with red, shaped like an inverted V; eyes mottled grey. Legs greenish ochraceous, the tibiae narrowly margined with brown; tarsal spines and claws tipped with brown; tubercles on the tegmina yellow; wings hyaline.

Total length 6.10 mm., wing-expanse 13.7 mm.

Indian Ocean: Christmas Island, North Coast, 1 ♂ (type), Jan. 1898; 1 ♂, 1898 (*C. W. Andrews*).

\* Wytsman, 'Genera Insectorum,' Homoptera, fasc. 182, p. 4 (1923).

Family Delphacidæ.

46. *Ugyops aristella* (Kirby).

*Bidis aristella* Kirby, Mon. Christmas Is. p. 136, pl. xv. figs. 12, 13 (1900).

*Ugyops aristella* Muir, 'The Canadian Entomologist,' p. 264, Aug. 1915.

Indian Ocean: Christmas Island, 7 specimens, i.-iv. 1933 (F. Harms); Irving Hill, 1 specimen, Aug. 1908 (C. W. Andrews).

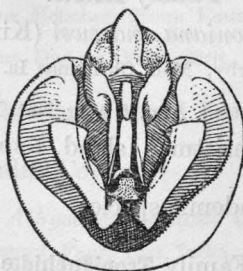
Apparently an endemic species.

47. *Delphacodes muirianus*, sp. n. (Fig. 2.)

*Male*.—Macropterous; length 1.5 mm., tegmen 2 mm.

Vertex slightly longer than wide, apex slightly rounded, projecting a little beyond eyes, base at about middle of

Fig. 2.



*Delphacodes muirianus*, sp. n.

Apical view of ♂ pygophor.

eyes; length of frons more than double the width; median carina simple; antennæ reaching beyond base of clypeus, first segment longer than wide, second segment about one and a half times length of first. Tegmina passing apex of abdomen. Opening of pygophor wider than long; margins entire; anal emargination large, anal angles simple; diaphragm very short in middle between bases of genital styles in tongue-shaped lobe; anal tube with two spines exceptionally long and slender, extending to behind base of genital styles; genital styles widened apically and truncate, inner margins concave, outer margins convex. Ædeagus subtubular, apical third curved ventrally at right angles, several small spines around the apical third.

*Colour*.—Dark brown between carinæ of face and clypeus, carinæ of face and thorax lighter than ground-colour. Abdomen fuscous. Tegmina hyaline, veins same colour as membrane, granules minute, same colour as veins.

Genitalia figured.

*Female*.—Brachypterous; length 1.9 mm., tegmen 1.1 mm., reaching to base of fifth abdominal tergite, similar in colour to male, femora and tibiæ darkish brown, becoming lighter laterally; tarsi yellowish.

Described from 1 ♂, Indian Ocean; Christmas Island, 1. iv. 1933 (*F. Harms*); 20 ♀♀, 1. iv. 1933, 1 ♀, Shore Terrace, 1. ii. 1933 (*F. Harms*).

Respectfully dedicated to the late Dr. F. Muir in recognition of his work on the family.

### Family Issidæ.

#### 48. *Moniana andrewsi* (Kirby).

*Issus* (?) *andrewsi* Kirby, Mon. Christmas Is. p. 138, pl. xv. fig. 15 (1900).

*Moniana andrewsi* Distant, Ann. & Mag. Nat. Hist. iv. p. 76 (1909).

Indian Ocean; Christmas Island, 1 specimen, i–iv. 1933 (*F. Harms*).

Apparently an endemic species.

### Family Tropicuchidæ.

#### 49. *Kallitaxila granulata* (Stål).

*Taxila granulata* Stål, Öfv. Vet.-Ak. Förh. xxvii. p. 750 (1870).

*Kallitaxila* Kirkaldy, 'The Entomologist,' xxxiv. p. 6 (1901), nom. nov. for *Taxila* Stål (nec Doubleday, 1847, Lepidopt.).

*Taxilana* Melichar, Verhandl. des Naturforsch. Vereines in Brünn. liii. p. 90 (1914), nom. nov. for *Taxila* Stål (nec Doubleday, 1847).

Indian Ocean: Christmas Island, 1 specimen, i–iv. 1933 (*F. Harms*).

*Distribution*.—Indo-Malayan region.

### Family Cercopidæ.

#### 50. *Clovio eximia* Kirby.

*Clovio eximia* Kirby, Mon. Christmas Is. p. 137, pl. xv. fig. 14 (1900).

Indian Ocean: Christmas Island, 22 specimens, i–iv. 1933 (*F. Harms*); 1 specimen, Flying Fish Cove, Sept. 1908 (*C. W. Andrews*).

Family Jassidæ.

51. *Bythoscopus punctatus* (Kirby).

*Idiocerus* (?) *punctatus* Kirby, Mon. Christmas Is. p. 138, pl. xv. fig. 16 (1900).

*Bythoscopus punctatus* Distant (inedit).

Indian Ocean : Christmas Island, 10 specimens, i.-iv. 1933 (F. Harms).

Apparently an endemic species.

52. *Drabescus conspicuus* Dist.

*Drabescus conspicuus* Distant, Faun. Brit. India, Rhyn. iv. p. 306 (1908).

Indian Ocean : Christmas Island, 15 specimens, i.-iv. 1933 (F. Harms).

Distribution.—Ceylon.

53. *Deltocephalus infirmus* Mel.

*Deltocephalus infirmus* Melichar, Hom. Faun. Ceylon, p. 203, t. v. fig. 11 (1903).

*Deltocephalus infirmus* Distant, Faun. Brit. India, Rhyn. iv. p. 386 (1908).

Indian Ocean: Christmas Island, i.-iv. 1933, 3 specimens (F. Harms).

Distribution.—India, Ceylon.

54. *Athysanus indicus* Dist.

*Athysanus indicus* Distant, Faun. Brit. India, Rhyn. iv. p. 344 (1908).

Indian Ocean: Christmas Island, 8 specimens, i.-iv. 1933 (F. Harms).

Distribution.—India.

55. *Nesosteles sanguinescens* Kirk.

*Nesosteles sanguinescens* Kirkaldy, Report of Work of Exp. Stn. Hawaiian Sugar Plant. Assoc., Leaf-Hoppers, Bull. i. pt. 9, p. 344 (1906).

Indian Ocean : Christmas Island, 39 specimens, i.-iv. 1933 (F. Harms).

Distribution.—Fiji Is., Queensland, Brisbane.

56. *Balclutha montana* Mel.

*Balclutha montana* Melichar, 'Notes from the Leyden Museum,' xxxvi. p. 138 (1914).

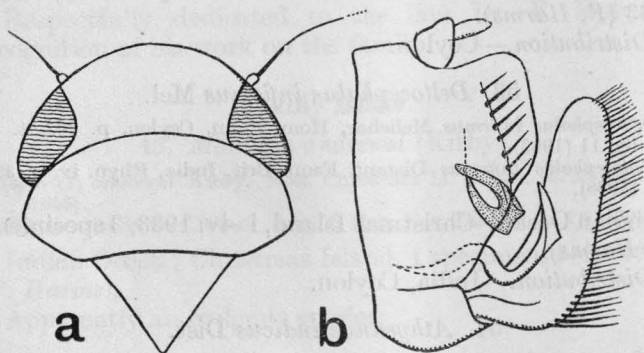
Indian Ocean: Christmas Island, 2 specimens, i.-iv. 1933 (F. Harms).

Distribution.—Java.

57. *Xestocephalus minutus*, sp. n. (Fig. 3.)

Pale yellow. Head pale brown, immaculate, slightly narrower than pronotum, broadly rounded apically; vertex about half as long as wide between eyes; frons pale brown; antennæ yellow; clypeus about as broad as long, sides parallel, apex truncate. Scutellum with two circular brown spots at the base. Tegmina with two large and two small spots on the clavus, a large semicircular blotch on the corium widening apically, two large spots at the apex of the clavus, and two small

Fig. 3.

*Xestocephalus minutus*, sp. n.

a, dorsal view of head, pronotum, and scutellum;  
b, lateral view of ♂ genitalia.

ones towards apex of costal margin brown. Dorsal side of abdomen fuscous, ventral side and legs whitish yellow.

♂ genitalia figured.

Total length 2.25 mm.

Indian Ocean: Christmas Island, 3 specimens, including ♂ type, i.-iv. 1933 (*F. Harms*).

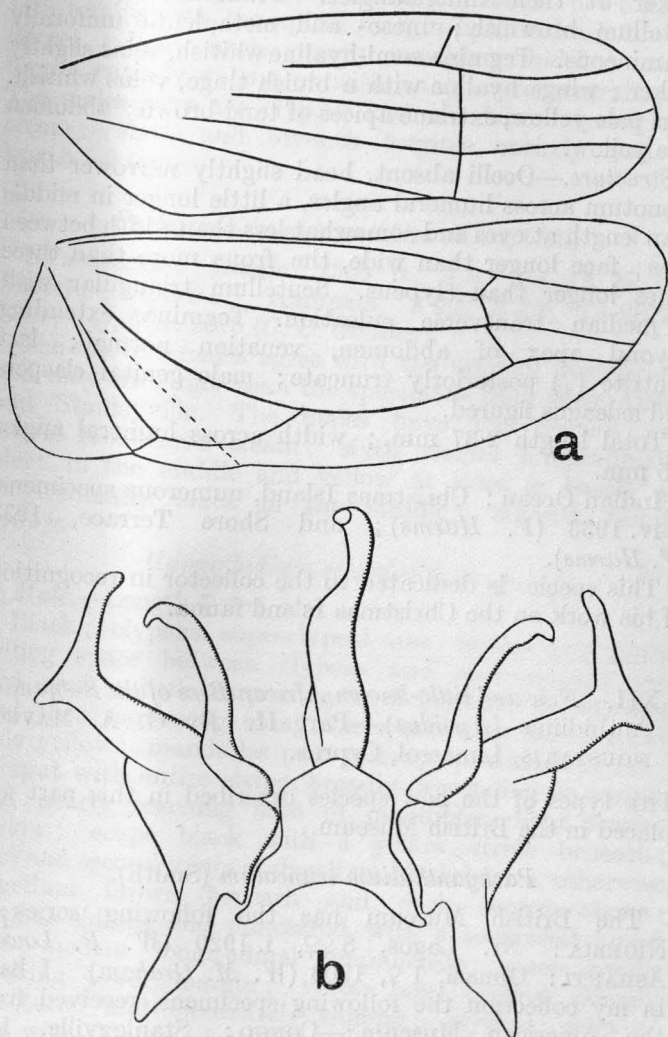
3 specimens, North Coast, xii. 1897; 1 specimen, East Coast, viii. 1897 (*C. W. Andrews*).

Runs down in Melichar's key\* to *apicalis* Mel., but very much smaller. Resembles *X. minimus* China in small size, but differs in broadly rounded head and in shape of posterior lateral margin of pygophor.

\* 'Notes from the Leyden Museum,' xxxvi. p. 139 (1914).



Fig. 4.



*Erythroneura harmsi*, sp. n.

*a*, tegmen and wing ; *b*, internal ♂ genitalia.

58. *Erythroneura harmsi*, sp. n. (Fig. 4, p. 599.)

*Colour*.—Head flavescent; eyes brownish, becoming darker at their inner angles. Pronotum flavescent; scutellum brownish; meso- and metapleura uniformly stramineous. Tegmina semi-hyaline whitish, veins slightly darker; wings hyaline with a bluish tinge, veins whitish. Legs pale yellow, extreme apices of tarsi brown; abdomen pale yellow.

*Structure*.—Ocelli absent, head slightly narrower than pronotum across humeral angles, a little longer in middle than length at eyes and somewhat less than width between eyes; face longer than wide, the frons more than three times longer than clypeus. Scutellum triangular with a median transverse sulcation. Tegmina extending beyond apex of abdomen, venation normal; last ventrite (♀) posteriorly truncate; male genital claspers and aedeagus figured.

Total length 2.37 mm.; width across humeral angles 0.5 mm.

Indian Ocean: Christmas Island, numerous specimens, i.-iv. 1933 (*F. Harms*); and Shore Terrace, 1933 (*F. Harms*).

This species is dedicated to the collector in recognition of his work on the Christmas Island fauna.

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LXII.—*New and little-known African Bees of the Subfamily Anthidiinæ (Apoidea)*.—Part II. By G. A. MAVROMOUSTAKIS, Limassol, Cyprus.

THE types of the new species described in this part are placed in the British Museum.

*Pachyanthidium truncatum* (Smith).

The British Museum has the following series:—NIGERIA: Nr. Lagos, 8 ♀♀, i. 1920 (*W. P. Lowe*); ASHANTI: Obuasi, 1 ♀, 1908 (*W. M. Graham*). I have in my collection the following specimens, received from the American Museum:—CONGO: Stanleyville, 1 ♂, iii. 1915; 1 ♂, 4. vii. 1915; 1 ♀, iv. 1915 (*Lang & Chapin*), and determined by H. F. Schwarz.

Smith described *Pachyanthidium truncatum* from the female, and Friese has later described the male, stating