

DELPHACIDAE FROM AUSTRALIA AND NEW ZEALAND HOMOPTERA : FULGOROIDEA

By R. G. FENNAH

SYNOPSIS

Descriptions are given of ten new species of Delphacidae from New Zealand, of six from Australia and of five from New Guinea. The generic assignments of all known species from New Zealand, and of ten species from Australia, are revised, and fourteen new genera are erected.

INTRODUCTION

THIS report is based on a comprehensive collection of Delphacidae from New Zealand and a less representative collection from Australia and New Guinea received for study from Dr. T. E. Woodward, of the University of Queensland. Additional material from Australia was obtained from the collections in the British Museum (Nat. Hist) made by C. Darwin, R. E. Turner, R. W. Mungomery, J. G. Myers and others.

The writer's warmest thanks are tendered to Dr. Woodward, and to Mr. J. P. Doncaster, Keeper of the Department of Entomology in the British Museum (Nat. Hist.) for the privilege of examining these interesting collections. Thanks are also due to Dr. J. W. Beardsley of the Experiment Station of the Hawaiian Sugar Planters' Association for the loan of specimens from the type series of *Delphax dilpa* Kirkaldy and *Haplodelphax iuncicola* Kirkaldy.

In the General Catalogue of the Hemiptera, fasc. IV, part 3, four species of Delphacidae are listed from New Zealand, and a further two from the Kermadec Islands. The present collections have revealed the presence of a further twelve species in New Zealand and the outlying Three Kings group. Ten of them are new to science and are apparently endemic.

The Australian collections, which came almost entirely from the eastern side of the continent, were found to contain few series; a substantial number of the known species were not represented, and six new species were found. Such a lack of repetitiveness in the material indicates that the Delphacid fauna is still very incompletely surveyed, both as regards composition and distribution. It is evident, from a consideration of the genera present, that a strong Papuan element is present in eastern Australia, and that there is a small group, represented by such genera as *Haplodelphax* and *Pseudembolophora*, that is comparatively isolated, and may well represent an old native element.

A key is given for the separation of genera discussed below. Measurements of the head and thorax are taken as shown in Fennah, 1963 : 75 (fig. 20); where the

anterior margin of the frons is appreciably convex, the length is measured along the middle line; where it is transverse, it is measured close to, but to the side of, the narrow median projection caused by the thickness of the carinae, at their point of transition into the frons. The position of the post-trochanters is taken as the most anterior position that they can attain. The length of the basal post-tarsal segment is measured dorsally from its base to the point of insertion of the second segment.

The bibliographic references are cited in accordance with the usage in "A Bibliography of the Homoptera (Auchenorrhyncha)" (Metcalf, Z. P., 1942, N.C. State College of Agriculture and Engineering, University of North Carolina, Raleigh, N.C.).

KEY TO GENERA OF DELPHACIDAE OF AUSTRALIA AND NEW ZEALAND

- | | | | |
|---------|--|---------------------------------------|----|
| 1 | Post-tibial spur awl-shaped | UGYOPS Guérin-Méneville (p. 6) | 2 |
| — | Post-tibial spur wedge-shaped, or thin and tectiform | | 3 |
| 2 (1) | Antennae cylindrical | subgenus UGYOPS (p. 6) | |
| — | Antennae with at least basal segment slightly compressed | subgenus PARACONA nov. (p. 11) | |
| 3 (1) | Post-tibial spur wedge-shaped, with only a single tooth at apex | | 4 |
| — | Post-tibial spur tectiform, with teeth on margin | | 6 |
| 4 (3) | Vertex extremely elongate, about as long as remainder of body | PSEUDEMBOLOPHORA Muir (p. 12) | |
| — | Vertex at most less than three times as long as broad | | 5 |
| 5 (4) | Vertex longer than broad, basal segment of antennae cylindrical | TROPIDOCEPHALA Stål (p. 12) | |
| — | Vertex broader than long, basal segment of antennae compressed | HAERINELLA gen. n. (p. 13) | |
| 6 (3) | Frons with median carina forked near middle | | 7 |
| — | Frons with median carina simple, or forked at base, or with two carinae separate to apex | | 14 |
| 7 (6) | Antennae with basal segment triangular and compressed | | 8 |
| — | Antennae with basal segment cylindrical | | 10 |
| 8 (7) | Vertex much broader than long | | 9 |
| — | Vertex about as broad as long | PHACALASTOR Kirkaldy (p. 17) | |
| 9 (8) | Post-clypeus short, about as long as basal antennal segment; post-tibial spur not long, with about 18 teeth; pygofer devoid of processes ventrally on hind margin | TEMENITES gen. n. (p. 15) | |
| — | Post-clypeus not short, longer than basal segment of antenna; post-tibial spur rather long, with more than 30 teeth; pygofer with a pair of processes ventrally on hind margin | PERKINSIELLA Kirkaldy (p. 16) | |
| 10 (7) | Profemora and protibiae foliately expanded, antennae relatively long | PELIADES Bierman (p. 17) | |
| — | Profemora and protibiae not foliately expanded | | 11 |
| 11 (10) | Lateral carinae of pronotum straight, attaining hind margin | | 12 |
| — | Lateral carinae of pronotum curved laterad, not attaining hind margin | | 13 |
| 12 (11) | Form slender; frons more than 2.5 times as long as broad; pygofer with a medioventral process | THRASYMEMNON gen. n. (p. 43) | |
| — | Form robust; frons not more than twice as long as broad; pygofer without a medioventral process | PEREGRINUS Kirkaldy (p. 18) | |
| 13 (11) | Vertex broader at base than long in middle line; basal antennal segment fully twice as long as broad | CEMUS Fennah (p. 19) | |

- Vertex longer in middle line than broad at base ; basal antennal segment not twice as long as broad **THYMALOPS** gen. n. (p. 20)
- 14 (6) Frons with two submedian carinae 15
- Frons with a single median carina 16
- 15 (14) Vertex obtusely rounding into frons, which is about twice as long as broad ; ocelli distinct **APLANODES** gen. n. (p. 21)
- Vertex acutely rounding into frons, which is not nearly twice as long as broad ; ocelli absent **NOTOHYUS** gen. n. (p. 22)
- 16 (14) Basal segment of post-tarsi with one or more spines laterally **NILAPARVATA** Distant (p. 24)
- Basal segment of post-tarsi without teeth laterally 17
- 17 (16) Post-tibial spur with less than 13 teeth 18
- Post-tibial spur with 13 teeth or more 23
- 18 (17) Head with eyes wider than pronotum **SMICROTATODELPHAX** Kirkaldy
- Head with eyes not wider than pronotum 19
- 19 (18) Vertex distinctly broader than long, insensibly passing into frons **NOTOGRYPS** gen. n. (p. 26)
- Vertex at least as long as broad, more or less distinctly separable from frons 20
- 20 (19) Basal segment of antennae fully twice as long as broad **PROTEROSYDNE** Kirkaldy
- Basal segment of antennae not nearly twice as long as broad 21
- 21 (20) Vertex in profile meeting frons obtusely ; frons broadly rounded at basal margin **EORISSA** gen. n. (p. 28)
- Vertex in profile meeting frons subrectangularly or acutely ; frons with basal margin only weakly convex 22
- 22 (21) Vertex in profile meeting frons acutely ; sublateral carinae of vertex each straight from base to apex **HAPLODELPHAX** Kirkaldy (p. 31)
- Vertex in profile rounding subrectangularly into frons ; sublateral carinae of vertex each strongly concave or angulately bent between base and apex **ANCHODELPHAX** gen. n. (p. 34)
- 23 (17) Head with eyes broader than pronotum **SMICROTATODELPHAX** Kirkaldy
- Head with eyes not broader than pronotum 24
- 24 (23) Vertex longer than broad at base 25
- Vertex not longer than broad at base 36
- 25 (24) Second antennal segment three times as long as first **STENOCRANUS** Fieber
- Second antennal segment distinctly less than three times as long as first 26
- 26 (25) Basal segment of antennae fully three times as long as broad, second segment subequal **TAROPHAGUS** Zimmerman (p. 37)
- Basal segment of antennae relatively shorter, second segment distinctly longer than first 27
- 27 (26) Rostrum long, attaining post-trochanters or very nearly so 28
- Rostrum not attaining post-trochanters 29
- 28 (27) Mesonotum polished, with intercarinal areas shallowly concave **ACRODELPHAX** gen. n. (p. 38)
- Mesonotum finely granulate, shallowly convex with carinae fine, not prominent **IZELLA** gen. n. (p. 41)
- 29 (27) Frons about three times as long as broad **SARDIA** Melichar p. 44)
- Frons relatively shorter 30
- 30 (29) Lateral carinae of pronotum straight or convex, reaching hind margin or very nearly so 31
- Lateral carinae of pronotum straight or curved laterad, evidently not reaching hind margin 33

- 31 (30) Submedian carinae of vertex meeting before apex of vertex 32
 — Submedian carinae of vertex meeting at apex, or on frons
SOGATODES Fennah (p. 45)
- 32 (31) Basal segment of antenna little longer than broad; second segment less than
 three times as long as broad **CORONACELLA** Metcalf (p. 47)
 — Basal segment of antenna fully twice as long as broad; second segment at least
 three times as long as broad **SOGATA** Distant
- 33 (30) Rostrum reaching to mesotrochanters, short in relation to length of frons and
 clypeus; slender, delicately formed species usually with a pale median stripe
 on head and thorax **SOGATELLA** Fennah (p. 47)
 — Rostrum surpassing mesotrochanters, not short in relation to length of frons and
 clypeus, robust species without a pale median stripe dorsally
(except *Tarophagus*) 34
- 34 (33) Vertex not narrower than an eye, basal segment of post-tarsus short, less than
 three quarters as long as frons 35
 — Vertex narrower than an eye, basal segment of post-tarsus long, three quarters
 as long as frons **SYNDELPHAX** Fennah (p. 48)
- 35 (34) Frons twice as long as postclypeus **CORBULO** gen. n. (p. 48)
 — Frons 2.5 times as long as postclypeus **SULIX** gen. n. (p. 49)
- 36 (24) Basal segment of antennae fully three times as long as broad
TAROPHAGUS Zimmerman (p. 37)
 — Basal segment of antennae relatively shorter 37
- 37 (36) Antennae slender, second segment reaching well beyond base of clypeus
EUMETOPINA Breddin (p. 54)
 — Antennae not slender, scarcely or not surpassing frontoclypeal suture 38
- 38 (37) Sublateral carinae of vertex meeting before apex of vertex, lateral pronotal
 carinae very strongly divergent and extending almost straight towards
 tegulae. Post-tibial spur with about forty teeth **ANECTOPIA** Kirkaldy
 — Sublateral carinae of vertex meeting at apex of vertex or on base of frons,
 lateral pronotal carinae not very strongly divergent, or, if so, then not
 straight. Post-tibial spur with fewer than forty teeth 39
- 39 (38) Lateral carinae of pronotal disc straight, directed latero-caudad mesad of
 tegulae. A white median dorsal stripe on head and thorax. Abdomen of
 female in ventral view rather narrowly triangular in outline
TERTHRON gen. n. (p. 55)
 — Lateral carinae of pronotal disc curved laterad, or if straight, extending directly
 towards tegulae. No white median stripe present dorsally. Abdomen of
 female in ventral view not narrowly triangular in outline, but more bluntly
 rounded distally **TOYA** Distant (p. 56)

UGYOPS Guérin-Méneville

Guérin-Méneville, 1834a, 477.

Haplotype, *Ugyops percheronii* Guérin-Méneville, *op. cit.*

The Australian representatives of the genus comprise three continental species, *U. longiceps* Muir, *U. brevifrons* (Jac.), and *U. longifrons* Jac., and an insular species, *U. musgravei* Muir (from Lord Howe Id.). In New Zealand only one nominal species has been recognized (*Micromasoria caelata* (White)) and a further species, *Micromasoria raouli* Muir, is known from Raoul Id.

The material in the present collection from New Zealand proper includes three species. Members of two of them have terete antennae, like all the Australian

species, whereas those of the third species have compressed antennae, as in *raouli*. The type specimen of [*Cona*] *caelata* White is not to be found in the White collection at the British Museum (Nat. Hist.), and as it was based on a series in White's personal possession (White, 1878 : 275), would appear now to be lost. Both the original generic description and that of the species leave no doubt that the type series included the three forms here recognized as distinct species. Hutton (1898a : 187) interpreted the species as including the forms with hyaline tegmina, more or less clouded with brown. Tillyard (1926d : 167) figured one coelopterous form as a representative of *caelata* White. The writer, in the absence of any information about the existence of a type specimen, and in conformity with Tillyard, here proposes to restrict the specific concept to include only a form with terete antennae, a pronotum with discal carinae gently sinuately bent a little before meeting the posterior margin, laterally trispinose post-tibiae, and tegmina as long as the abdomen.

The forms with slightly compressed antennae and brachypterous tegmina are set apart from the general assemblage of *Ugyops* only by weak characters. The differences are here regarded as being of subgeneric value, and a name for the concept is proposed below.

***Ugyops caelatus* (White)**

(Text-figs. 1-7)

[*Cona*] *caelata* B. White, 1879b : 218.

Micromasoria caelata Kirkaldy, 1909h : 29.

Vertex longer submedially than broad at base (nearly 1.3 : 1), broadly and evenly rounding into frons, rather wider at apex than at base, lateral margins shallowly concave, apical margin shallowly convex, with submedian carinae only slightly prominent, Y-shaped carina with median stem obsolete, submedian carinae not uniting at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (1.5 : 1); frons in middle line longer than wide at widest part (nearly 2.3 : 1), widest at about two-sevenths from base, lateral margins shallowly convex, submedian carinae separate to apex; antennae reaching to level of apex of clypeus, basal segment cylindrical, longer than broad (4.0 : 1), second segment cylindrical, longer than first (about 1.1 : 1). Ocelli minute or obsolete. Pronotum with disc longer in middle line than broad at anterior margin (3.0 : 1), lateral carinae concave, broadly recurved posterolaterally and attaining hind margin.

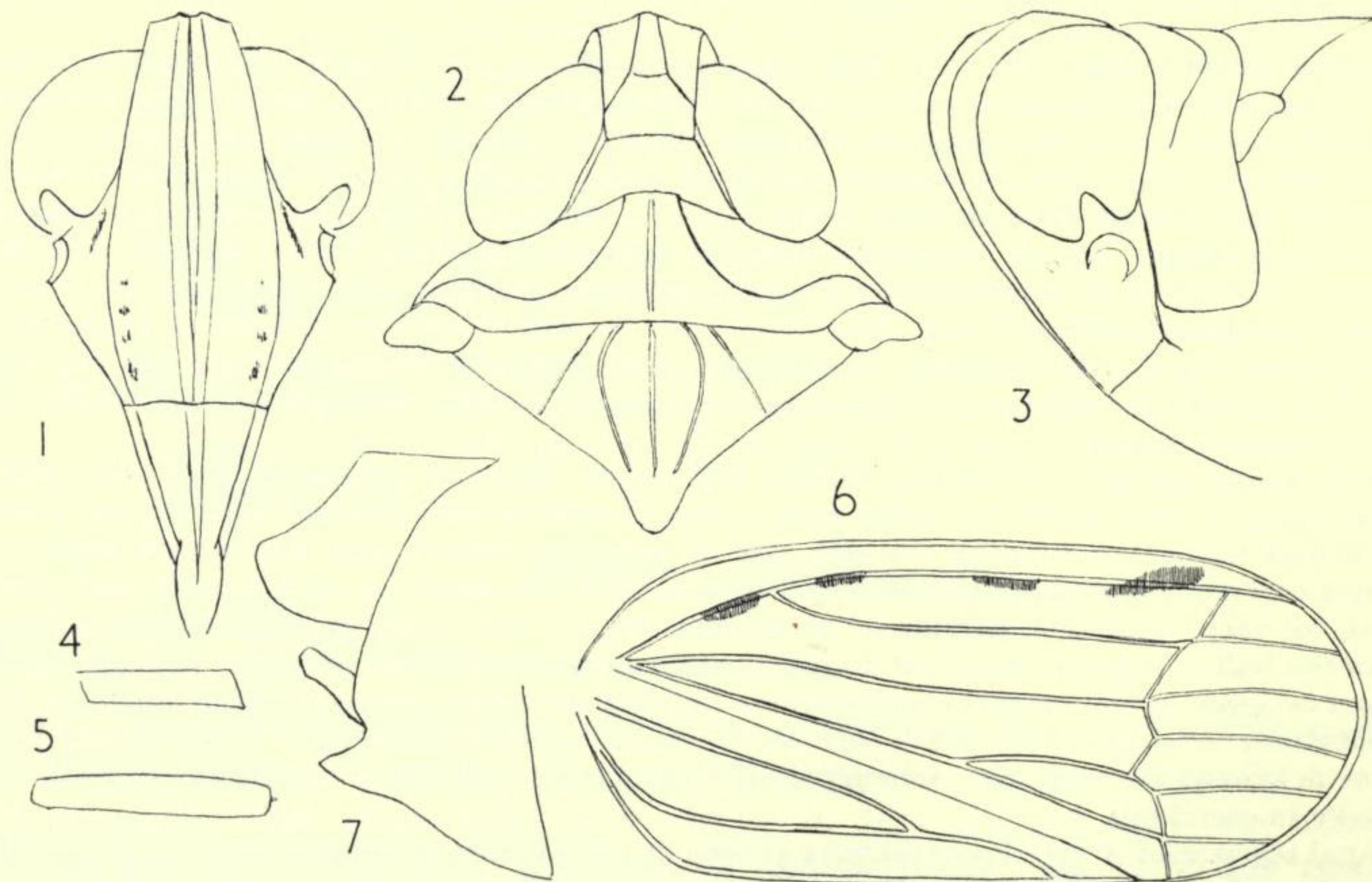
Pale tawny yellow; submedian carinae and lateral marginal carinae of frons and vertex, anteclypeus, a small mark just below eyes, a spot at apex of first antennal segment, two bands on second segment, a suffusion on each side of pronotum behind eyes, mesonotum laterad of lateral carinae, longitudinal stripes on all femora, and two bands on each protibia and mesotibia, all tarsi, posterior margins of abdominal sterna, and markings sublaterally on terga, posterior half of pygofer, except at margin, and anal segment of male, fuscous; frons medially, a spot on genae before antennae, pronotum in middle line and on each side behind antennae, and mesonotum in middle line, red. Tegmina brownish hyaline, pale distad of transverse line; veins ochraceous extensively interrupted with castaneous, sometimes castaneous at node and basally in costal cell.

Anal segment of ♂ with lower margins as seen in ventral view meeting at 90 degrees apically. Pygofer with medioventral process distally broadly rounded and with a small median notch. Genital styles moderately long, strongly tapering distad, weakly diverging and rather abruptly incurved near apex.

♂ (coelopterous) : length, 4.8 mm., tegmen, 4.1 mm. ♀ : length, 6.1 mm., tegmen, 4.5 mm.

NEW ZEALAND: Poor Knights Group, Tawhiti Rahi Id., 1 ♂, 21.i.43 (Majors *Buddle* and *Wilson*); Kauri G., 1 ♂, 25-i-21; Three Kings Group, Great Id., 1 ♂, 4 ♀, 2-10.v.46, beating kanuka, 27.iv.46, in tea tree (*E. G. Turbott*); S. W. Id., 1 nymph, 13.i.51, on bushes (*T. E. Woodward*); North Auckland, Mangonui, 1 ♂, 8.iii.51 (*T. E. Woodward*); Te Paki, 2 nymphs, 21.i.50, on *Leptospermum*; Auckland, Tikirangi, 1 ♂, 1 nymph, 7.xii.48, 28.xii.44; Foxton, 16 ♂, 14 ♀, 1 mutilated specimen, 8.i.50, on *Muehlenbeckia australis* (*T. E. Woodward*), 7.i.50, (*R. A. Cumber*); Coromandel, Te Hope stream valley, 6 ♂, 1 mutilated specimen and 9 nymphs, on flowering prostrate rata, 12.i.52 (*T. E. Woodward*); behind W. Spirits Bay, 25.i.50, 3 ♂, 2 nymphs, on small-leaved *Muehlenbeckia* (*T. E. Woodward*); N. Auckland Pen., 5 ♀, 2 mutilated specimens and 8 nymphs, 1924 (*T. R. Harris*); York Bay, 3 nymphs, 3.ix.22, on *Coprosma rhamnoides* (*J. G. Myers*); Catchpole, 2 nymphs, on *Knightia excelsa*; Wilton's Bay, 3 nymphs, 16.iv.21; Auckland, Watershed reserve, 1 ♀, 26.ii.48 (*G. Chamberlain*), Waipapakauri, 1 ♀, 30.i.53 (*R. A. Cumber*); Houhola, 1 ♂, 16.ii.51 (*R. A. Cumber*).

This species is distinguished from other New Zealand species by the combined characters of trispinose post-tibiae, cylindrical antennae, and gently recurved lateral pronotal carinae. It is also readily recognizable by the narrowly infusate lateral carinae of the frons.



FIGS. 1-7. *Ugyops caelatus* (White). 1, Frons and clypeus; 2, head and thorax, dorsal view; 3, head in profile; 4, basal segment of antenna; 5, second segment of antennae; 6, tegmen; 7, ♂ genitalia, right side.

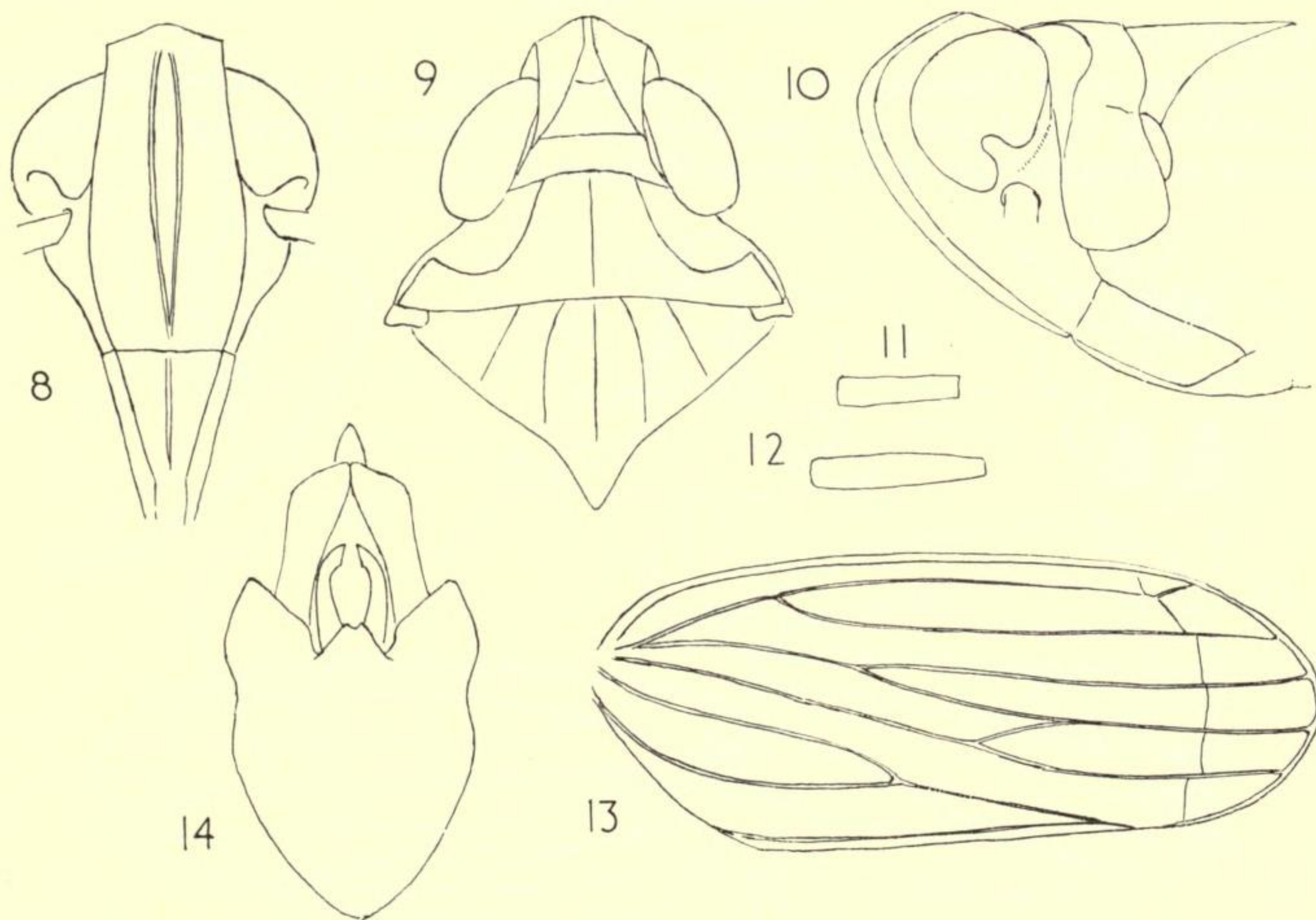
Ugyops rhadamanthus sp. n.

(Text-figs. 8-14)

Vertex longer submedially than broad at base (1.2 : 1), rather strongly rounding into frons, as wide at apex as at base, lateral margins shallowly concave, apical margin rather strongly convex, with submedian carinae not prominent, Y-shaped carina with median stem weak, submedian carinae almost uniting at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (2 : 1); frons in middle line longer than wide at widest part (nearly 2.3 : 1), widest at one quarter from base, lateral margins shallowly convex. Median carinae uniting just before apex; antennae reaching almost to level of apex of clypeus, basal segment cylindrical, longer than broad (nearly 4.0 : 1), second segment longer than first (1.2 : 1). Ocelli obsolete. Pronotum with disc longer in middle line than broad at anterior margin (1.6 : 1), lateral carinae concave, abruptly and rectangulately recurved postero-laterally and attaining hind margin. Post-tibiae laterally with three teeth.

Stramineous; second antennal segment in apical third, a very dilute suffusion on all coxae, and in two bands on protibiae, abdominal sternites at posterolateral margins, fuscous; post-clypeal disc and frons submarginally, a suffusion on genae before eyes, vertex in middle line apically and at lateral angles basally, pronotum in middle line, and on two areas of lateral lobes, mesonotum in middle line and over lateral carinae, and abdominal terga at posterior margin, red. Tegmina stramineous hyaline, veins concolorous except on posterior claval vein near union of claval veins and at entry into hind margin, where it is overlain fuscous.

Anal segment of ♂ with lower margins as seen in ventral view meeting apically in a very acute



FIGS. 8-14. *Ugyops rhadamanthus* sp. n. 8, Frons and clypeus; 9, head and thorax, dorsal view; 10, head in profile; 11, basal segment of antenna; 12, second segment of antenna; 13, tegmen; 14, ♂ genitalia, postero-ventral view.

angle. Pygofer with medioventral process distally narrowly rounded and without a distinct notch. Genital styles moderately long, weakly tapering distad, weakly converging distally.

♂ (coelopterous): length, 5.3 mm., tegmen, 4.0 mm. ♀: length, 6.5 mm., tegmen, 5.0 mm.

Holotype ♂, NEW ZEALAND: Auckland, Nihotupu, 2.i.50 (*A. Harrison*), in collection of Plant Diseases Division, D.S.I.R., P.B., Auckland.

Paratypes, Huia, 1 mutilated specimen, 13.iv.50 (*T. E. Woodward*); Mocrewa, 1 ♂, 7.i.53 (*R. A. Cumber*); Paihia, 2 ♀, 12.i.49, 28.ii.50 (*R. A. Cumber*); Kaeo, 1 ♂, 4 ♀, 2, 31.i.53 (*R. A. Cumber*); Oturere Sta., Desert Rd., 1 ♀, 3.i.57 (*R. A. Cumber*), Levin, 1 ♀, 26.xi.41; Spirits Bay, 1 ♂, 1 nymph, 13.ii.51 (*R. A. Cumber*); Little Barrier Id., summit track, 1 ♂, 22.xi.54, Waipawa stream, 1 ♂, 28.xi.54 (*K. A. J. Wise*); Titirangi, 1 ♂, 1 ♀, 1 mutilated specimen, 15.ii., 22.iii., 4.iv.42, on kohe kohe tree (*M. Carter*).

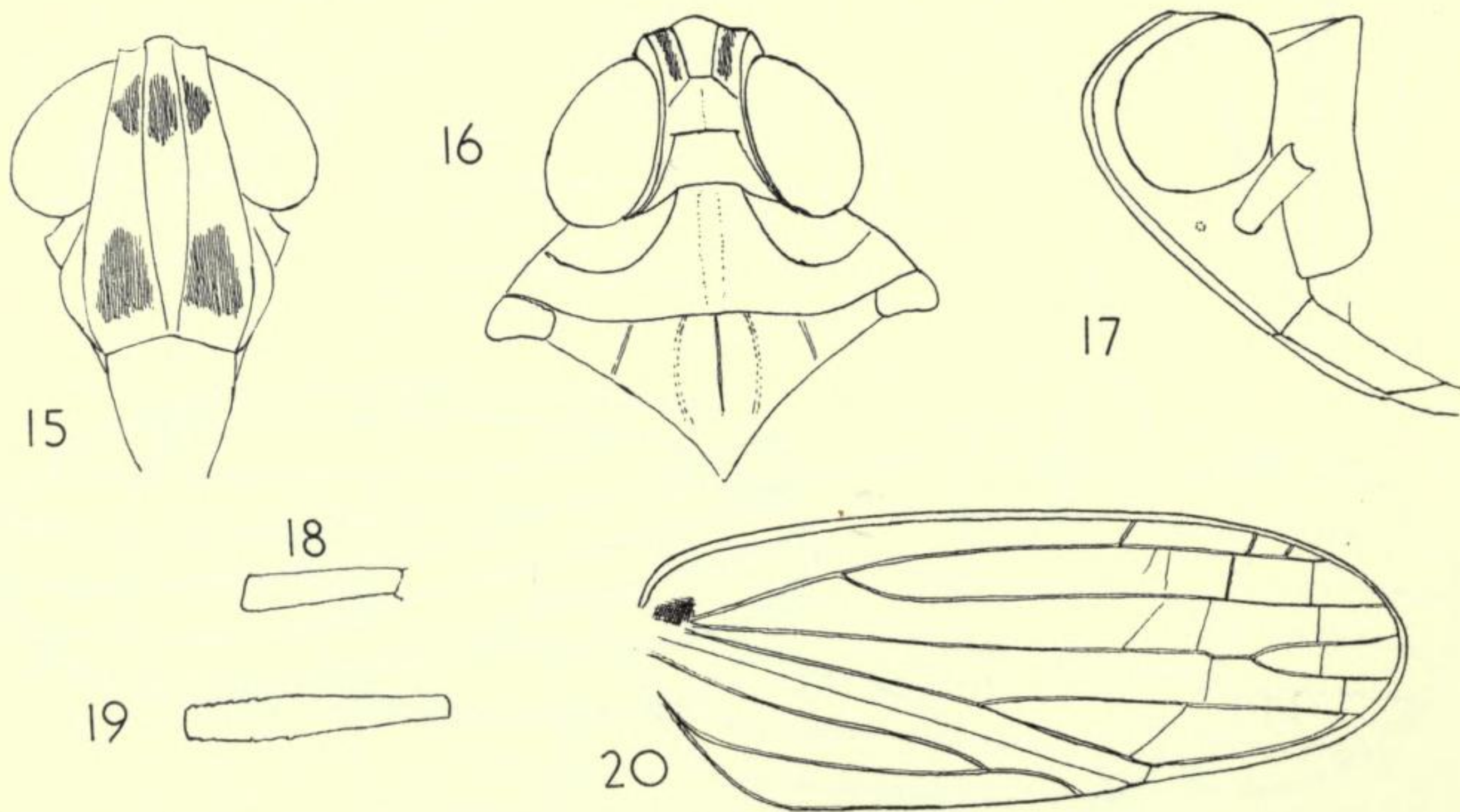
This species is distinguished by the shape of the vertex, by the antennal proportions and by the abruptly angulate bend in the lateral pronotal carinae and, in the ♂, by the shape of the anal segment. Among the New Zealand species its coloration is distinctive: there are practically no obvious fuscous markings, and the frons is red-margined.

Ugyops musgravei Muir

(Text-figs. 15-20)

Muir, 1931b: 70.

This species is not represented in the present collection. It is apparently endemic in Lord Howe Island, and the opportunity is here taken of figuring a paratype specimen in the collection of the British Museum (N.H.).



FIGS. 15-20. *Ugyops musgravei* Muir. 15, Frons and clypeus; 16, head and thorax, dorsal view; 17, head in profile; 18, basal segment of antenna; 19, second segment of antenna; 20, tegmen.

PARACONA subgen. n.

Frons scarcely twice as long as broad, submedially bicarinate; antennae reaching to level of apex of clypeus, with apical segment, and sometimes basal also, slightly laterally compressed. Post-tibiae with four spines laterally. Tegmina brachypterous, apical margin truncate.

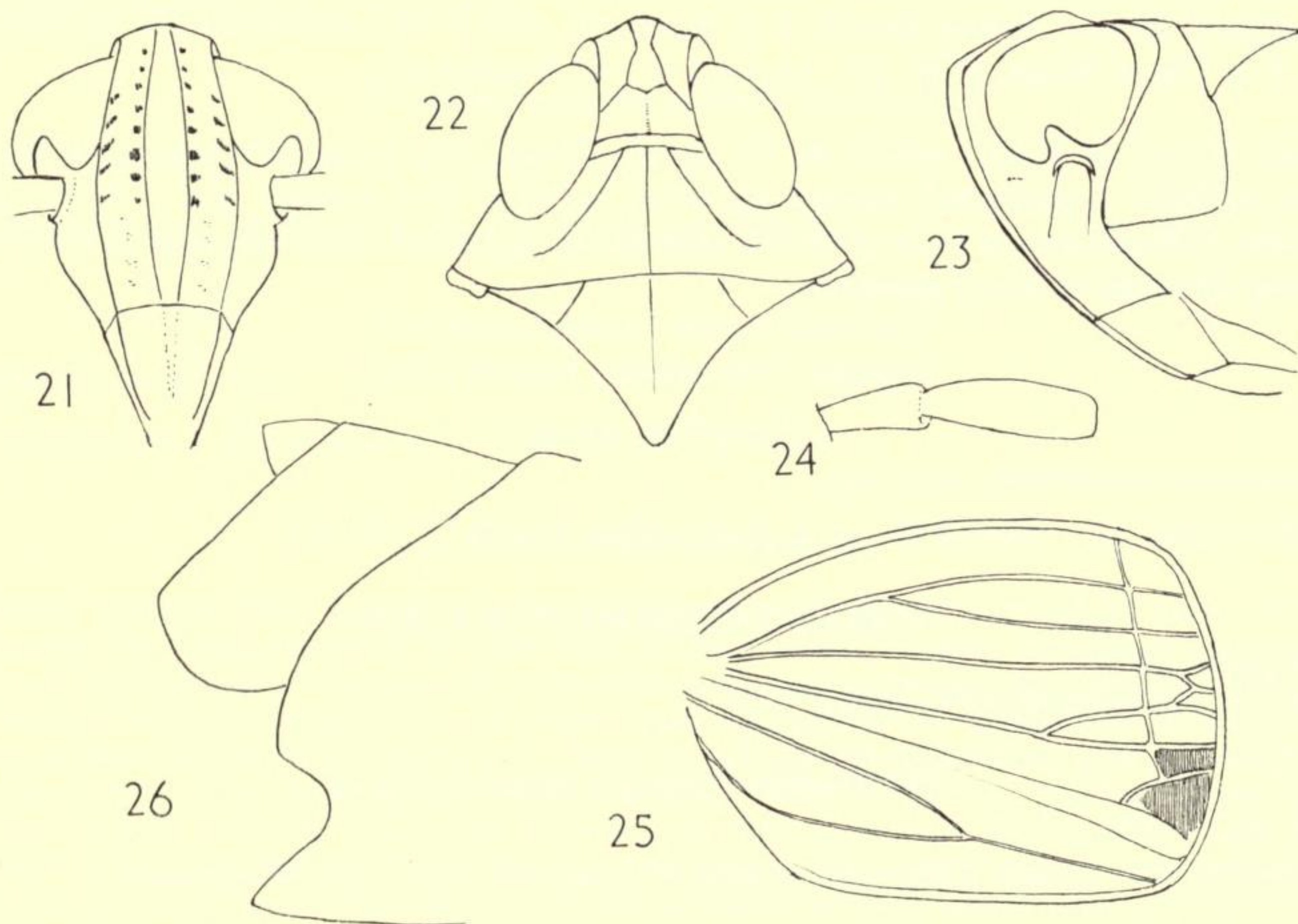
Type-species of subgenus, *Ugyops (Paracona) pelorus* sp. n.

This subgenus is recognizable by the compressed antennae and quadrispinose post-tibiae.

***Ugyops (Paracona) pelorus* sp. n.**

(Text-figs. 21-26)

Vertex longer medially than broad at base (about 1.4 : 1), subangularly rounding into frons, wider at apex than at base, lateral margins shallowly concave, apical margin sinuately convex with submedian carinae prominent, Y-shaped carina present, with median stem weak, submedian carinae not quite uniting at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (about 1.6 : 1); frons in middle line longer than wide at widest part (1.9 : 1), widest at three-fifths from base, lateral margins shallowly convex, submedian carinae separate to apex. Antennae reaching to level of apex of clypeus, basal segment laterally compressed, longer than broad (2.2 : 1), second segment laterally compressed, longer than first (1.5 : 1). Ocelli obsolete. Pronotum with disc longer in middle line than broad at anterior margin (3 : 1),



FIGS. 21-26. *Ugyops (Paracona) pelorus* sp. n. 21, Frons and clypeus; 22, head and thorax, dorsal view; 23, head in profile; 24, antenna; 25, tegmen; 26, ♂ genitalia, right side.

lateral carinae concave, obsolete laterobasally, not attaining hind margin, weak paired lateral carinae between eye and tegula on each side.

Light yellowish brown, with pustules and carinae pale stramineous; antennae dilute fuscous; a few small spots bordering submedian carinae in basal half of frons, a band across base of clypeus and extending across procoxae and mesopleura, stripes on all femora, two bands on each protibia and mesotibia, and a suffusion on post-tibiae, castaneous. Intercarinal areas of frons and genae marbled with orange-red; disc and sides of postclypeus, except at base, tawny. Tegmina stramineous, veins irregularly marked pale yellowish brown, three apical cells near anal angle, dark castaneous.

Anal segment of ♂, as seen in ventral view, with ventral margins meeting distally at about 90 degrees, in lateral view as figured. Pygofer with apical margin of medioventral process broadly convex, with a small median notch. Aedeagus as figured. Genital styles moderately long, tapering distad and weakly curved mesad.

♂ (brachypterous): length, 4.0 mm., tegmen, 1.9 mm. ♀ (brachypterous): length, 6.0 mm., tegmen, 2.8 mm.

Holotype ♂, NEW ZEALAND: Ohope beach, 22.i.47, Hem. 149 (C. R. Pattison), in Auckland Museum.

Paratypes, NEW ZEALAND: Auckland, 1 ♂, 13.iii.49; Coopers Beach, 1 nymph, 8.i.51; Mt. Mangonui, 1 ♂, 4 nymphs, 23.x.60, under *Muehlenbeckia* (B. M. May); Coromandel, Te Hope stream valley, 5 ♂, 1 ♀, on flowering prostrate rata, *Muehlenbeckia australis*; Spirits Bay, 2 ♀, 13.ii.51 (R. A. Cumber); W. Bank Pen., Price's Valley, 1 ♀, 18.ii.59 (T. E. Woodward); Eastbourne, 1 ♂, 31.i.51 (R. A. Cumber); Whangarei Heads, Ocean Beach, 2 ♀, 7.xii.58, under *Muehlenbeckia* (B. M. May), 1 ♂, 1 ♀, Three Kings, S.W. Id., 13.i.51 (T. E. Woodward).

This species is closely allied to *U. raouli* (Muir), but is readily separable by its more strongly compressed second antennal segment and smaller size; other, less obvious, differences are to be noted in coloration, tegminal venation, and in the form of each element of the ♂ genitalia.

Ugyops (Paracona) raouli (Muir)

(Text-figs. 27-32)

Micromasoria raouli Muir, 1923: 257.

KERMADEC IS.: Raoul Id., 2 ♂, from nikau fronds (J. H. S.)

PSEUDEMBOLOPHORA Muir

Muir, 1920b: 182.

Orthotype, *Pseudembolophora macleayi* Muir.

Pseudembolophora macleayi Muir

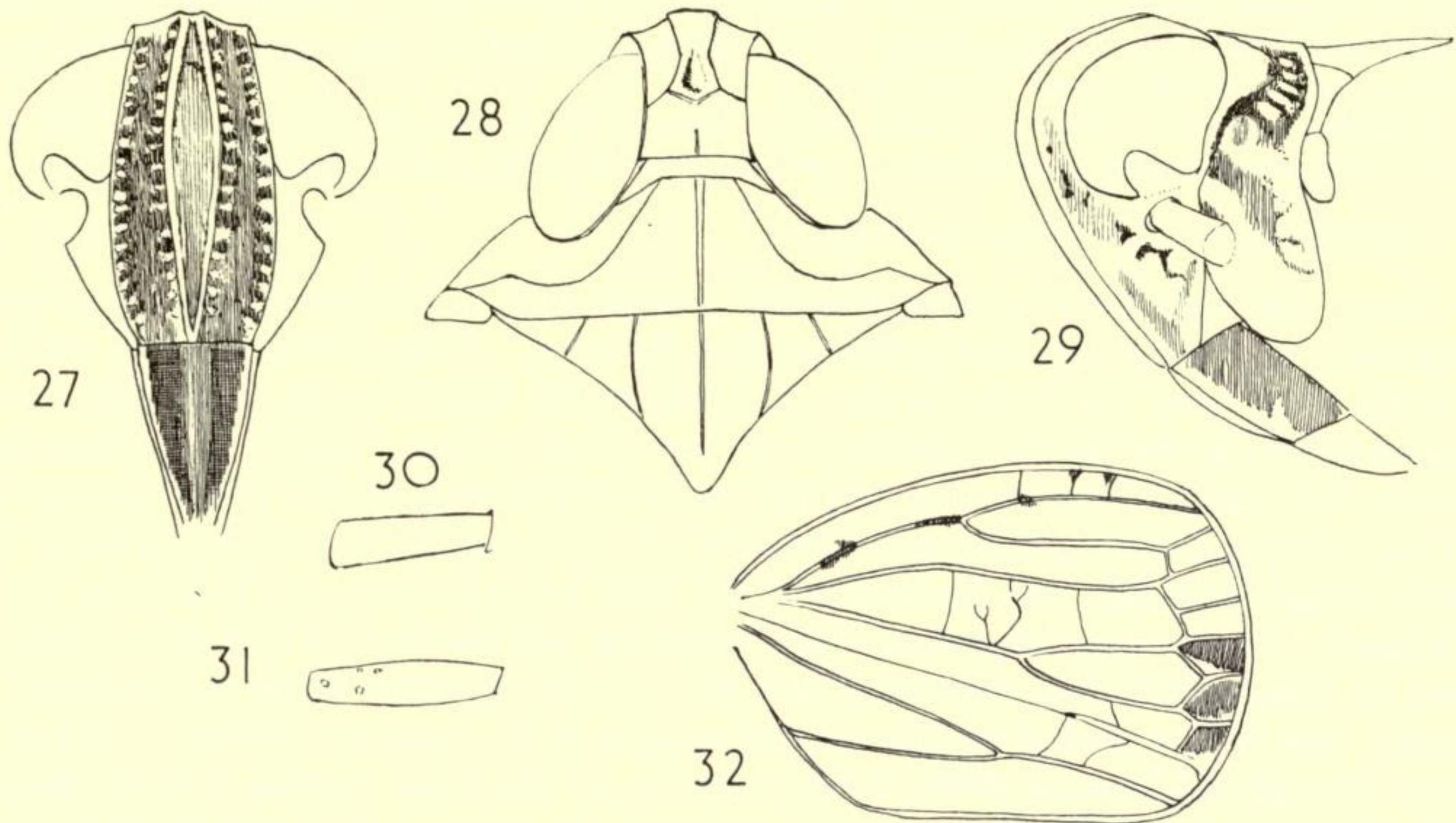
Muir, 1920b: 183.

AUSTRALIA: Maida Vale, near Perth, 1 ♀, 29.viii.59 (T. E. Woodward).

TROPIDOCEPHALA Stål

Stål, 1853b: 266.

Haplotype, *Tropidocephala flaviceps* Stål, 1855a: 93.



FIGS. 27-32. *Ugyops (Paracona) raouli* (Muir). 27, Frons and clypeus; 28, head and thorax, dorsal view; 29, head in profile; 30, basal segment of antenna; 31, second segment of antenna; 32, tegmen.

***Tropidocephala eximia* (Kirkaldy)**

Ectopiopterygodelphax eximius Kirkaldy, 1906c : 412.

AUSTRALIA : Brisbane, 1 ♂, 1 ♀, 30.vi.57 (*Haseler*).

***Tropidocephala dryas* Kirkaldy**

Kirkaldy, 1907d : 143.

AUSTRALIA : Mt. Nebo, 1 ♂, 2.vi.54 (*N. Jenkins*).

HAERINELLA gen. n.

Head narrower than pronotum. Vertex shorter medially than broad at base, obtusely rounding into frons, narrower at apex than at base, lateral margins straight or very weakly concave, apical margin truncate, with submedian carinae not prominent, Y-shaped carina distinct, submedian carinae uniting at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (more than 2 : 1); frons in middle line longer than wide at widest part (nearly 2 : 1), widest near middle, lateral margins distinctly convex, median carina simple, clypeus at base distinctly wider than frons at apex, postclypeal disc slightly longer than broad at base, in profile moderately convex, anteclypeus in profile shallowly convex; entire clypeus in profile doubly convex; rostrum slightly surpassing mesotrochanters, apical segment a little shorter than subapical; antennae little, if at all, surpassing frontoclypeal suture, basal segment as long as broad, strongly expanded distally, not carinate on the flattened surface, and scarcely so at edges, second segment longer than first (about 1.7 : 1) distinctly compressed; ocelli well developed. Pronotum with disc shorter in middle line than broad at anterior margin, lateral

carinae straight or weakly convex, not quite attaining hind margin. Total length of mesonotum longer than that of scutellum (about 2.3 : 1). Post-tibial spur cultrate, concave on inner surface with an apical tooth and no lateral teeth.

Tegmina narrowly rounded at apex, apical veins of *Sc*, *R* and *M*₁ recurved to margin, radial cross vein present, first median sector abruptly bent at nodal line to touch *Cu*_{1a}.

Type-species, *Haerinella saeva* sp. n.

There are only two tropidocephaline genera with a compressed basal antennal segment, and these are *Bambucibatus* and *Belocera*. From *Bambucibatus*, which is known only from the type-species, *B. albolineatus* Muir (1915e : 319), the present genus differs in the lateral carinae of the vertex not being "large" (in consequence of the depression of the vertex) and the mediolongitudinal carina (the common stem of the Y-shaped carina) being quite distinct ; in the length of the frons not being more than twice the width, and the width at the base being greater, not less, than that at the apex ; in the basal segment of the antennae not having "a keel down middle" and in being much less expanded and the second segment being compressed, not terete, and with a carina on the ventral margin in its basal two-thirds ; and in the spur, though moderately thick, being concave on the inner surface. From *Belocera* it is distinguishable by the narrower form of the frons and of the basal antennal segment.

Haerinella saeva sp. n.

(Text-figs. 33-38)

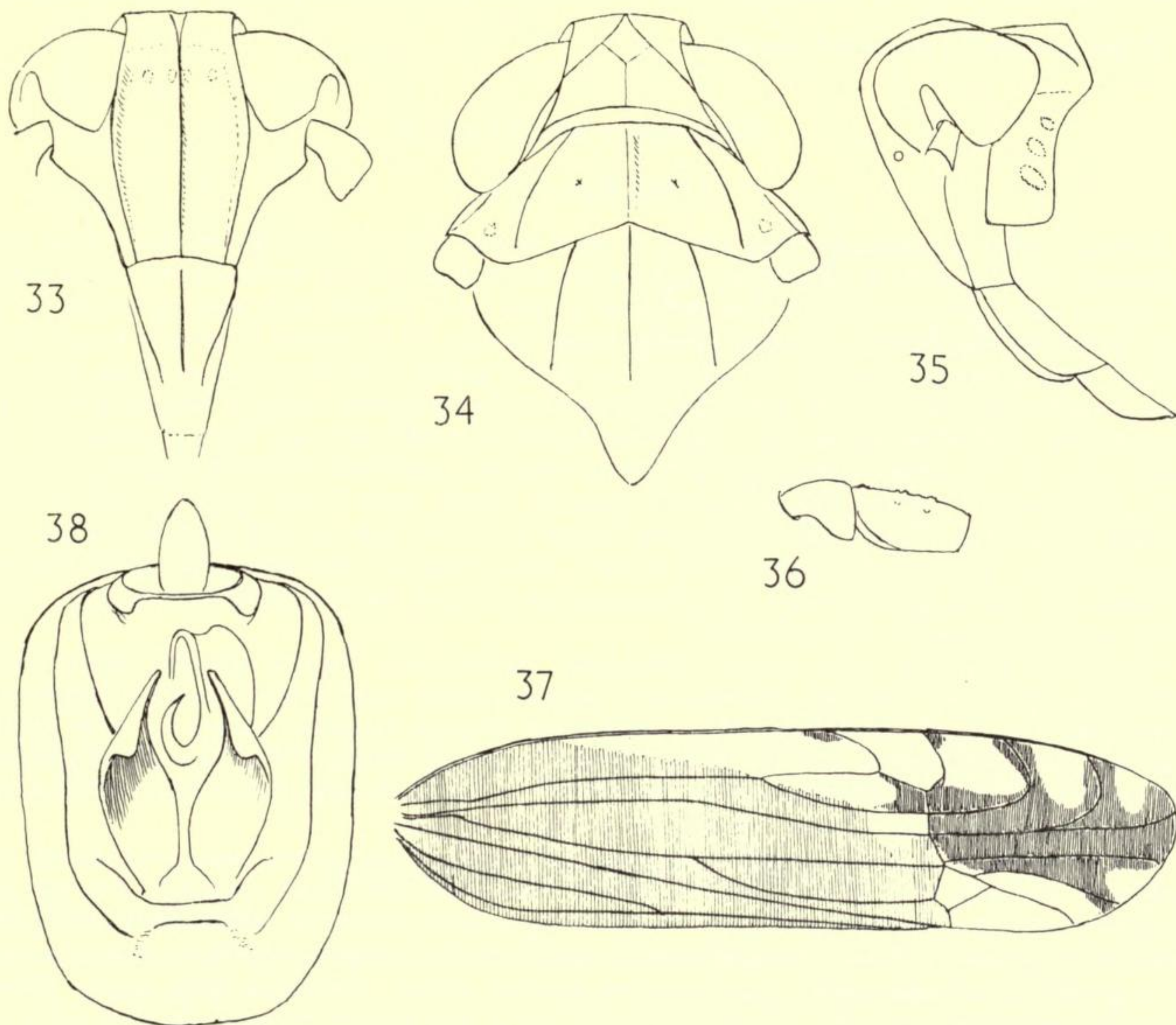
Vertex shorter medially than broad at base (1 : 1.9), slightly declivous, obtusely rounding into frons, narrower at apex than at base, apical margin truncate, Y-shaped carina distinct, submedian carinae uniting at apex of vertex, meeting almost at a right angle, basal compartment of vertex wider at hind margin than greatest length (2.6 : 1), and than median length (3.8 : 1) ; frons in middle line longer than wide at widest part (1.8 : 1) ; widest at about two-fifths from base, lateral margins distinctly convex, median carina simple ; clypeus at base distinctly wider than frons at apex, post-clypeal disc rather longer than broad at base (1.2 : 1) in profile rather strongly convex, anteclypeus in profile moderately convex ; entire clypeus in profile doubly convex ; antennae with basal segment as long as broad, laterally compressed, ecarinate, second segment longer than first (about 1.7 : 1) ; pronotum with disc shorter in middle line than broad at anterior margin (1 : 1.1) lateral carinae weakly convex, almost attaining hind margin. Total length of mesonotum longer than that of scutellum (2.3 : 1) ; post-tibial spur with small apical tooth.

Castaneous-piceous ; two small spots on frons near base, vertex, disc of pronotum and mesonotum except for a suffusion near tegulae, rostrum, legs except coxae, abdominal sternites, except in their anterior portion, posterior margin of pygofer, genital styles in basal half, and anal segment, stramineous. Tegmina hyaline, a broad band from tegula to apex of tegmen and a narrow line on one or both sides of apical veins of *Sc*, *R* and *M*₁, castaneous-fuscous, posterior half of tegmen with a faint yellowish tinge ; veins concolorous. Wings hyaline, sordid white or faintly infused, veins fuscous.

Anal segment of ♂ very short, ring-like, lateroapical angles rounded, not produced. Pygofer moderately long, posterior opening longer dorsoventrally than broad, dorsolateral angles not at all produced, diaphragm with dorsal margin deeply concave, medioventral process present as a broad callus. Genital styles moderately long, rather broad and flattened in basal half, twisted and tapering mesodorsad in distal half.

♂ : length, 3.3 mm., tegmen, 4.4 mm.

Holotype ♂, NEW GUINEA: Central Highlands, Daulo Pass, c. 8,000 ft., 20–22. viii. 56 (T. E. Woodward), in Queensland Museum, Brisbane.



FIGS. 33–38. *Haerinella saeva* sp. n. 33, Frons and clypeus; 34, head and thorax, dorsal view; 35, head in profile; 36, antennae; 37, tegmen; 38, ♂ genitalia, posterior view.

TEMENITES gen. n.

Vertex shorter medially than broad at base (not quite 2 : 1), obtusely rounding into frons, rather narrower at apex than at base, lateral margins straight or weakly concave, apical margin transverse, with submedian carinae slightly prominent, Y-shaped carina distinct, submedian carinae not uniting on vertex, basal compartment of vertex wider at hind margin than greatest length; frons in middle line longer than wide at widest part (nearly 2 : 1), widest near middle, lateral margins convex, median carina rather widely forked near middle; clypeus at base wider than frons at apex, postclypeus short, about as long as basal antennal segment; rostrum with apex lying between mesotrochanters; antennae moderately surpassing frontoclypeal suture, basal segment little longer than broad, laterally compressed, expanding distad, second segment longer than first, with a shallow sulcus near lower margin; ocelli reduced or obsolete. Pronotum

with disc shorter in middle line than broad at anterior margin, lateral carinae straight, not attaining hind margin. Post-tibial spur tectiform, with about 18 teeth.

Anal segment of ♂ short, lateroapical angles widely separated, each produced ventrally in a spinose process. Pygofer moderately long; no medioventral process present on hind margin.

Type-species, *Temenites ancon* sp. n.

Temenites ancon sp. n.

(Text-figs. 39-43)

Vertex shorter submedially than broad at base (about 1.8 : 1), obtusely rounding into frons, hollowed between carinae, submedian carinae not uniting at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (3.0 : 1) and than median length (4 : 1); frons in middle line longer than wide at widest part (nearly 2 : 1), widest at level of lower margin of eyes, lateral margins convex, median carina rather widely forked at level of lower margin of eyes, clypeus at base distinctly wider than frons at apex, in profile strongly convex, postclypeal disc shorter than broad at base (1 : 1.2), anteclypeus in profile strongly curved caudad so that entire clypeus in profile is strongly bilobately convex; antennae reaching approximately to level of middle of clypeus, basal segment scarcely longer than broad (1.1 : 1), laterally compressed, expanding distad; second segment longer than first (1.8 : 1) with a shallow sulcus near lower margin; ocelli represented only by a scar. Pronotum with disc shorter in middle line than broad at anterior margin (about 1 : 2) lateral carinae straight, not attaining hind margin. Post-tibial spur not elongate, with 18 teeth.

Castaneous-piceous; frons, vertex, pronotum, mesonotum, femora apically, tibiae except post-tibiae near base, and tarsi, stramineous; clypeus, genae, most of first antennal segment and basal half of second, brownish-yellow; abdominal tergites laterally orange or pale brown; genital styles and median portion of diaphragm yellowish brown. Tegmina (brachypterous) castaneous-piceous, except at apical margin, which is whitish hyaline, veins concolorous except for a few irregular veinlets near apical margin, which are pale.

Anal segment of ♂ short, broader than long, latero-apical angles very widely separated, each produced ventrally in a stout process incurved mesad and acuminate distally. Pygofer with posterior opening as broad as long, dorso-lateral angles little produced, lateral margins in profile convex, diaphragm with dorsal margin very deeply excavate, middle portion very short, in form of a polished horizontal plate, medioventral process absent. Aedeagus long, stout, porrect, strongly compressed laterally, ornamented near dorsal and ventral margins on both sides with irregular coarse teeth; orifice on right near apex; a long stout rodlike process arising at base of aedeagus, directed ventro-caudad and slightly surpassing diaphragm, narrowly bifurcate apically. Genital styles rather long, each slightly curved and twisted, shallowly expanding to middle, where the inner margin bears a small stout spine, thence tapering to a slender process at apex, weakly curved laterad at tip.

♂ (brachypterous): length, 2.8 mm.

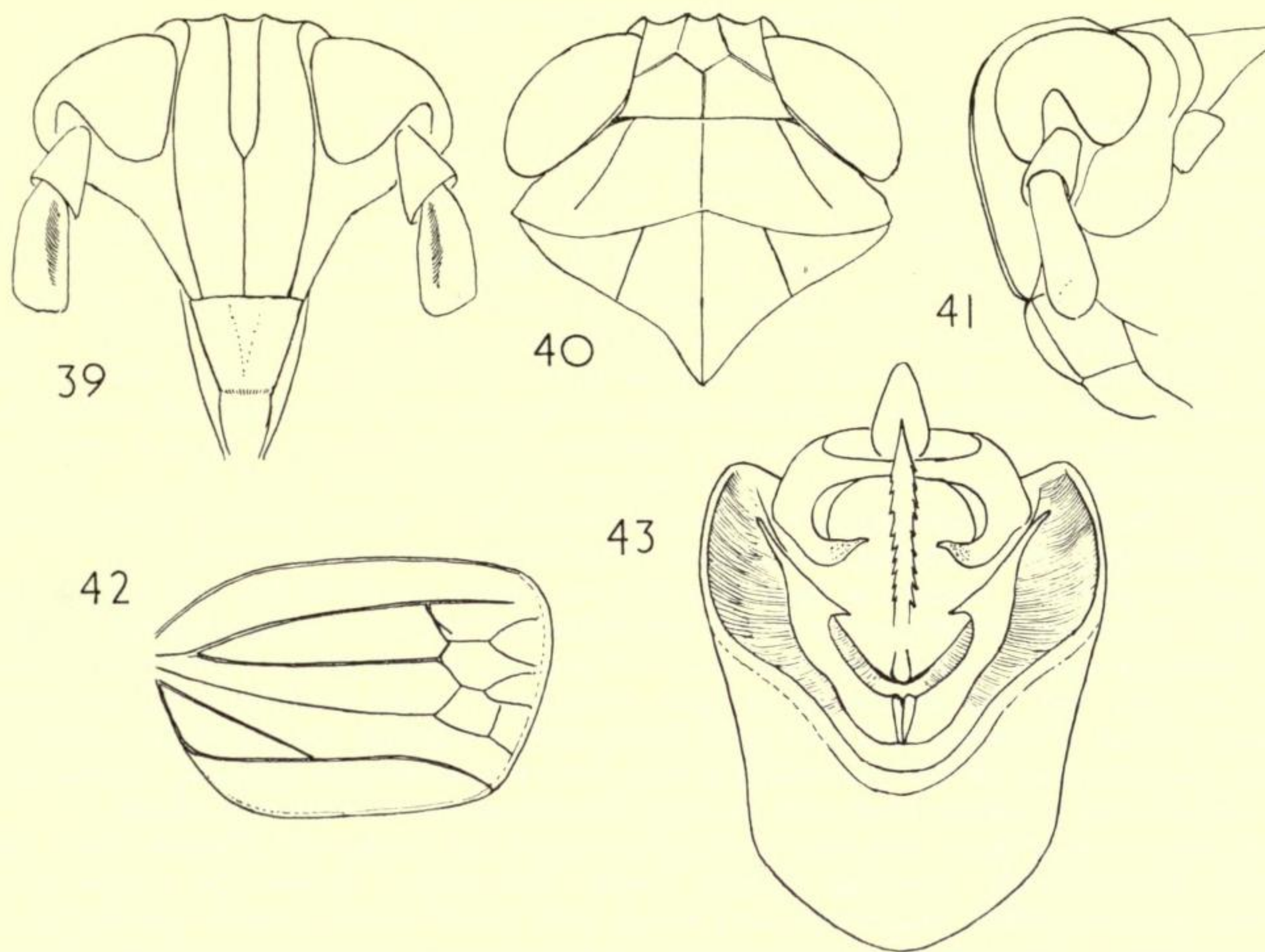
Holotype ♂, AUSTRALIA: Brisbane, 30.iii.56 (*Kirkpatrick*), in Queensland Museum.

Temenites appears to be allied to *Perkinsiella* and *Phacalastor*, but is separable by the characters given in the key. In addition it differs from both quite markedly in the structure of the ♂ genitalia.

PERKINSIELLA Kirkaldy

Kirkaldy, 1903b: 179.

Orthotype, *Perkinsiella saccharicida* Kirkaldy.



FIGS. 39-43. *Temenites ancon* sp. n. 39, Frons and clypeus; 40, head and thorax, dorsal view; 41, head in profile; 42, tegmen; 43, ♂ genitalia, posterior view.

***Perkinsiella saccharicida* Kirkaldy**

Kirkaldy, 1903b : 179.

AUSTRALIA : N. Queensland, Ayr Distr., Claredale, 1 ♂, 3 ♀, 36.v.53, on maize (*T. E. Woodward*); Ayr, 1 ♂, 1 ♀, 1.xii.54. 3.iv.55 (*G. Saunders*); Atherton, 2 ♂, 17.v.54 (*G. Saunders*); Brisbane, 1 ♀, 24.iii.41 (*V. B. D. Sherman*); N. Queensland, Don R. (near Bowen), 1 ♂, 28.v.53 (*T. E. Woodward*).

PHACALASTOR Kirkaldy

Kirkaldy, 1906c : 404.

Orthotype, *Phacalastor pseudomaidis* Kirkaldy.

***Phacalastor pseudomaidis* Kirkaldy**

Kirkaldy, 1906c : 404.

AUSTRALIA : Binna Burra, 1 ♂, 7.iv.54 (*S. Sekhon*).

PELIADES Jacobi

Jacobi, 1928a : 43.

Orthotype, *Peliades platypoda* (Bierman), 1910a : 42.

Peliades phyllocnemis sp. n.

(Text-figs. 44-50)

Vertex broader at base than long submedially (1.3 : 1), obtusely rounding into frons, rather narrower at apex than at base, lateral margins slightly concave, apical margin truncate, with submedian carinae not prominent, Y-shaped carina distinct, submedian carinae uniting near middle of frons, basal compartment of vertex wider at hind margin than greatest length (2.4 : 1) and than median length (2.8 : 1); frons in middle line longer than wide at widest part (1.8 : 1), widest just below level of eyes, lateral margins concave between eyes, straight distally and converging slightly towards frontoclypeal suture, median carina forked near middle; clypeus at base distinctly wider than frons at apex, postclypeal disc as long as broad at base, in profile moderately convex, anteclypeus in profile rather strongly convex, curved caudad, so that entire clypeus in profile is rather strongly convex; antennae reaching to level of apex of postclypeus, basal segment longer than broad (3 : 1), second segment longer than first (1.6 : 1). Pronotum with disc as broad at anterior margin as long in middle line; lateral carinae weakly concave, strongly diverging, not attaining hind margin. Post-tibial spur with 29 teeth.

Castaneous-piceous; carinae of basal half of frons, vertex, pronotal disc and carinae, mesonotal disc and carinae, hind margins of anterior abdominal terga and median portion of the last three, posterior margin and laterodorsal angles of pygofer, lateral lobes of pronotum, rostrum, femora at apex, pro- and mesotibiae at apex, testaceous; some spots on frons, an irregular suffusion on disc of clypeus, and hind tarsi, ferruginous. Tegmina (brachypterous) castaneous piceous, clavus creamy yellow to ochraceous, a fascia from node to apex of clavus, creamy white; veins concolorous, in clavus beset with fuscous-piceous granules. Anal style black.

Anal segment of ♂ short, ring-like, lateroapical angles not produced. Pygofer short, longer ventrally than dorsally, posterior opening longer than broad, dorsolateral angles strongly inflected, subrectangulate, diaphragm very broad, with dorsal margin deeply concave, strongly incised medially; medioventral process present, in form of an acuminate median lobe flanked by two smaller lobes, each bluntly pointed. Aedeagus long, narrow, reflected cephalad distally. Genital styles moderately long, directed dorsad, diverging dorso-laterad in apical third, deeply rounded apically.

♂ (brachypterous): length, 3.0 mm.

Holotype ♂, NEW GUINEA: West Highlands, Al Valley, c. 6,000 ft., 25.viii.56 (*T. E. Woodward*), in Queensland Museum.

This species differs from *P. platypoda* in having a relatively shorter frons in relation to its width, a relatively shorter clypeal disc in relation to its basal width, in both segments of the antennae being thicker in relation to their length, in the greatest width of the foliate protibiae occurring just basad of the middle (as opposed to just distad of the middle in *platypoda*) and in the profemora being deeply infusate, not pale testaceous as in *platypoda*. The writer has not had an opportunity of comparing the ♂ genitalia.

PEREGRINUS Kirkaldy

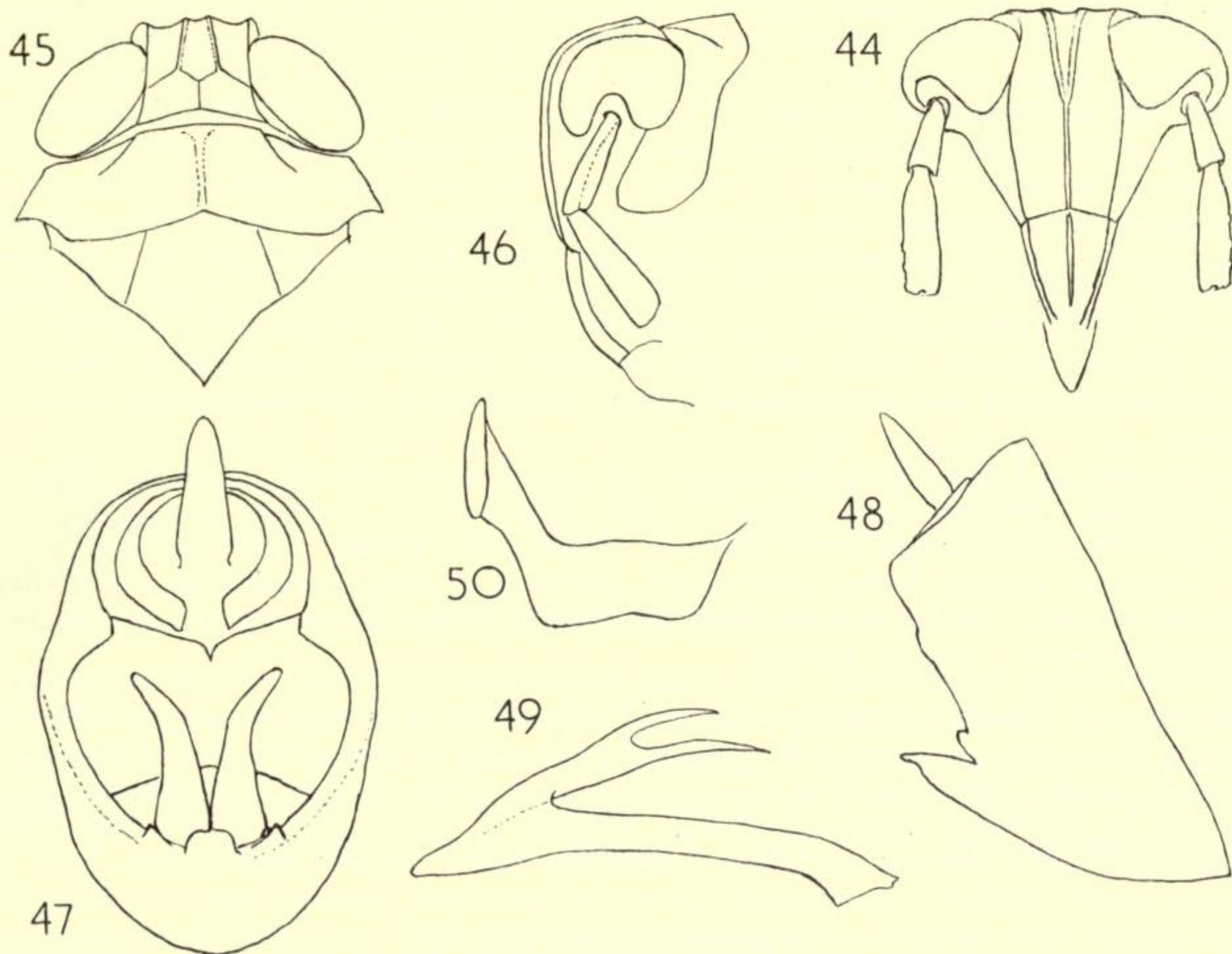
Kirkaldy, 1904a: 175.

Orthotype, *Delphax maidis* Ashmead.

Peregrinus maidis (Ashmead)

Delphax maidis Ashmead, 1890a: 323.

AUSTRALIA: Queensland, Ayr, Demesne area, 1 ♂, 26.v.53 (*T. E. Woodward*), 1 ♀, 3.iv.55 (*G. Saunders*); Belmont, 1 ♀, 9.vi.57; Sunnybank, 1 ♀, 14.iii.57



FIGS. 44-50. *Peliades phyllocnemis* sp. n. 44, Frons and clypeus; 45, head and thorax, dorsal view; 46, head in profile; 47, ♂ genitalia, posterior view; 48, anal segment and pygofer, right side; 49, aedeagus, right side; 50, genital style.

(*Haseler*); Brisbane, 1 ♂, 2 ♀, 3.iii.51 (*G. Saunders*), 7.ix.55 (*L. Jackson*), iii.57 (*S. Sekhon*); Cleveland, 1 mutilated specimen, 24.iv.56 (*W. Yarrow*); Gaythorn, 1 ♀, 15.iii.47 (*A. R. Bird*); Taroom, 1 ♀, 30.iv.29, 6737.

CEMUS Fennah

Fennah, 1964 : 147.

***Cemus kirkaldyi* (Metcalf) comb. n.**

Phacalastor koebelei Kirkaldy, 1906c : 408.

Phyllodinus kirkaldyi Metcalf, 1943 : 148.

Vertex broader at base than long submedially (about 1.3 : 1), obtusely rounding into frons, rather narrower at apex than at base, lateral margins shallowly concave, apical margin truncate, with submedian carinae weakly prominent, Y-shaped carina feeble, submedian carinae uniting on frons near middle, basal compartment of vertex wider at hind margin than greatest length (2.7 : 1) and than median length (3.5 : 1); frons in middle line longer than wide at widest part (nearly 2 : 1), widest at level of lower margin of eyes, lateral margins concave between eyes, straight, slightly converging to fronto-clypeal suture, median carina forked in basal half, simple in distal half, clypeus at base a little wider than frons at apex, postclypeal disc as broad at base

as long, in profile rather strongly convex, anteclypeus in profile distinctly convex, so that entire clypeus in profile is rather strongly convex, antennae distinctly surpassing frontoclypeal suture, basal segment longer than broad (2 : 1), second segment longer than first (1.7 : 1). Pronotum with disc broader at anterior margin than long in middle line (1.6 : 1); lateral carinae concave not nearly attaining hind margin. Post-tibial spur with about 22 teeth.

Castaneous to piceous; carinae of vertex, frons, clypeus, some spots on frons and genae, disc of pronotum except for two impressions, lateral fields of pronotum, carinae of mesonotal disc and lateral margins of mesonotum, abdominal terga laterally, anal segment and posterior margins of pygofer, rostrum, femora and tibiae at base and apex, post-tarsi at apex, stramineous; antennae with an obscure stripe on basal segment, and clypeus, testaceous. Tegmina hyaline, dilutely suffused fuscous, darker near apex of costal margin, submarginally between veins at apex, and in two spots on commissural margin; veins pale, greyish white, with fuscous-piceous granules.

Anal segment of ♂ short, ring-like, lateroapical angles each produced in a short, rather slender spinose process. Pygofer short, longer ventrally than dorsally, posterior opening rather small, longer than broad, diaphragm rather narrow; medioventral process present in form of a convex lobe. Aedeagus tubular, rather compressed, reflected at apex cephalad in a long flagellum acuminate at apex. Genital styles rather long, slender, sinuately tapering and acuminate at tip.

♂ (brachypterous): length, 2.8 mm.

AUSTRALIA: Brisbane 1 ♂, 19.viii.56 (*J. Martin*); Ayr, 1 ♂, 20.x.55 (*G. Saunders*); N. Ward, T.V., 2 ♀, 16.iv.34; S. Mackay, Lotus Ck., c. 100 m., 1 ♀, 2.vi.56, on grass, (*I. C. Yeo*); Moggill, 1 ♂, 7.v.55, sweeping grass (*T. E. Woodward*); Bundaberg, 1 ♀, 10.vi.56, on grass (*I. C. Yeo*); Toowang, 1 ♀, 6.iv.41, 6875.

THYMALOPS gen. n.

Vertex longer medially than broad at base, subacutely rounding into frons, narrower at apex than at base, lateral margins straight or slightly concave, apical margin convex-truncate with submedian carinae weakly prominent, Y-shaped carinae moderately distinct, submedian carinae not uniting on vertex, basal compartment of vertex wider at hind margin than greatest length (about 1.8 : 1); frons in middle line longer than wide at widest part (about 2 : 1), widest at middle, lateral margins weakly convex, median carinae forked at level of lower margin of eyes; clypeus at base not wider than frons at apex, postclypeal disc slightly longer than broad at base, in profile shallowly convex, anteclypeus in profile shallowly convex; entire clypeus in profile evenly moderately convex; rostrum surpassing mesotrochanters but not attaining post-trochanters; antennae attaining frontoclypeal suture, basal segment cylindrical, widening distad, slightly longer than broad at apex, second segment longer than first (about 1.8 : 1); ocelli distinct. Pronotum with disc slightly longer in middle line than broad at anterior margin, lateral carinae straight or weakly concave, not quite attaining hind margin. Femora and tibiae of fore and middle legs not foliate; post-tibial spur with about 21 teeth.

Type-species, *Dicranotropis anderida* Kirkaldy.

This genus is distinguished by the combination of characters given in the key.

***Thymalops anderida* (Kirkaldy) comb. n.**

(Text-figs. 51-53)

Dicranotropis anderida Kirkaldy, 1907d: 133.

Anal segment of ♂ collar-like, moderately long. Pygofer with posterior opening longer dorso-ventrally than broad, diaphragm deep at middle, without ornamentation; a shallow rounded

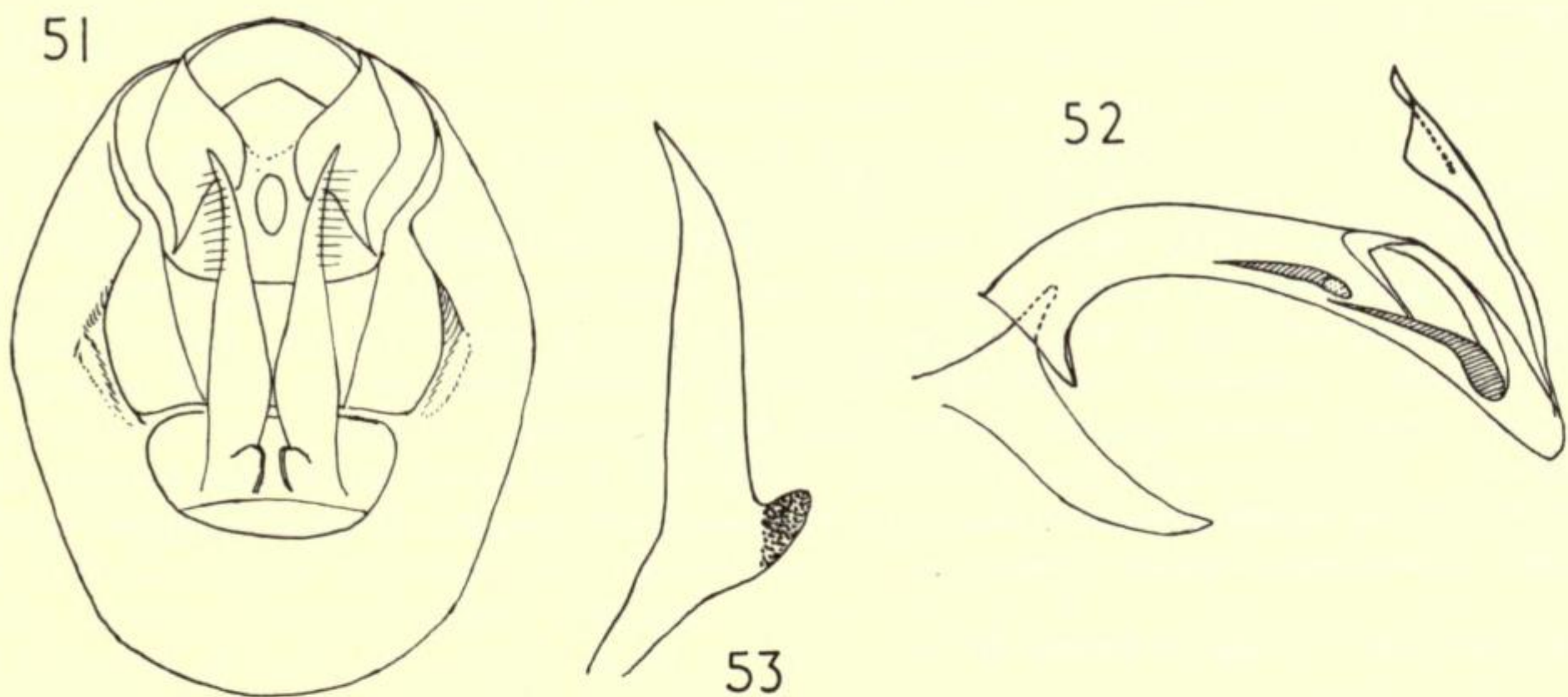
median process present on ventral margin of pygofer. Aedeagus moderately long, with a reflected flagellum apically. Genital styles simple.

AUSTRALIA: Queensland, Gordonvale, 1 ♂, 16.ii.36, at light (*R. W. Mungomery*). The writer has also seen specimens of this species from Taiwan.

Muir (1917d: 336), on the basis of material from the Philippines, South China, Java and Ceram, placed this species in *Delphacodes* and later (1919a: 7) transferred it to *Nilaparvata* and suppressed it in synonymy under *Liburnia sordescens* (Motsch.). The type-specimen of *Dicranotropis anderida*, however, does not have lateral spines on the basal segment of the post-tarsus, and the frontal carina is bifurcate in its basal half, and so this species cannot be placed in *Nilaparvata*. In dorsal view the shape of the head and thorax is rather similar to that found in *Nilaparvata lugens* Stål (= *L. sordescens* (Motsch.)), and this similarity may account for Muir's action.

APLANODES gen. n.

Vertex slightly shorter medially than broad at base, weakly declivous, obtusely rounding into frons, a little narrower at apex than at base, lateral margins straight, or nearly so, apical margin convex-truncate with submedian carinae not prominent, Y-shaped carina present, submedian carinae approximated at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (approximately 2.7 : 1); frons in middle line longer than wide at widest part (about 2 : 1), widest near middle, lateral margins very weakly convex, a pair of submedian carinae, obscure at base, parallel, extending to frontoclypeal suture; clypeus at base as wide as frons at apex, postclypeal disc about as long as broad at base, in profile very weakly convex, anteclypeus in profile shallowly convex; entire clypeus in profile shallowly convex; rostrum not quite reaching to post-trochanters, apical and subapical segments about equal in length; antennae terete, extending a little beyond frontoclypeal suture, basal segment longer than broad (about 2 : 1), second segment longer than first (about 2 : 1), ocelli well developed. Pronotum with disc as long in middle line as broad at anterior margin, lateral carinae straight, not attaining hind margin, total length of mesonotum longer than that of scutellum (about 2.6 : 1). Post-tibial spur tectiform, not long, with 15-18 minute teeth. Tegmina with *Sc + R* fork and *Cu₁* fork much distad of level of union of claval veins, and rather close to nodal line.



FIGS. 51-53. *Thymalops anderida* (Kirkaldy). 51, ♂ genitalia, posterior view; 52, aedeagus, left side; 53, genital style.

Type-species, *Criomorphus australiae* Kirkaldy.

This species runs to *Criomorphus* in Muir's key (1915d : 296) but differs generically in having relatively longer antennae, a differently shaped head, the post-tibial calcar toothed along the margin, and a radically different conformation of the ♂ genitalia. From *Notohyus*, to which superficially it would seem to be nearest, it is well separated by the shape of the head, the proportions of the antennae, the presence of ocelli, the length of the rostrum, and, in the ♀, by the sclerotized pregenital sternite.

***Aplanodes australiae* (Kirkaldy) comb. n.**

(Text-figs. 54-64)

Criomorphus australiae Kirkaldy, 1907d : 131.

Anal segment of ♂ rather large, apical margin transverse, lateroapical angle of left side strongly produced ventrad in a stout subspinose process. Pygofer rather long, dorsolateral angles not produced, lateral margins in profile convex; diaphragm with dorsal margin deeply concave, narrow in middle portion, and strongly produced caudad in a pair of spinose processes, which are closely apposed basally but diverge moderately towards apex; no medioventral process present. Aedeagus long, porrect caudad, slightly deflexed at tip, a small tooth dorsally near middle, a row along middle of right side, and a few ventro-laterally on right; orifice ventrally at apex, rather long. Genital styles moderately long, rather narrow and tapering, directed dorsad and upcurved apically, outer margin shallowly convex, inner margin concave with a small bluntly angulate eminence in distal third.

Seventh (pregenital) sternite of ♀ relatively large, horse-shoe shaped, flattened dorsoventrally, each limb acute at apex. First valvifers, as exposed in ventral view, narrow, of approximately equal width throughout, not at all produced mesad at base.

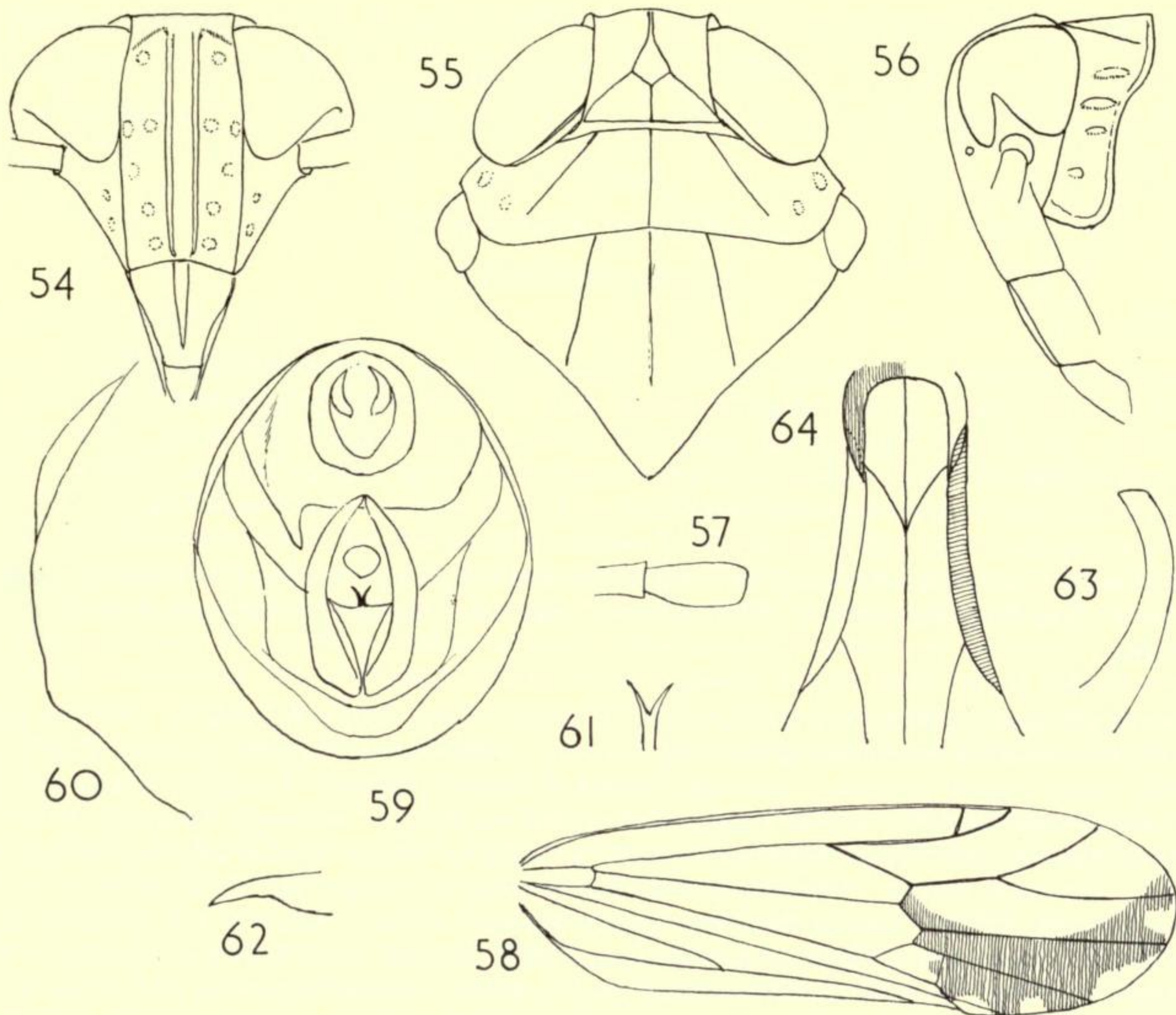
AUSTRALIA : Brisbane, Gold Creek, 1♀, 17.iv.56 (*T. E. Woodward*); 1 ♂, 6747. Topotype in Queensland Museum, Brisbane.

NOTOHYUS gen. n.

Vertex about as long medially as broad at base, horizontal, strongly rounding into frons, about as wide at apex as at base, lateral margins almost straight, apical margin shallowly convex, with submedian carinae not prominent, Y-shaped carina very feeble, submedian carinae approximated at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (about 2 : 1); frons in middle line rather longer than wide at widest part (about 1.3 : 1), widest near middle, lateral margins convex, a pair of submedian carinae, obscure basally, extending to frontoclypeal suture, clypeus at base wider than frons at apex, postclypeal disc very approximately as long as broad at base, entire clypeus in profile convex; rostrum attaining mesotrochanters; antennae moderately surpassing frontoclypeal suture, basal segment not longer than broad, second segment longer than first (between 2 : 1 and 3 : 1); eyes reniform, ocelli absent. Pronotum with disc shorter in middle line than broad at anterior margin, lateral carinae straight or weakly concave, not quite attaining hind margin. Post-tibial spur very short and thick, with minute teeth on margin.

Type-species, *Notohyus erosus* sp. n.

This genus runs to *Criomorphus* in Muir's key (1915d : 296) but differs in having the antennae relatively longer, the head of a different shape, with the carinae



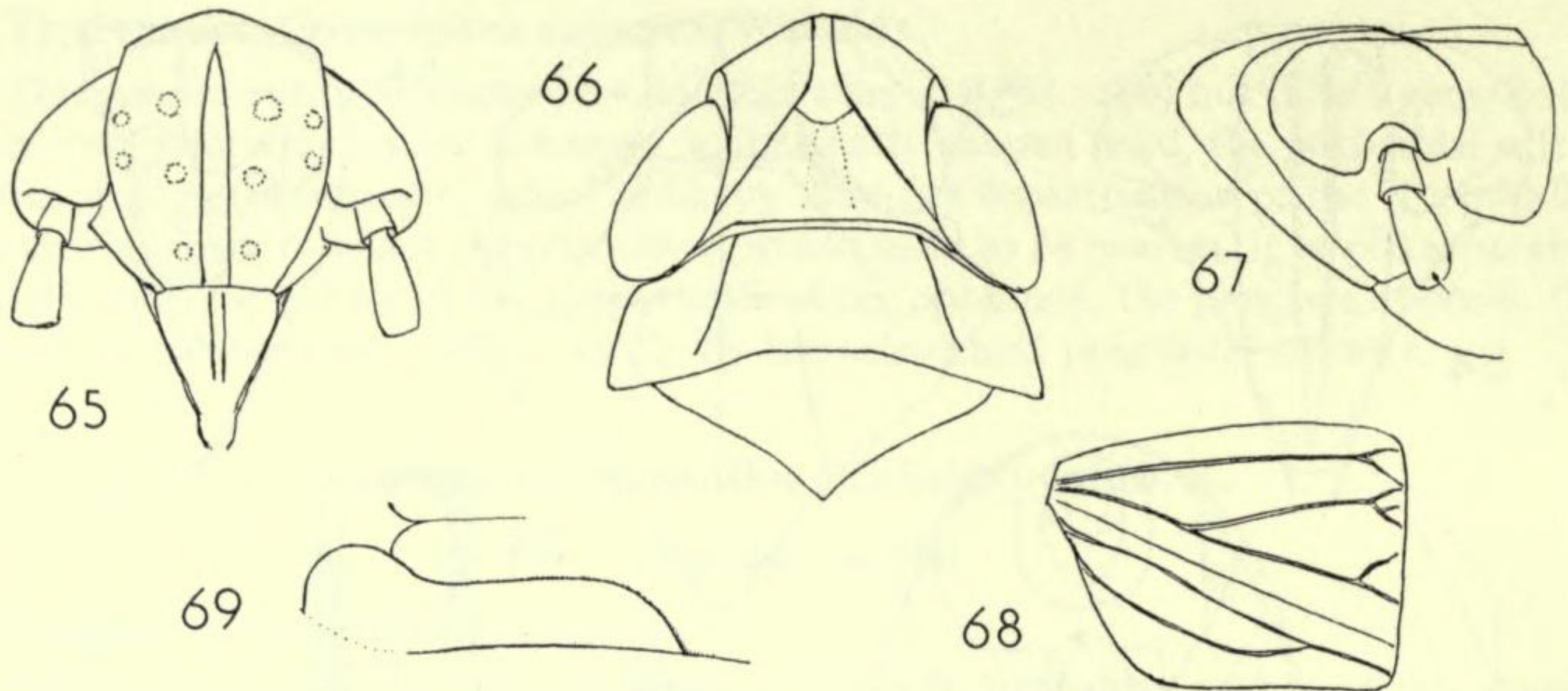
FIGS. 54-64. *Aplanodes australiae* (Kirkaldy). 54, Frons and clypeus; 55, head and thorax, dorsal view; 56, head in profile; 57, antenna; 58, tegmen; 59, ♂ genitalia, posterior view; 60, ♂ genitalia, right side; 61, process at middle of dorsal margin of diaphragm; 62, apex of aedeagus; 63, genital style; 64, basal portion of ovipositor, ventral view, with horse-shoe shaped pregenital sternite at base demarcated in one half by vertical shading, and one of first valvifers demarcated by oblique shading.

approximated at the base, the post-tibial calcar toothed along the margin, and the first valvifers with the inner margin devoid of any trace of a lobe at middle.

Notohyus erosus sp. n.

(Text-figs. 65-69)

Vertex as long medially as broad at base, strongly rounding into frons, as wide at apex as at base, lateral margins very shallowly concave, apical margin distinctly convex, with submedian carinae obscure, not prominent, Y-shaped carina very feeble or obsolete, submedian carinae approximated at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (about 2 : 1); frons in middle line longer than wide at widest part (nearly 1.3 : 1), widest at middle, lateral margins strongly convex, a pair of parallel submedian carinae, obscure and apparently united at base, reaching frontoclypeal suture, clypeus at base distinctly wider



FIGS. 65–69. *Notohyus erosus* sp. n. 65, Frons and clypeus; 66, head and thorax, dorsal view; 67, head in profile; 68, tegmen; 69, first valvifer of ovipositor (caudad to right).

than frons at apex, postclypeal disc shorter in middle than broad at base (1 : 1.1), in profile recessed below level of frons, and moderately convex, median carina broadly obscure, anteclypeus in profile more weakly convex; rostrum attaining mesotrochanters, subapical segment moderately compressed laterally, rather longer than apical segment; antennae reaching to level of middle of post-clypeus, basal segment scarcely as long as broad, second segment longer than first (2.7 : 1); ocelli absent. Pronotum with disc shorter in middle line than broad at anterior margin (1 : 1.5), median carina obsolete, lateral carinae weakly concave, not quite attaining hind margin; mesonotum (brachypterous form) with carinae very feeble or obsolete. Post-tibial spur very short and thick, with a broad pad, a distinct apical tooth and about twenty-two very minute teeth.

Light testaceous; frons, except for six round spots in each compartment of disc, genae near anterior margin, some incomplete longitudinal stripes on femora and tibiae, and abdominal sternites in part, rather dilute yellowish fuscous; metapleura, six small spots on each abdominal tergum, and second valvifers of ovipositor apically, castaneous-piceous. Tegmina stramineous hyaline, veins concolorous and rather obscure.

First valvifers of ovipositor each produced mesad at base in a rather shallow rounded lobe, inner margin distad of this lobe entire.

♀ (brachypterous) : length, 4.1 mm.

Holotype ♀, NEW ZEALAND: Banks Peninsula, Tumbledown Bay, 18.ii.59 (*T. E. Woodward*), in collection of Entomology Division, D.S.I.R., Nelson.

NILAPARVATA Distant

Distant, 1906i : 473.

Orthotype, *Nilaparvata greeni* Distant.

Nilaparvata lugens (Stål)

Delphax lugens Stål, 1854b : 246.

Nilaparvata greeni Distant, 1906i : 473.

AUSTRALIA : Sunnybank, 3 ♂, 16, 19.iii.57, 21.iv.57 (*Haseler*) 1 ♂, 15.ii.51

(*S. Barker*); Lawes, 1 ♀, 8.xii.56 (*W. F. Wildin*); Brisbane, 4 ♀, 21, 31.iv.57 (*S. Sekhon*); 20.xi.1955 (*G. E.*), 9.iii.57 (*B. R. Grant*).

NEW GUINEA: W. Highlands, Al Valley, c. 6000 ft., 1 ♀, 25.viii.56 (*T. E. Woodward*.)

Nilaparvata myersi Muir

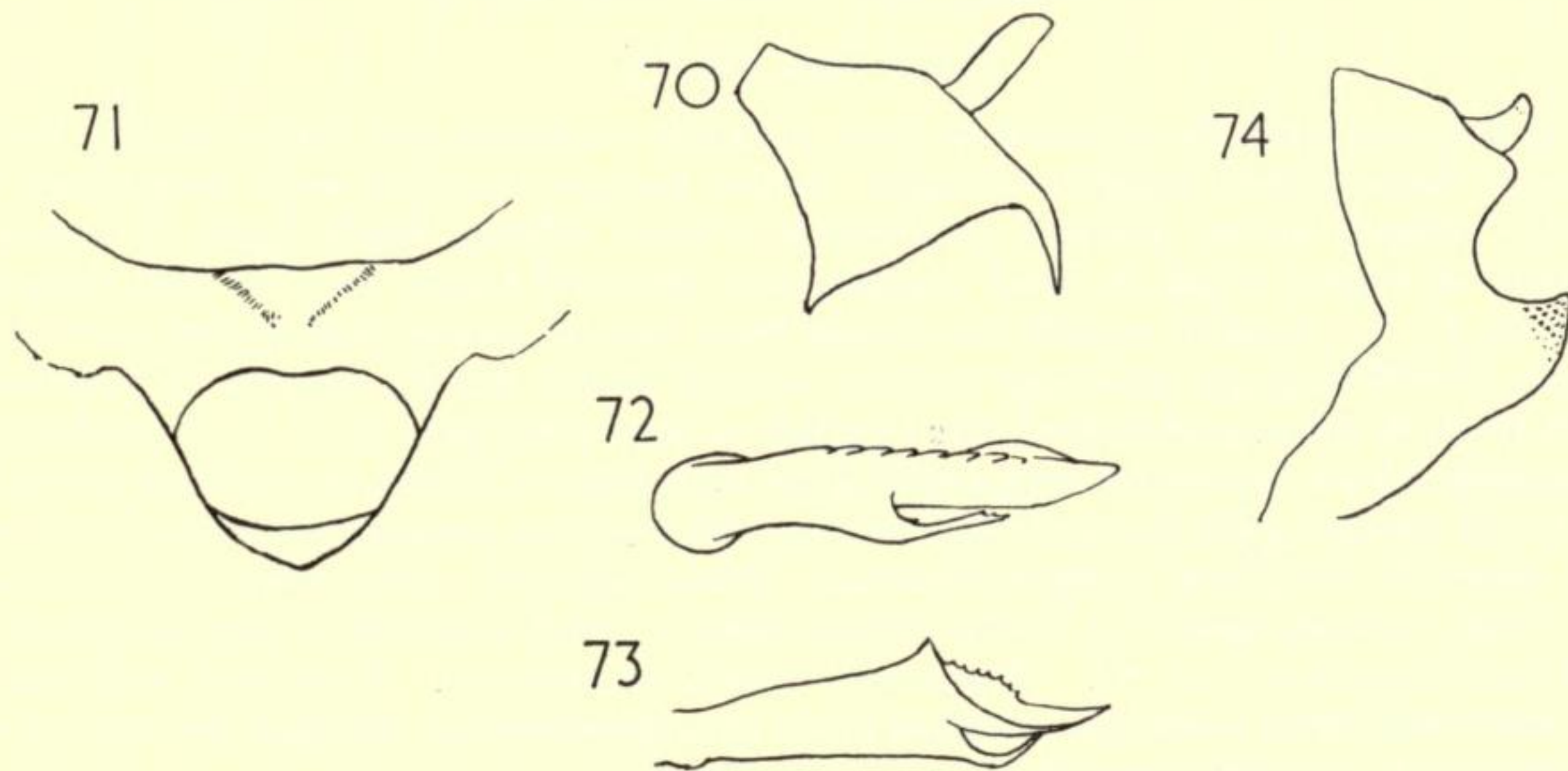
(Text-figs. 70-74)

Muir, 1923i: 258.

Vertex longer submedially than broad at base (1.2 : 1) subacutely and abruptly rounding into frons, distinctly narrower at apex than at base, lateral margins almost straight, apical margin truncate with submedian carinae prominent, Y-shaped carina well developed, submedian carinae uniting at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (1.5 : 1) and than median length (1.7 : 1); frons in middle line longer than wide at widest part (2 : 1), widest at middle, lateral margins shallowly convex, median carina simple or at most forked only at extreme base; clypeus at base wider than frons at apex, postclypeal disc as broad at base as long, in profile moderately convex, anteclypeus in profile rather strongly convex so that entire clypeus in profile is rather strongly interruptedly convex or biconvex; antennae moderately surpassing fronto-clypeal suture, basal segment longer than broad (about 1.7 : 1), second segment longer than first (1.5 : 1); ocelli small. Pronotum with disc longer in middle line than broad at anterior margin (nearly 1.3 : 1), lateral carinae concave, diverging laterad, not attaining hind margin. Post-tibial spur with 19 teeth.

Stramineous; vertex, pronotal disc, mesonotum, paler; fifth to seventh abdominal terga, piceous except in middle line, eighth tergum piceous near margin, pygofer castaneous-piceous except at dorsolateral angles, genital styles and diaphragm piceous.

Anal segment of ♂ moderately long, distinctly broad, lateroapical angles widely separated, each produced ventrad in a curved spinose process. Pygofer moderately long, posterior opening about as broad as long, dorsolateral angles not produced caudad, inflected mesad; diaphragm with dorsal margin weakly convex, medioventral process absent. Aedeagus moderately long, straight, with about seven teeth along dorsal margin; a long narrow process arising ventrally near middle and extending caudad below main axis of aedeagus and parallel to it. Genital styles



FIGS. 70-74. *Nilaparvata myersi* Muir. 70, Anal segment of ♂, left side; 71, median portion of diaphragm; 72, aedeagus, ventral view; 73, aedeagus, left side; 74, genital style.

moderately long, stout, in posterior view each asymmetrically Y-shaped, strongly produced caudad near base; process of inner apical angle strongly curved cephalad.

♂ (brachypterous): length, 3.5 mm. ♀ (brachypterous): length, 3.5 mm.

NEW ZEALAND: Paihia, 1 ♂, 7 ♀, 17.iii.47, 23-28.ii.50, (*R. A. Cumber*); Paiaka (Man.), 4 ♂, 4 ♀, 1 nymph, 5.i.50, 1, 11.ii.50, 28.ii.59 (*R. A. Cumber*); HE4 RS25 Rd., 1 ♀; HE4 RS 23 P4, 1 ♀; HE4 53 Road, 1 ♀; Mangahao, 1 ♀, 6.i.50 (*R. A. Cumber*); Rotorua, 1 ♂, 1 ♀, 1.ii.27 (*A. Philpott*).

An interesting feature of this sample is that only a small minority of the specimens examined bore spines on the side of the basal post-tarsal segment.

NOTOGRYPUS gen. n.

Vertex about as long submedially as broad at base, obtusely rounding into frons, about as wide at apex as at base; frons longer than broad (about 1.5-1.7:1), widest near middle, median carina simple, clypeus rather strongly convex, rostrum surpassing post-trochanters; ocelli minute or obsolete; antennae with basal segment about as long as broad, second segment a little more than twice as long as first. Pronotum with disc a little longer in middle line than broad at anterior margin, lateral carinae straight, not attaining hind margin. Post-tibial spur with seven or eight teeth.

Anal segment of ♂ narrowly ring-like, with apical margin produced medially in a blunt lobe. Pygofer with dorsolateral angles produced caudad, diaphragm moderately broad. Aedeagus moderately long, porrect, with a short slender process dorsally at apex.

Type-species, *Notogryps melanthus* sp. n.

In Zimmerman's key (1948: 139) this species runs to *Nesothoe*, but differs from other species of the genus in the relatively stouter bodily form, the less thickened and elongate post-tibial spur, and the reduced ocelli. From *Nesorthia* it differs entirely in the form of the head and in the structure of the ♂ genitalia.

***Notogryps melanthus* sp. n.**

(Text-figs. 75-85)

Vertex as long submedially as broad at base, obtusely rounding into frons, slightly broader at apex than at base, lateral margins straight, apical margin truncate with submedian carinae prominent, Y-shaped carina distinct, submedian carinae uniting before apex of vertex, basal compartment of vertex wider at hind margin than greatest length (2.3:1) and than median length (nearly 3:1); frons in middle line longer than wide at widest part (about 1.7:1), widest near middle, lateral margins shallowly convex, median carina simple, clypeus at base distinctly wider than frons at apex, postclypeal disc broader at base than long (1.3:1), in profile strongly convex, separated by a transverse impression from anteclypeus, which in profile is strongly convex and curved caudad, so that entire clypeus in profile is rather strongly biconvex; rostrum with subapical segment attaining mesotrochanters, apical segment surpassing post-trochanters; antennae short, scarcely attaining fronto-clypeal suture, basal segment as long as broad, second segment longer than first (2.2:1). Ocelli very minute or obsolete. Pronotum with disc longer in middle line than broad at anterior margin (1.1:1), lateral carinae straight, strongly divergent, not attaining hind margin; post-tibial spur with 8 teeth.

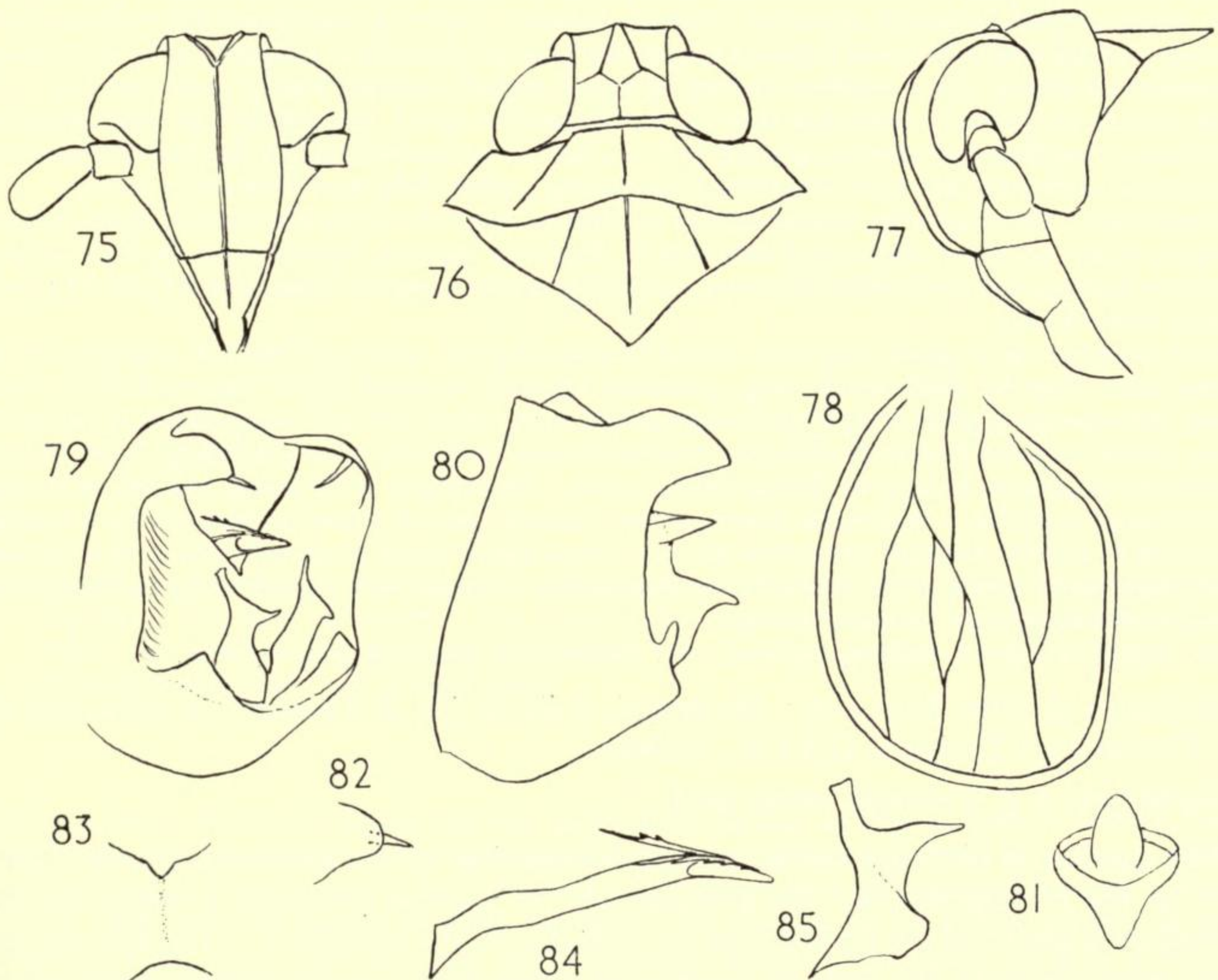
Dark testaceous; vertex, coxae and legs slightly paler; abdominal terga slightly ferruginous. Tegmina brachypterous, brownish hyaline, entire margin pale testaceous, a creamy white spot at middle of apical margin. Male genitalia and pygofer distally, light testaceous.

Anal segment of ♂ very short, ring-like, lateroapical angles not produced, distal margin produced caudad in a broadly triangular lobe extending caudad above base of aedeagus. Pygofer rather large, posterior opening slightly longer than broad, dorsolateral angles very strongly produced, each with a slender subapical spine directed mesad, lateral margins in profile oblique, ventrolaterally produced dorsocaudad on each side in a small triangular lobe; diaphragm broad with dorsal margin deeply excavate, at middle produced caudad in a weak fold like the lip of a jug; medioventral process absent. Aedeagus rather long, tubular, porrect caudad, orifice rather long, on left at apex, a narrow sclerotized ridge dorsally above orifice with two teeth, and a moderately long slender process, with two teeth on its margin, arising dorsally subapically, and directed dorsocephalad. Genital styles moderately long, twisted at middle, inner apical angle produced caudad in a short blunt spine, outer apical angle produced cephalad in a lobe apically truncate.

♂ (brachypterous): length, 2.4 mm., tegmen, 1.4 mm. ♀ (brachypterous): length, 2.7 mm., tegmen, 1.5 mm.

Holotype ♂, NEW ZEALAND: Puketoi (Waewaepa), 29.iii.57 (R. A. Cumber), in collection of the Entomology Division, D.S.I.R., Nelson.

Paratypes, 3♂, 4♀, same data.



FIGS. 75-85. *Notogryps melanthus* sp. n. 75, Frons and clypeus; 76, head and thorax, dorsal view; 77, head in profile; 78, tegmen; 79, ♂ genitalia, postero-lateral view from left; 80, ♂ genitalia, left side; 81, anal segment of ♂, posterior view; 82, process on dorsolateral angle of pygofer, left side; 83, median portion of diaphragm; 84, aedeagus; 85, genital style.

The anal segment and, to some extent, the genital styles are generally similar to those of *Sardia persephone* (Kirk.) from Queensland. The aedeagus and the dorso-lateral margin of the pygofer, however, are very different, and the structure of the former is closely similar to that found in species of *Nesothoe*.

***Notogryps ithoma* sp. n.**

(Text-figs. 86-94)

Vertex as long submedially as broad at base, obtusely rounding into frons, as wide at apex as at base, lateral margins shallowly concave, apical margin truncate with submedian carinae distinctly prominent, Y-shaped carina moderately distinct, submedian carinae uniting at base of frons, basal compartment of vertex wider at hind margin than greatest length (2.1 : 1) and than median length (2.2 : 1); frons in middle line longer than wide at widest part (nearly 1.5 : 1), widest near middle, lateral margins distinctly convex, median carina forked at extreme base, clypeus at base distinctly wider than frons at apex, postclypeal disc shorter in middle line than broad at base (1 : 1.4) in profile strongly convex, anteclypeus in profile moderately convex, so that entire clypeus in profile is rather strongly convex; rostrum with subapical segment surpassing mesotrochanters, apical segment surpassing post-trochanters; antennae little surpassing frontoclypeal suture, basal segment as long as broad, second segment longer than first (2.5 : 1); ocelli minute or obsolete, indicated only by a red pigment spot; pronotum with disc longer in middle line than broad at anterior margin (1.2 : 1), lateral carinae straight or very weakly convex, moderately diverging, not quite attaining hind margin; post-tibial spur with seven teeth.

Testaceous; frons apically, lateral carinae of clypeus, apex of vertex and base of frons, femora at apex, tibiae at apex, abdominal sternites at posterior margin, stramineous or ivory-white. Tegmina hyaline with testaceous suffusion, becoming darker in apical third, middle part of apical margin ivory-white.

Anal segment of ♂ short, ring-like, apical margin slightly produced caudad medially in an obtuse lobe. Pygofer moderately long, posterior opening slightly longer dorsoventrally than broad, dorsolateral angles strongly produced caudad, each rather abruptly terminating in an apical spine, lateral margins distinctly concave, ventral margin shallowly trilobate, lateral lobes blunt; medioventral process as long as lateral lobes, acute; diaphragm with dorsal margin excavate, rather broad medially. Aedeagus short, porrect caudad, genital styles moderately long, rather narrowed at middle, strongly expanded distally, inner apical angle produced caudad in a narrow acute lobe, outer apical angle produced laterobasad in a longer and more bluntly tapering lobe which is almost weakly bifurcate at tip.

♂: length, 2.9 mm., tegmen, 1.5 mm. ♀: length, 2.9 mm., tegmen, 1.3 mm.

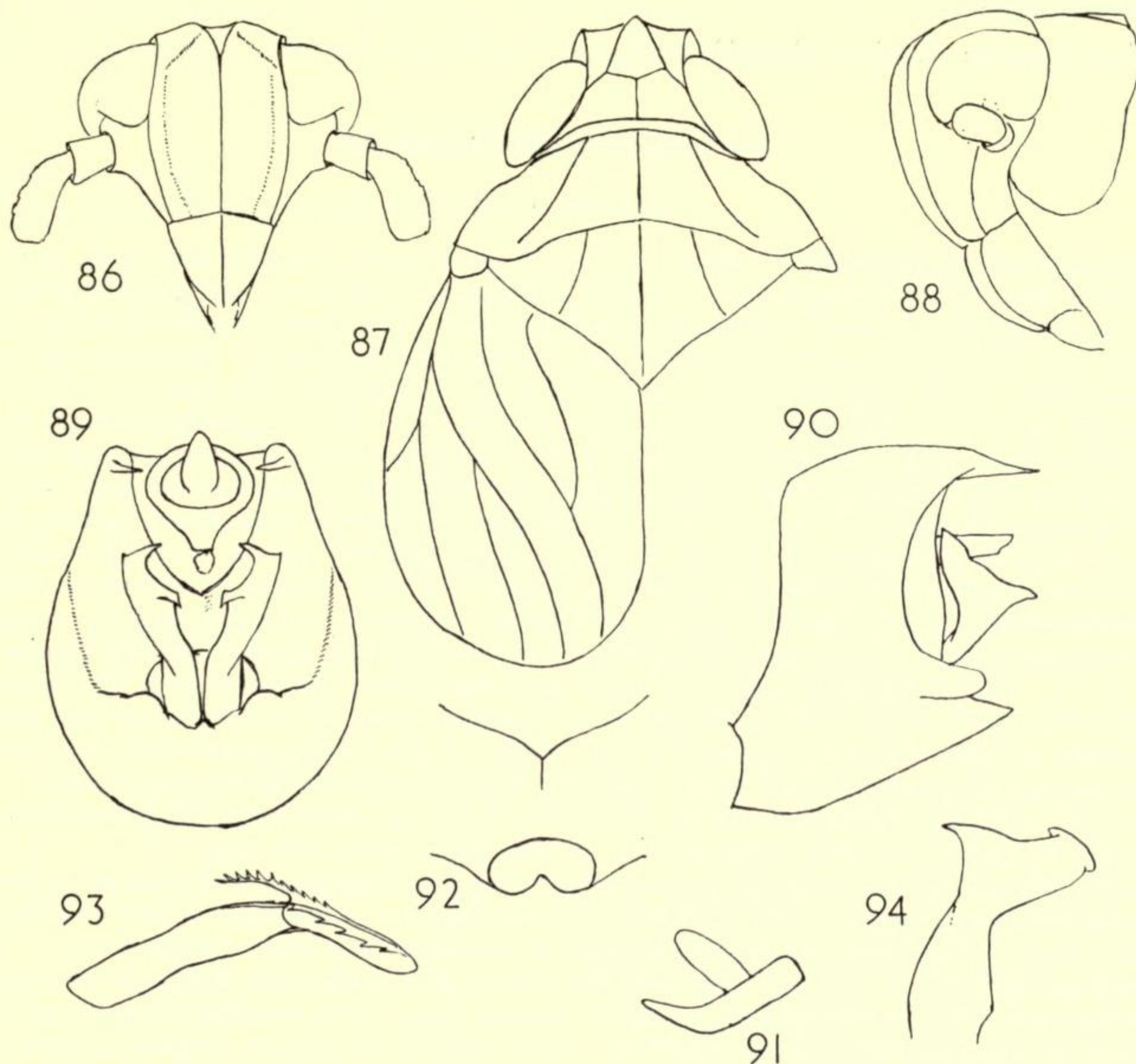
Holotype ♂, NEW ZEALAND: Mangonui, 8.iii.50 (*R. A. Cumber*), in collection of the Entomology Division, D.S.I.R., Nelson.

Paratypes, 2 ♀, 1 nymph, same data.

This species is distinguishable from the preceding by its relatively shorter frons and, in the ♂ genitalia, by the development of spinose processes apically on the dorsolateral angles of the pygofer, not subapically on the inner face. The two species differ appreciably in the form of the genital styles, and to a less extent in details of aedeagal ornamentation.

***EORISSA* gen. n.**

Stoutly built. Vertex about as long submedially as broad at base, about as wide at apex as at base, lateral margins straight or nearly so, apical margin transverse, with submedian carinae



FIGS. 86-94. *Notogryps ithoma* sp. n. 86, Frons and clypeus; 87, head, thorax and left tegmen; 88, head in profile; 89, ♂ genitalia, posterior view; 90, ♂ genitalia, right side; 91, anal segment of ♂, right side; 92, median portion of diaphragm; 93, aedeagus, left side; 94, genital style.

not prominent, Y-shaped carina distinct, submedian carinae uniting at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (about 2 : 1); frons in middle line longer than wide at widest part (about 1.3 : 1), widest at middle, lateral margins strongly convex, each incurved basally to meet in middle line, median carina simple, clypeus at base distinctly wider than frons at apex, postclypeal disc shorter than broad at base, distinctly convex, anteclypeus in profile angulately curved caudad; rostrum attaining mesotrochanters, apical segment about as long as subapical, antennae slightly surpassing frontoclypeal suture, basal segment longer than broad, second segment longer than first (about 2 : 1), ocelli small. Pronotum with disc about as long in middle line as broad at anterior margin, lateral carinae weakly concave, not attaining hind margin. Total length of mesonotum not as long as that of vertex and pronotum together, posterolateral margins deeply concave. Legs relatively short

and stout. Post-tibial spur short, stout, with about 11 minute teeth. Tegmina broadly rounded distally.

Type-species, *Eorissa cicatrifrons* sp. n.

***Eorissa cicatrifrons* sp. n.**

(Text-figs. 95-104)

Vertex as long submedially as broad at base, a little obtusely rounding into frons, as wide at apex as at base, lateral margins almost straight, apical margin transverse-convex, with submedian carinae not at all prominent, Y-shaped carina prominent, submedian carinae uniting at apex of vertex, two obscure transverse carinae in each lateroapical compartment, basal compartment of vertex wider at hind margin than greatest length (2 : 1), and than median length (2.3 : 1); frons in middle line longer than wide at widest part (about 1.3 : 1), widest at middle, lateral margins strongly convex, each uniting basally with a thick arcuate transverse carina which separates vertex from frons, median carina simple to base, disc with about fourteen pustules; clypeus at base distinctly wider than frons at apex, postclypeal disc shorter than broad at base (nearly 1 : 1.2), in profile depressed below level of frons, rather angulately convex, anteclypeus in profile angulately convex, so that entire clypeus in profile is doubly convex; rostrum reaching to mesotrochanters, apical segment about as long as subapical, antennae slightly surpassing frontoclypeal suture, basal segment scarcely longer than broad, second segment longer than first (2 : 1). Ocelli indicated only by a small dark depression, pronotum with disc as long in middle line as broad at anterior margin, lateral carinae concave, not attaining hind margin; sometimes a weak carina transversely across middle of disc; mesonotum very short in both macropterous and brachypterous forms, in former, tegulae with a fine but distinct carina. Post-tibial spur very short and thick with 10-12 small but well separated teeth. Tegmina with *Sc* + *R* forked at middle, *Cu*₁ fork basad of *Sc* + *R* fork, *M-Cu* cross-vein long.

Light yellowish brown; pustules on frons, median carina of clypeus, and three spots laterally on each abdominal tergum, pallid ochraceous or stramineous; a few short stripes on abdominal terga, fuscous. Tegmina (brachypterous) light brownish hyaline, veins concolorous.

Anal segment of ♂ moderately large, ring-like, lateroapical angles each produced ventrad in an acute process. Pygofer rather long, posterior opening longer dorsoventrally than broad, lateral margins produced mesocaudad at middle in a stout subspinose process, diaphragm broad, with dorsal margin rather shallowly concave, armature in form of a rather small subtriangular eminence; medioventral process indicated by a broad shallow median thickening on the lower margin. Genital styles moderately long, rather broad, flattened, with flat surfaces facing caudad, each style gradually expanding distad, curved caudad near apex, apical margin truncate.

Seventh (pregenital) sternite of ♀ sclerotized in form of a trapezoidal plate, with broader end distad, distal margin thickened and apparently submembranous. First valvifers of ovipositor each with inner margin produced mesad at base in a subtriangular lobe, acute at its apex.

♂ (brachypterous): length, 3.3 mm. ♀: length, 3.6-3.8 mm.; tegmen, 4.0 mm.

Holotype ♂, NEW ZEALAND: Levin, 22.iv.50 (*R. A. Cumber*), in collection of the Entomology Division, D.S.I.R., Nelson.

Paratypes, 1 ♀, same data; Pukebi, F., 1 ♀, 5.iii.50 (*R. A. Cumber*); Paiaka, Manawatu, 1 ♀, 29.i.51 (*T. E. Woodward*), 1 ♀, 4.i.50 (*R. A. Cumber*).

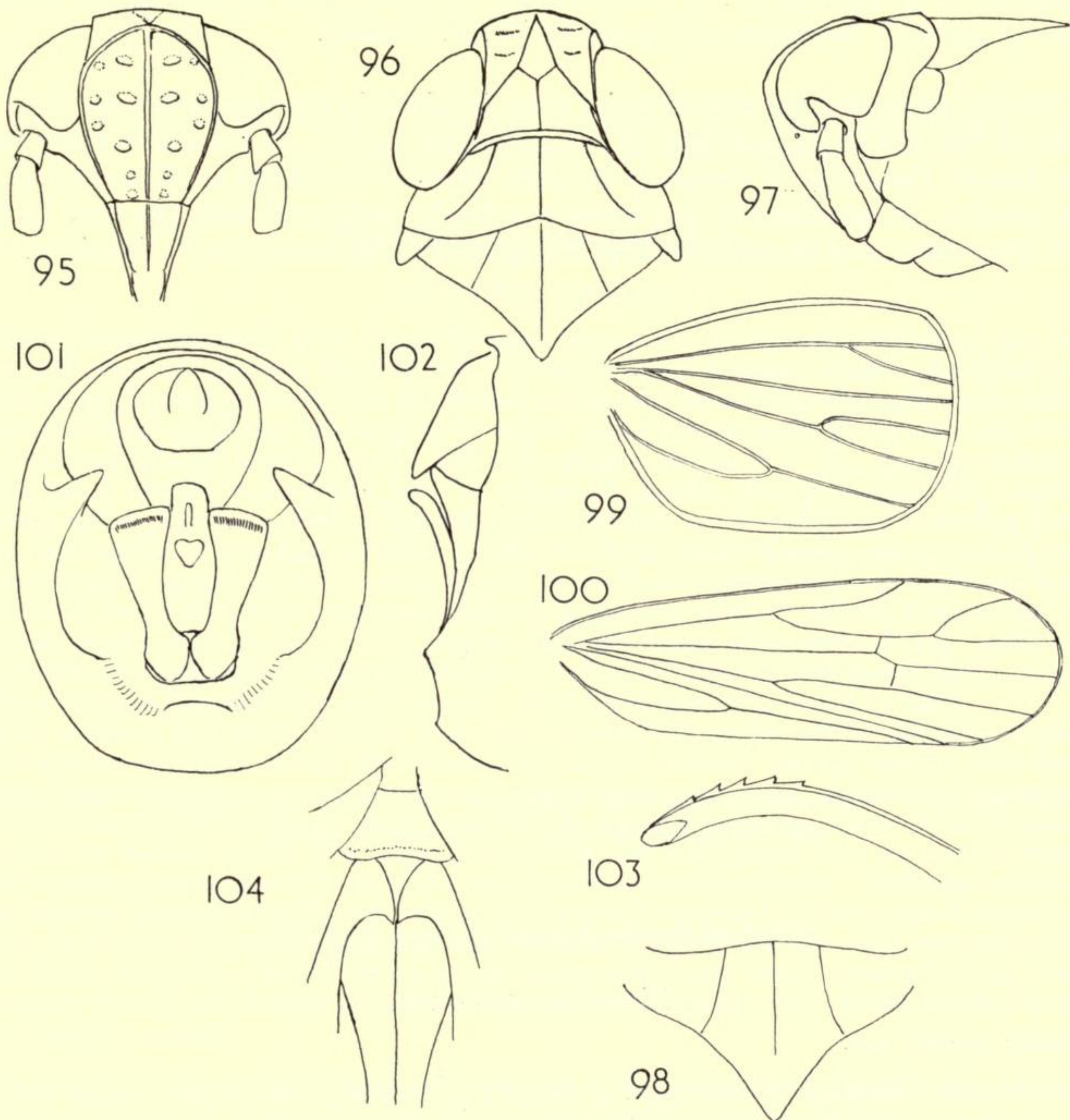
This remarkable species has all the appearance of an alohine. The condition of the post-tibial spur is indeterminate; it is short, very thick, with the lower surface flattened and slightly recessed below the margins, the teeth, ten to twelve, are short

and small, but well separated. For the present it is best placed in the Alohini, in which it comes nearest to *Nesodryas*. The tegminal shape and venation, however, are very appreciably different from those found in *Nesodryas*.

HAPLODELPHAX Kirkaldy

Kirkaldy, 1907d : 145.

Orthotype, *Haplodelphax iuncicola* Kirkaldy.



FIGS. 95-104. *Eorissa cicatrifrons* sp. n. 95, Frons and clypeus; 96, head and thorax of brachypterous form, dorsal view; 97, head in profile; 98, mesonotum of macropterous form, dorsal view; 99, tegmen (brachypterous); 100, tegmen (macropterous); 101, ♂ genitalia, posterior view; 102, ♂ genitalia, right side; 103, aedeagus, right side; 104, base of ovipositor, ventral view, with pregenital sclerite in upper third of illustration.

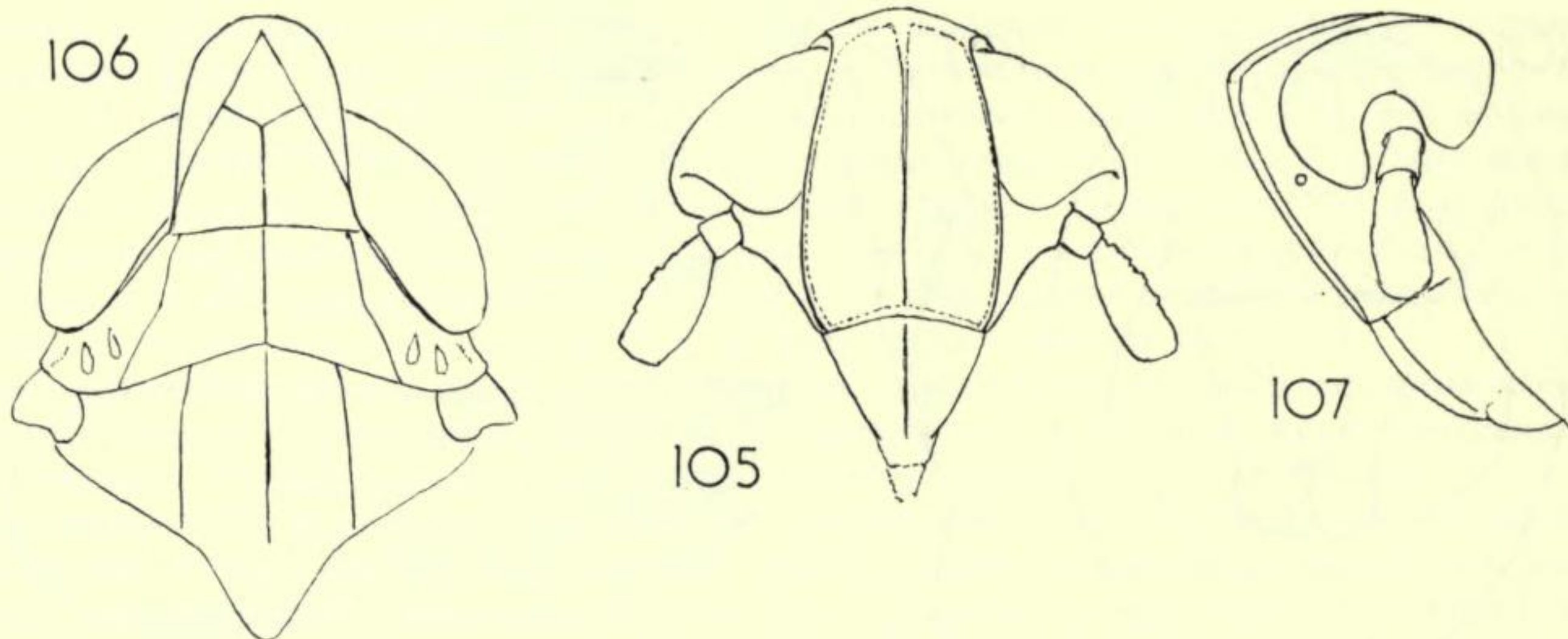
***Haplodelphax iuncicola* Kirkaldy**

(Text-figs. 105-107)

Kirkaldy, 1907d : 146.

AUSTRALIA : New South Wales, Wee Jasper, 4 ♀, 7.i.55, on grasses and sedges (*T. E. Woodward*) ; S. E. Victoria, Bonang, 1 ♀, 9.i.55 (*T. E. Woodward*) ; Victoria, Lancefield, 1 ♀, 14.i.55 (*T. E. Woodward*) ; Lockyer, 1 ♀, 24.viii.39, on lucerne (*Dept. of Agric.*) ; Brisbane, 1 ♀, 9.xii.55 (*W. F. Wildin*).

Kirkaldy separated the species *naias* from *iuncicola* in the brachypterous form by means of the pattern of markings on the abdominal terga. In the above series from Wee Jasper, the range of markings includes patterns described as characteristic of each species. A specimen of this series was kindly compared with the type by Dr. J. W. Beardsley, and he reported that it appeared to be nearest to *H. iuncicola*.



FIGS. 105-107. *Haplodelphax iuncicola* Kirkaldy. 105, Frons and clypeus ; 106, head and thorax, dorsal view ; 107, head in profile.

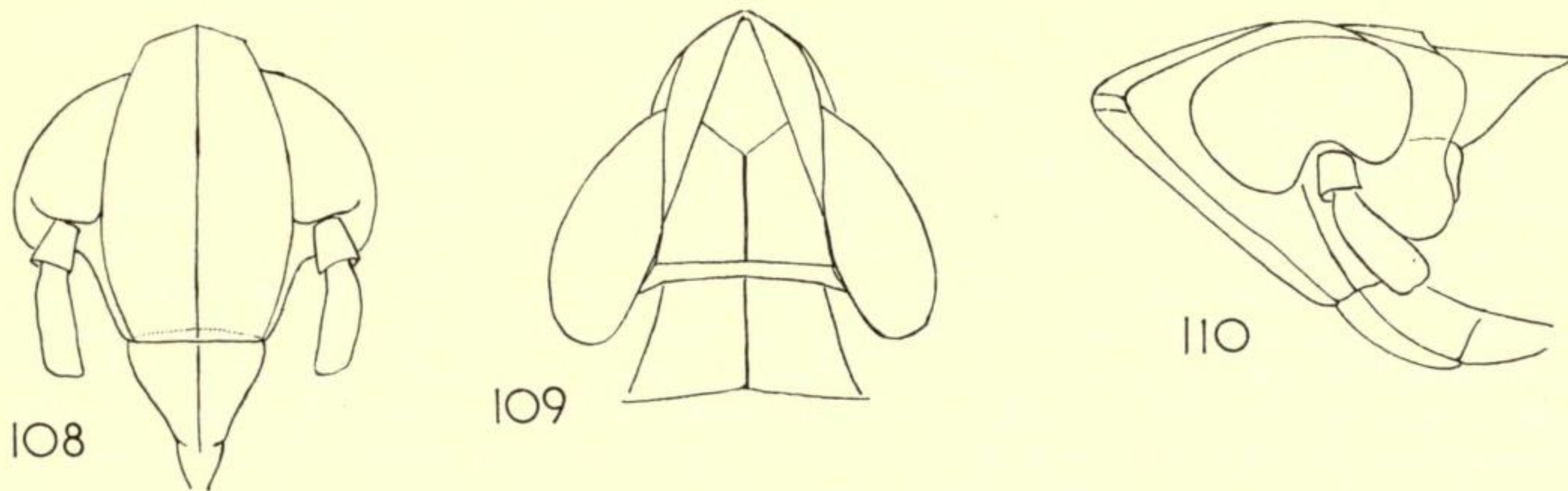
***Haplodelphax euronotianus* Kirkaldy**

(Text-figs. 108-110)

Kirkaldy, 1907d : 146.

AUSTRALIA : Sydney, 1 topotypic ♂, 85.119 (*C. Darwin*) [collected during voyage of the "Beagle". Presented to B.M.(N.H.) by G. Waterhouse in 1855.]

The type-specimen of this species is not in the collection of the H.S.P.A., and cannot at present be traced. Kirkaldy separated *H. euronotianus* from the two other original species of the genus, *iuncicola* and *naias*, by its relatively longer vertex, which is described as being one half longer than wide between the eyes.



FIGS. 108-110. *Haplodelphax euronotianus* Kirkaldy. 108, Frons and clypeus; 109, vertex and pronotal disc; 110, head in profile.

Haplodelphax darwini sp. n.

(Text-figs. 111-119)

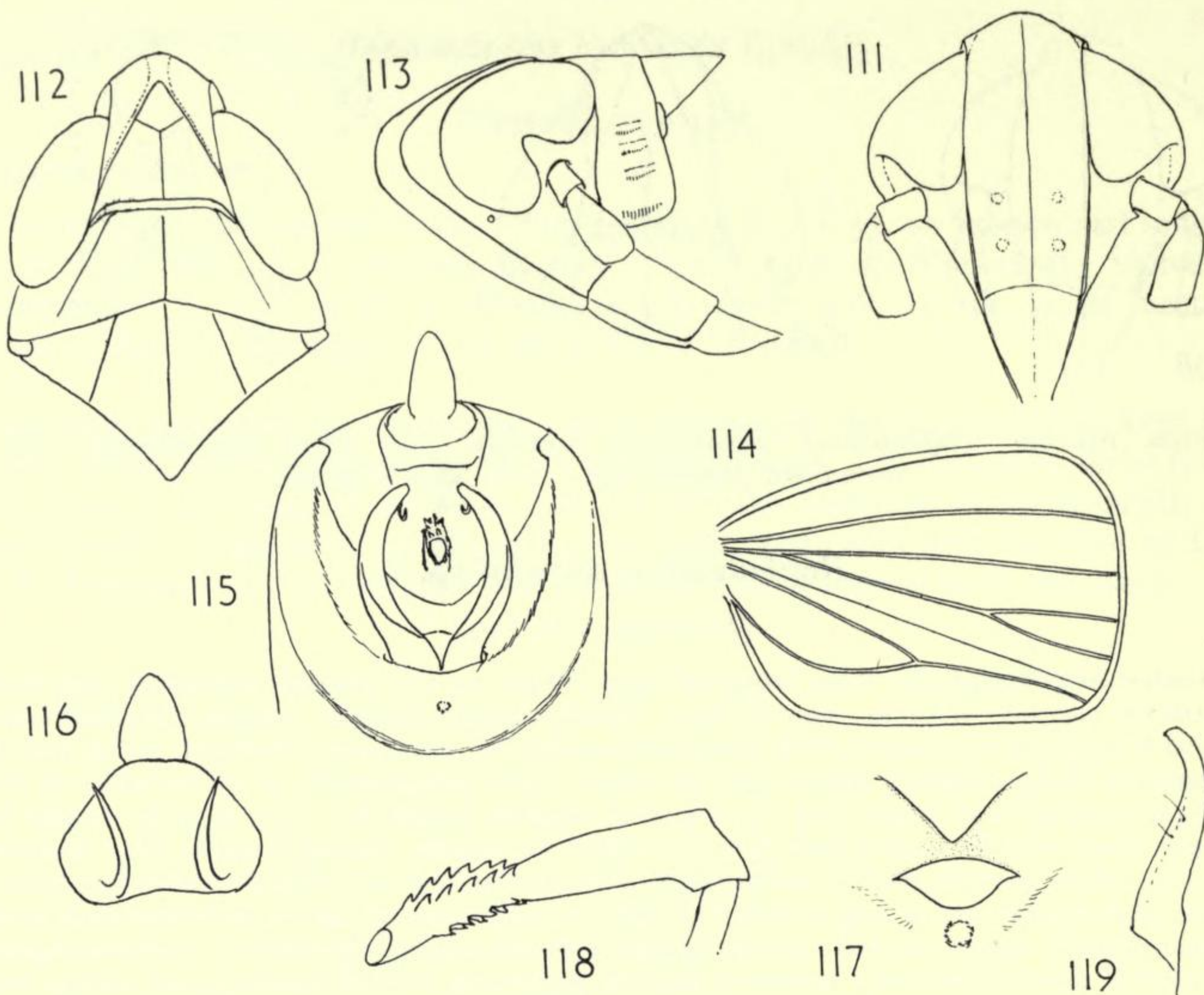
Vertex longer medially than broad at base (about 1.1 : 1), strongly rounding into frons, distinctly narrower at apex than at base, lateral margins straight, weakly diverging basad, apical margin strongly convex with submedian carinae not prominent, Y-shaped carina distinct, submedian carinae uniting before apex of vertex, basal compartment of vertex wider at hind margin than greatest length (1.5 : 1), and than median length (1.8 : 1); frons in middle line longer than wide at widest part (2.8 : 1), widest at middle, lateral margins very shallowly convex, almost parallel, median carina simple; clypeus at base very slightly wider than frons at apex, post-clypeal disc as long as broad at base, in profile weakly convex, anteclypeus in profile rather strongly curved caudad; entire clypeus in profile moderately convex; rostrum reaching to level of mesotrochanters; antennae scarcely surpassing level of frontoclypeal suture, basal segment longer than broad (1.2 : 1), second segment longer than first (2 : 1); ocelli small. Pronotum with disc slightly shorter in middle line than broad at anterior margin (1 : 1.1), lateral carinae straight, not attaining hind margin. Post-tibial spur with about 13 teeth.

Anal segment of ♂ short, broader than long, lateroapical angles widely separated, a pair of stout spinose processes arising laterobasally on ventral surface, curving caudad then dorsad. Pygofer moderately long, posterior opening a little longer than broad, dorsolateral angles feebly produced and slightly inflected; diaphragm with dorsal margin deeply concave, subrectangulately excavate at middle, where it is slightly thickened and contiguous with its ventral margin; medioventral process present in form of a small coarsely granulate knob. Aedeagus moderately long, tubular, slightly laterally compressed and decurved in distal half, two rows of coarse teeth, about six in each, dorsally in distal half, and two rows each of about five teeth ventrally in distal half, orifice terminal. Genital styles simple, moderately long, narrow, subcylindrical, weakly sinuate in lateral view, arcuate in posterior view, incurved distally, and bluntly rounded at apex.

♂ : length, 2.2 mm.

Holotype ♂ (brachypterous), AUSTRALIA : King George's Sound, 85.119. (C. Darwin) [collected during voyage of the "Beagle"], in B.M. (N.H.).

This species differs from *H. euronotianus* in its relatively shorter vertex, and from *naias* in its relatively longer vertex. From *iuncicola* it differs in the subparallel lateral margins of the frons (these being distinctly arcuate in *H. iuncicola*) and in the union of the submedian carinae being more remote from the apex of the head.



FIGS. 111-119. *Haplodelphax darwini* sp. n. 111, Frons and clypeus; 112, head and thorax, dorsal view; 113, head in profile; 114, tegmen; 115, ♂ genitalia, posterior view; 116, anal segment of ♂, ventral view; 117, median portion of diaphragm; 118, aedeagus, left side; 119, genital style.

ANCHODELPHAX gen. n.

Vertex as long as broad, or a little longer, subrectangularly or obtusely rounding into frons, as wide at apex as at base, lateral margins straight, apical margin transverse-convex with submedian carinae a little prominent, Y-shaped carinae distinct, submedian carinae uniting at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (1.7 or 1.8 : 1); frons in middle line longer than wide at widest part (1.8-2.0 : 1), median carina simple, clypeus at base a little wider than frons at apex; post-clypeal disc shorter in middle line than broad at base; rostrum long, attaining or surpassing post-trochanters, antennae with basal segment longer than broad (1.4 : 1), second segment longer than first (about 1.7 : 1), third segment rather elongate, cylindrical at base of flagellum; ocelli small. Pronotum with disc longer in middle line than broad at anterior margin (about 1.3 : 1), lateral carinae not attaining hind margin; legs rather short and stout, post-tibial spur shallowly tectiform with 12-15 small teeth.

Type-species, *Anchodelphax olenus* sp. n.

In general structure, members of this genus resemble those of *Toya* or *Syndelphax*, but may readily be distinguished by the distinctly long rostrum.

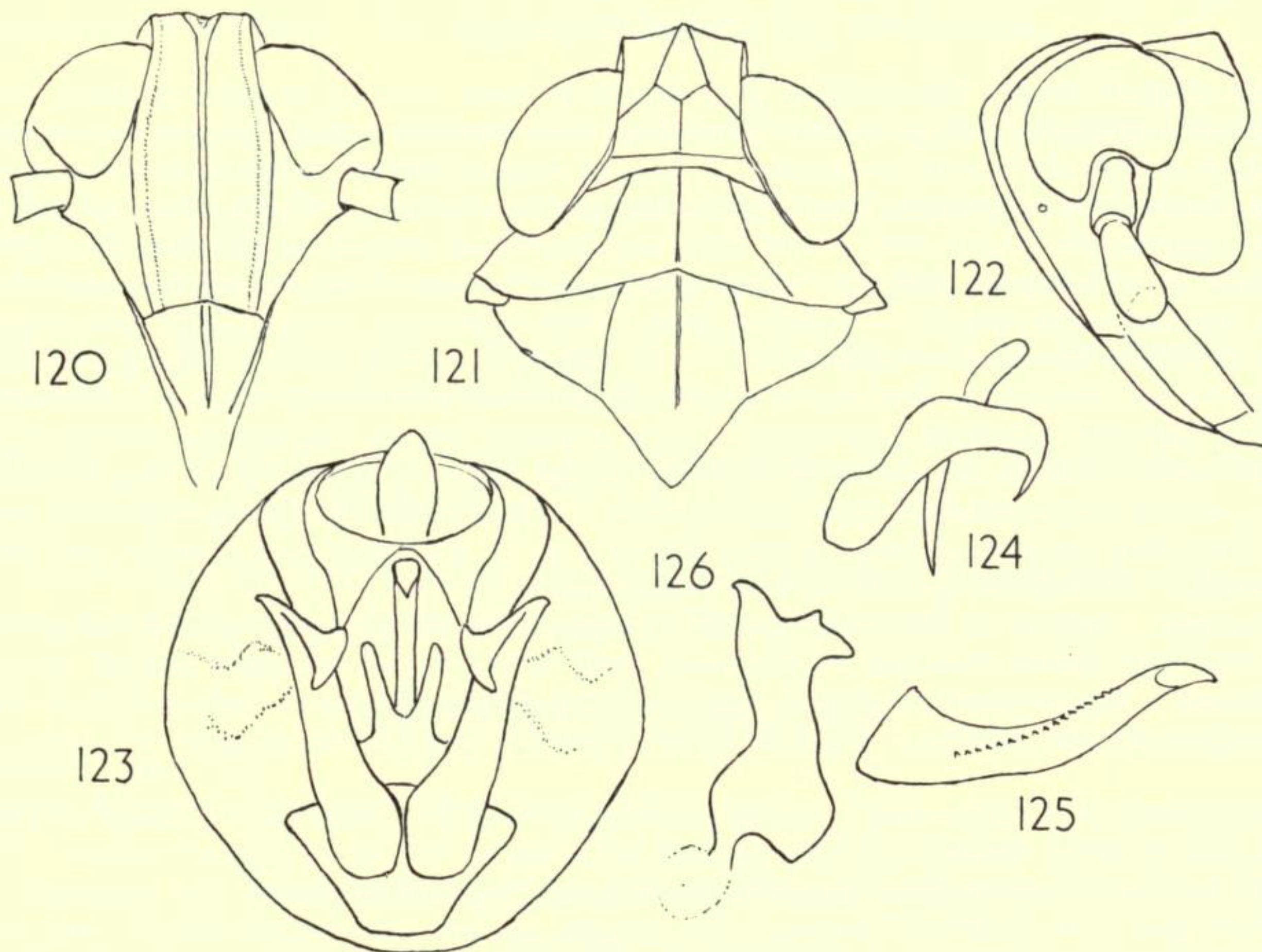
Anchodelphax olenus sp. n.

(Text-figs. 120-126)

Vertex as long submedially as broad at base, obtusely rounding into frons, as wide at apex as at base, lateral margins straight, apical margin truncate or slightly convex with submedian carinae slightly prominent, Y-shaped carina distinct, submedian carinae uniting at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (1.7 : 1) and than median length (2:1); frons in middle line longer than wide at widest part (about 2 : 1), widest at middle, lateral margins shallowly convex; median carina simple or forked only at extreme base; clypeus at base a little wider than frons at apex, postclypeal disc shorter in middle line than broad at base (1 : 1.2), in profile almost straight, anteclypeus separated by a transverse impression from postclypeus, in profile rather strongly convex, so that entire clypeus in profile is rather strongly convex; rostrum with subapical segment surpassing mesotrochanters, apical segment attaining post trochanters; antennae reaching little beyond frontoclypeal suture, basal segment longer than broad (1.4 : 1), second segment longer than first (1.7 : 1). Ocelli present, rather small. Pronotum with disc longer in middle line than broad at anterior margin (1.4 : 1), lateral carinae concave, not very strongly diverging, not attaining hind margin; post-tibial spur with 13-15 teeth.

Dark castaneous: carinae of frons and clypeus, vertex, pronotum and mesonotum, antennae, rostrum, legs and abdominal sternites of ♀ in part, and ovipositor, testaceous.

Anal segment of ♂ short, ring-like, lateroapical angles moderately close to one another, each produced ventrolaterad in a stout flattened spinose process, at base of segment on each side ventrally a long thin spine directed ventrad. Pygofer moderately long, posterior opening as



FIGS. 120-126. *Anchodelphax olenus* sp. n. 120, Frons and clypeus; 121, head and thorax, dorsal view; 122, head in profile; 123, ♂ genitalia, posterior view; 124, anal segment of ♂, left side; 125, aedeagus; 126, genital style.

broad as long, dorsal margin broadly excavate, dorsolateral angles moderately produced, obtuse in side view, diaphragm narrow with dorsal margin V-shaped and produced medially dorsad in a long bifurcate lobe; medioventral process absent. Aedeagus rather long, tubular, with a ridge along ventral margin, orifice subterminal, directed ventrad, apex slightly decurved. Genital styles moderately long, inner margin at base moderately produced caudad, thence margins sinuately parallel, outer apical angle acute, inner apical angle reflected in an obtusely angulate flange.

First valvifers of ovipositor not produced mesad at base. Pregenital sternite not forming a sclerotised lobe.

♂ (brachypterous): length, 2.0 mm. ♀ (brachypterous): length 3.6 mm.

Holotype ♂, NEW ZEALAND: Manawatu, Paiaka, 5.i.50 (*R. A. Cumber*), in collection of Entomology Division, D.S.I.R., Nelson.

Paratypes, 3 ♂, 1 nymph, same data, 18 ♂, 9 ♀, 1 mutilated specimen, 5.i.50, on *Muehlenbeckia australis* (*T. E. Woodward*); Auckland, Western Springs, 1 ♂, 22.iv.51 (*T. E. Woodward*); Wellington, Ngahuaranga Gorge, 1 ♂, 1 ♀, 1.ii.51 (*T. E. Woodward*); Levin (south of), Otaki R., 10 ♂, 4 ♀, 21 nymphs, 1 mutilated specimen, sweeping *Convolvulus* and *Muehlenbeckia* (*T. E. Woodward*); HE4 5 Road, RS 37 Paddock, 1 ♂, 1 ♀; Three Kings Group, S.W. Id., 2 ♂, 1 ♀, 13.i.50, on *Lepidium oleraceum* (*T. E. Woodward*).

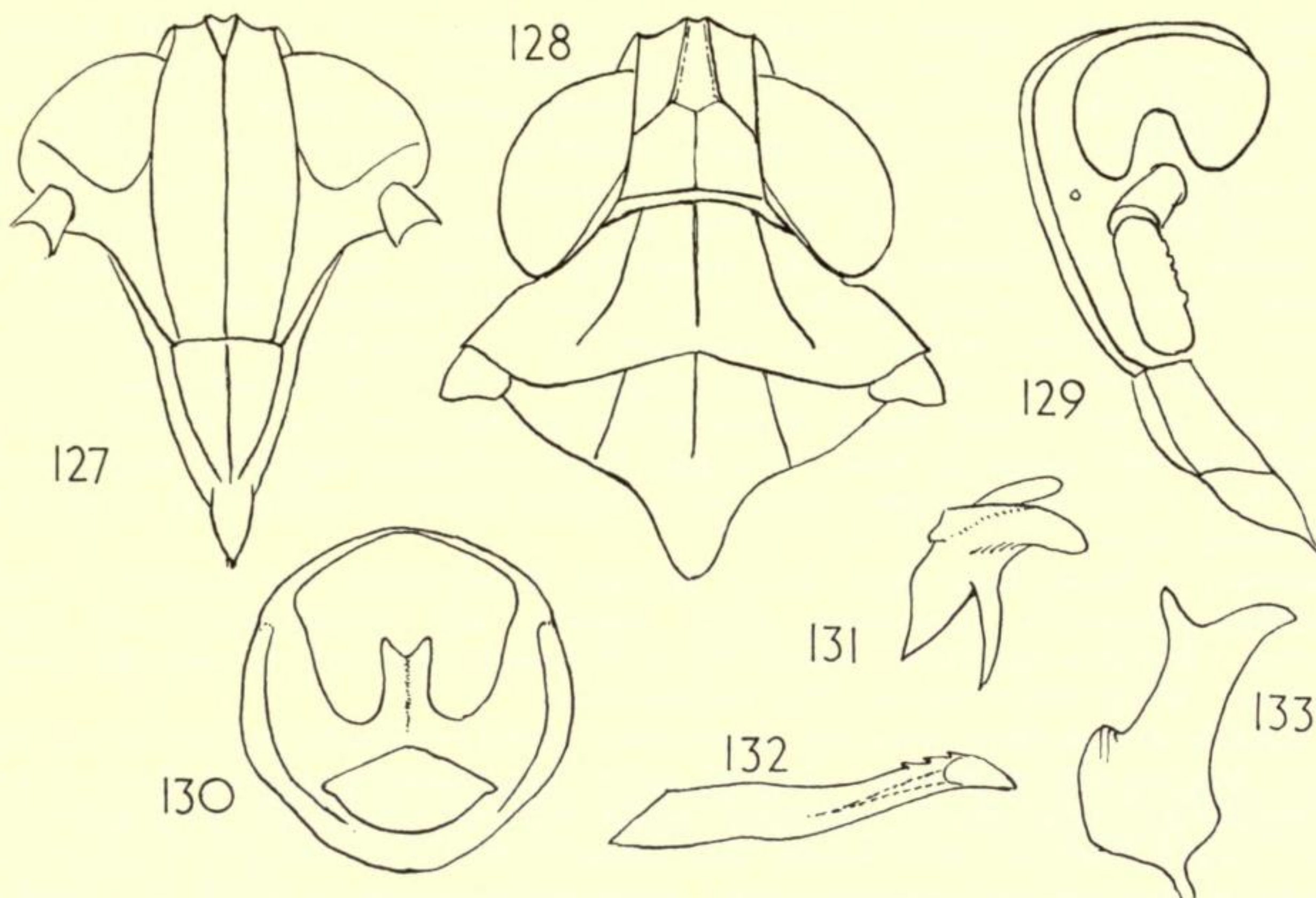
Anchodelphax hagnon sp. n.

(Text-figs. 127-133)

Vertex slightly longer submedially than broad at base (1.1 : 1), subrectangularly rounding into frons, as wide at apex as at base, lateral margins straight, apical margin transverse, with submedian carinae distinctly prominent, Y-shaped carina distinct, submedian carinae uniting at apex of vertex or at extreme base of frons, basal compartment of vertex wider at hind margin than greatest length (about 1.8 : 1) and than median length (2 : 1); frons in middle line longer than wide at widest part (1.8 : 1), widest at two-thirds from base, lateral margins shallowly convex, median carina simple; clypeus at base a little wider than frons at apex, postclypeal disc shorter in middle line than broad at base (1 : 1.1), in profile slightly convex, anteclypeus in profile strongly curved caudad, so that entire clypeus in profile is moderately convex. Rostrum with subapical segment attaining post-coxae, apical segment almost surpassing post-trochanters; antennae reaching little beyond level of frontoclypeal suture, basal segment longer than broad (1.4 : 1), second segment longer than first (1.6 : 1). Ocelli small. Pronotum with disc longer in middle line than broad at anterior margin (about 1.3 : 1), lateral carinae straight, not attaining hind margin. Post-tibial spur thin, with twelve teeth.

Testaceous; carinae of head and thorax, margins of thoracic segments and abdominal segments and legs, dorsal mid-line of abdomen, anal segment and posterior margin of pygofer, stramineous. Apical segment of tarsi, genital styles and diaphragm of male and third valvulae of ovipositor at apex, fuscous. Tegmina (brachypterous) translucent, margins and veins stramineous.

Anal segment of ♂ rather short, lateroapical angles each produced ventrocaudad in a shallow lobe, a pair of stout, moderately long spinose processes at middle of ventral surface. Pygofer moderately long, posterior opening as broad as long, dorsolateral angles not produced, lateral margin in side view shallowly convex. Diaphragm narrow with dorsal margin very strongly produced dorsad medially in a V-shaped trough; medioventral process absent. Aedeagus moderately long, tubular, slightly sinuate, with about three small teeth on dorsal margin near apex; orifice laterally at apex, apparently on left. Genital styles moderately long, in posterior



FIGS. 127-133. *Anchodelphax hagnon* sp. n. 127, Frons and clypeus; 128, head and thorax, dorsal view; 129, head in profile; 130, pygofer, posterior view; 131, anal segment of ♂, left side; 132, aedeagus, left side; 133, genital style.

view rather narrow, parallel sided, and shallowly bifurcate at apex; in lateral view slightly produced caudad basally, as shown in figure.

♀. No plate developed medially on pregenital sternite; ovipositor with third valvulae distinctly longitudinally impressed near base.

♂ (brachypterous): length, 2.0 mm. ♀ (brachypterous): length, 2.2 mm.

Holotype ♂, NEW ZEALAND: Wellington, Titahi Bay, 1.xi.51, on *Pimelia* (*T. E. Woodward*), in Dominion Museum, Wellington.

Paratypes, 6 ♂, 10 ♀, 1 mutilated specimen, same data, in Queensland Museum, and in collection of the Entomology Division, D.S.I.R., Nelson.

The structure of the anal segment of the ♂ resembles that of *Delphax geranor* Kirk., but the two species differ in the armature of the diaphragm.

TAROPHAGUS Zimmerman

Zimmerman, 1948: 245.

Orthotype, *Megamelus proserpina* Kirkaldy, 1907d: 147.

Tarophagus proserpina australis subsp. n.

(Text-figs. 134-137)

Vertex as long medially as broad at base, subrectangularly rounding into frons, distinctly narrower at apex than at base, lateral margins straight, apical margin shallowly convex, with

submedian carinae only weakly prominent, Y-shaped carina weak, submedian carinae not uniting at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (1.7 : 1), and than median length (2 : 1); frons in middle line longer than wide at widest part (2.1 : 1), widest at apex, lateral margins shallowly sinuately diverging, median carina forked at one quarter from base, clypeus at base not wider than frons at apex, postclypeal disc as long as broad at base, in profile very shallowly convex, almost straight, anteclypeus in profile weakly convex; entire clypeus in profile moderately convex; rostrum just attaining post-trochanters; antennae reaching almost to level of apex of post-clypeus, basal segment longer than broad (2.1 : 1), second segment longer than first (1.4 : 1); ocelli small. Pronotum with disc shorter in middle line than broad at anterior margin (1 : 1.2), lateral carinae straight, scarcely attaining hind margin. Total length of mesonotum greater than that of scutellum (2.2 : 1). Post-tibial spur with about 36 teeth. Tegmina much surpassing abdomen, deeply rounded apically: *Sc* + *R* fork and *Cu*₁ fork at same level, slightly distad of middle, both much distad of union of claval veins.

Castaneous; a broad band from vertex to apex of scutellum, creamy-white; rostrum, mesopleurites marginally, post-coxae, tibiae apically, and second post-tarsal segment, stramineous. Tegmina castaneous, apical cells of *R* mostly colourless, commissural margin of clavus white. Wings dilute fuscous, with fuscous veins.

Anal segment of male short, collar-like, lateroapical angles contiguous, each produced ventrad in a stout, tapering spinose process. Pygofer rather long, posterior opening about as long as broad, dorsolateral angles shortly produced, weakly inflected, diaphragm with dorsal margin excavate; lateral margins below middle each strongly produced caudad in a stout process, tapering distad to an obliquely truncate apex; medioventral process knob-like, on a stout stalk. Aedeagus only moderately long, laterally compressed, decurved in distal half, a short flagellum arising dorsally at apex, reflected cephalad above aedeagus for half its length, moderately expanding distad, bifurcate apically in two equal acuminate processes. Genital styles strongly divergent, each rather short, broad basally, tapering rapidly to narrow truncate apex, of which outer angle is acutely produced laterad.

♂: length, 2.8 mm., tegmen, 3.0 mm. ♀: length, 3.2 mm., tegmen, 3.5 mm.

Holotype ♂ of subspecies, AUSTRALIA: Queensland, Gordonvale, 16.ii.36 (*R. W. Mungomery*) at light, in B.M. (N.H.).

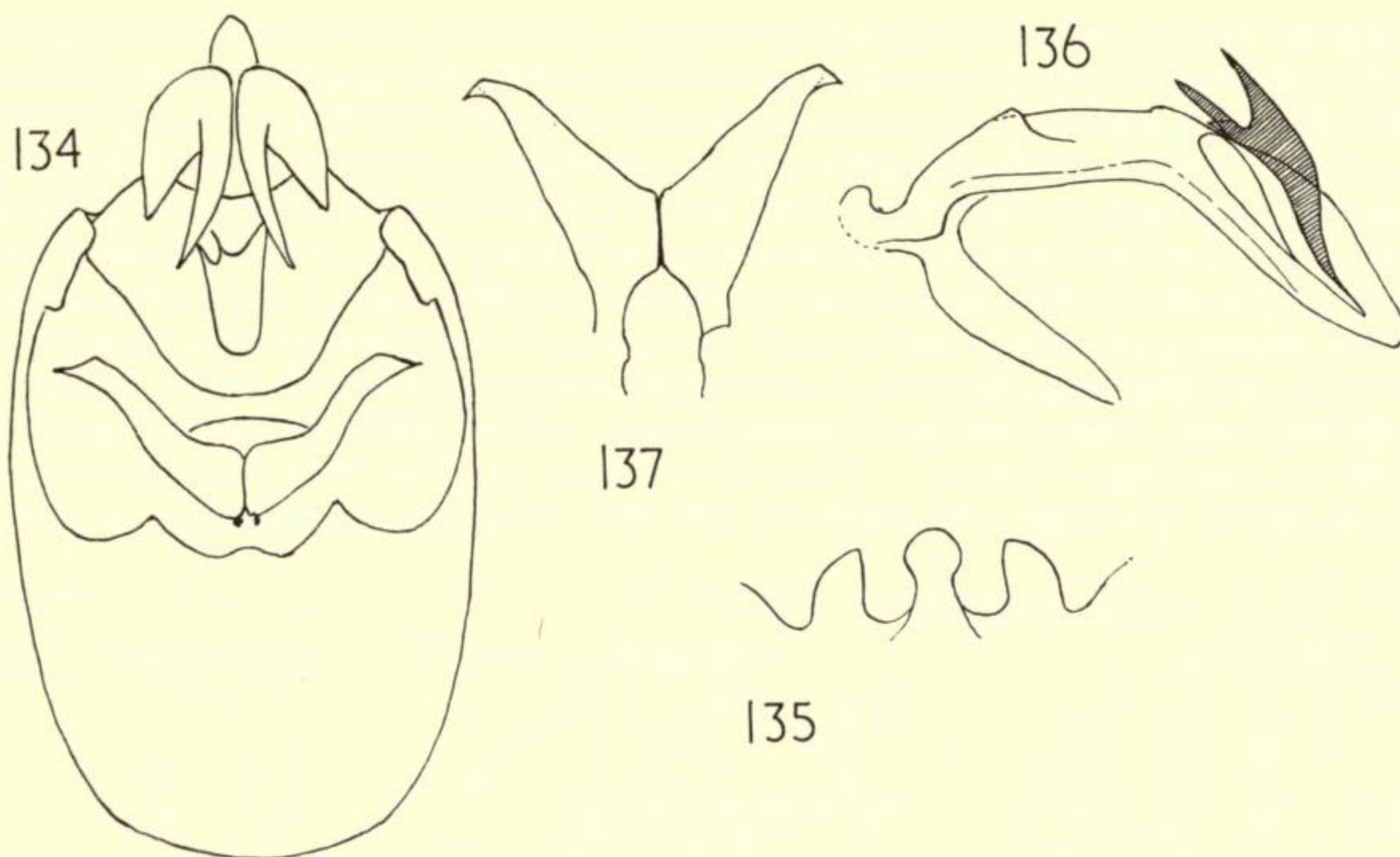
Paratypes, 2 ♀, same data, 16, 19.ii.36.

This subspecies is distinguished from the typical subspecies from Fiji by the form of the vertex and of the ♂ genitalia. In the typical subspecies the ventrolateral processes of the pygofer are large and broad, with the distal margin convex, and the outer distal angle acute, whereas in *T. proserpina australis* they are not large and each tapers rapidly to a short oblique apical margin.

The writer has not seen any two examples of this genus that differ in the trilobate margin of the pygofer and occur side by side in the same area. The form of the lobes appears to be characteristic of the population in each locality, and on present evidence it would appear that *T. proserpina* is a polytypic species.

ACRODELPHAX gen. n.

Vertex declivous, longer submedially than broad at base (about 1.4 : 1), Y-shaped carina feeble, submedian carinae uniting at apex of vertex, basal compartment of vertex wider than greatest length (about 1.3 : 1); frons longer than broad (about 1.7 : 1), lateral margins distinctly arcuate, median carina simple, rather thick; clypeus at base not wider than frons at apex, postclypeal disc as broad at base as long in middle; rostrum long, attaining post-trochanters;



FIGS. 134-137. *Tarophagus proserpina australis* ssp. n. 134, ♂ genitalia, posterior view; 135, process on ventral margin of pygofer, ventral view; 136, aedeagus, left side; 137, genital styles.

antennae reaching about to level of middle of clypeus, basal segment longer than broad (about 1.5 : 1), second segment longer than first (nearly 1.7 : 1), ocelli minute; pronotum with disc longer in middle line than broad at anterior margin (about 1.4 : 1), all carinae of disc prominent, lateral carinae straight, not strongly diverging, almost attaining hind margin; mesonotum with disc smooth, almost polished, all carinae prominent and discal area between them shallowly concave; protibiae as long as profemora, post-tibiae with apical teeth stout, rather short, not deeply cleft or strongly splayed out; post-tibial spur with about 13 teeth.

Anal segment of ♂ short. Pygofer moderately short with posterior opening a little longer than broad; no medioventral process present.

Type-species, *Acrodelphax thimbron* sp. n.

This genus occupies a rather isolated position. Its members are most easily recognisable by the coarse and prominent carination of the frons, vertex, pronotum and mesonotum, the relatively long rostrum, by the relative length of the pronotum and the smooth, rather polished, intercarinal areas of the mesonotum, and by the moderate number of teeth on the post-tibial spur.

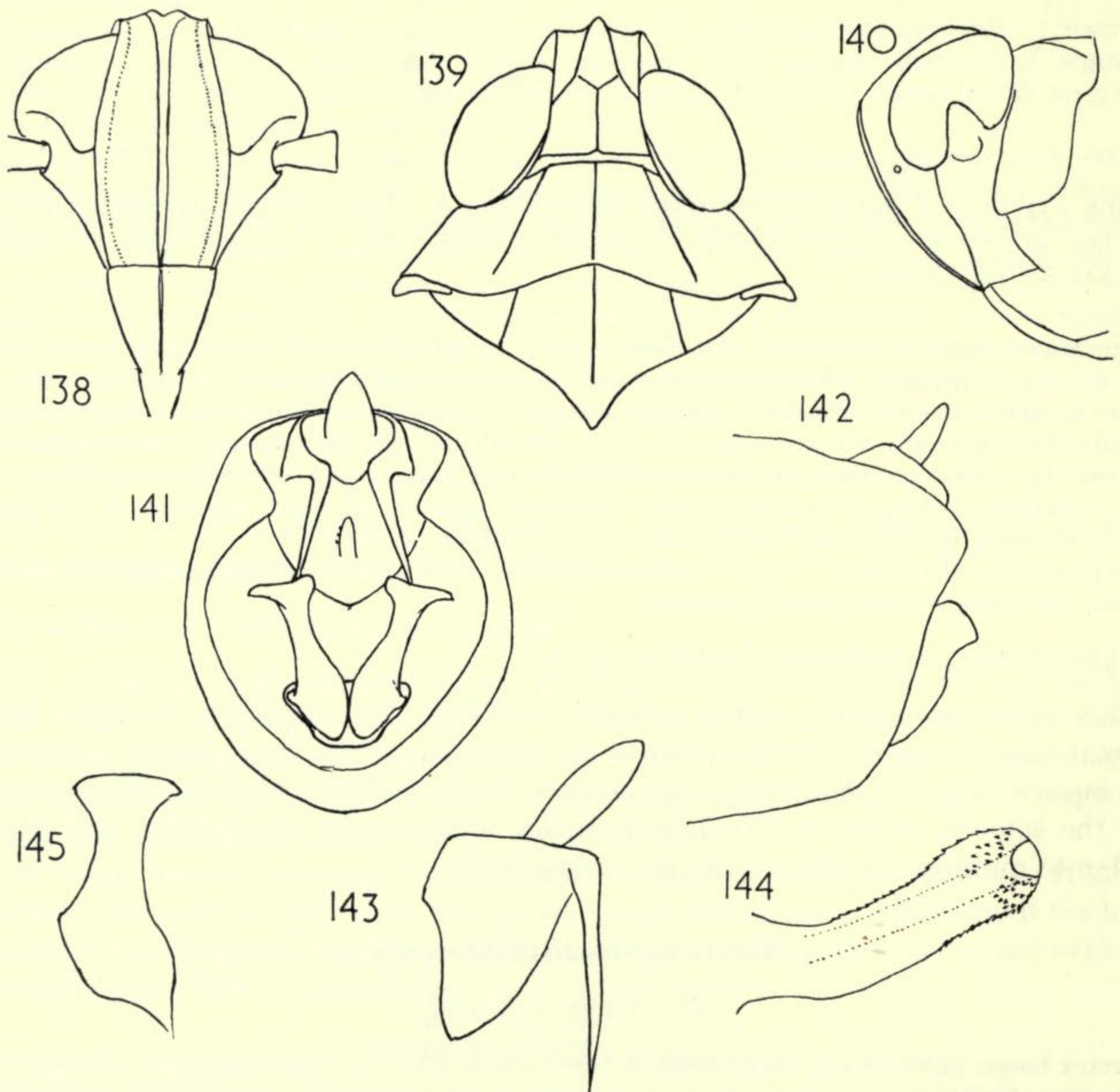
Acrodelphax thimbron sp. n.

(Text-figs. 138-145)

Vertex longer submedially than broad at base (nearly 1.4 : 1), subrectangularly rounding into frons, very slightly narrower at apex than at base, lateral margins almost straight, apical margin truncate with submedian carinae prominent, Y-shaped carina feeble, submedian carinae uniting at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (1.3 : 1) and than median length (about 1.4 : 1); frons in middle line longer than wide at widest part (1.7 : 1), widest near middle, lateral margins distinctly arcuate, median carinae simple,

coarse; clypeus at base not wider than frons at apex, post-clypeal disc as broad at base as long in middle line, in profile moderately convex, its median carina not as prominent as that of frons; anteclypeus in profile rather strongly curved caudad, so that entire clypeus in profile is rather strongly convex, rostrum with subapical segment surpassing mesotrochanters, apical segment reaching post-trochanters; antennae reaching to level of middle of clypeus, basal segment longer than broad (1.5 : 1), second segment longer than first (nearly 1.7 : 1), ocelli minute; pronotum with disc longer in middle line than broad at anterior margin (1.4 : 1), lateral carinae straight, not strongly diverging, almost attaining hind margin; post-tibial spur with 13 teeth.

Stramineous; intercarinal areas of frons, anterior compartment of genae, mesonotum posteriorly, pleurites and coxae, abdominal terga laterally and sternites except at margins, pygofer laterally and on diaphragm, fuscous. Tegmina yellowish hyaline, costa and clavus at base, and a suffusion in apical third and anal angle beyond apex of clavus, castaneous.



FIGS. 138-145. *Acrodelpfax thimbron* sp. n. 138, Frons and clypeus; 139, head and thorax, dorsal view; 140, head in profile; 141, ♂ genitalia, posterior view; 142, ♂ genitalia, left side; 143, anal segment of ♂, left side; 144, aedeagus, left side; 145, genital style.

Anal segment of ♂ short, ring-like, lateroapical angles distinctly separated, margin between them membranous, each produced ventrad in a long slender spinose process which appears as if annulate. Pygofer moderately long, posterior opening longer than broad, dorsolateral angles distinctly produced, inflected mesad, rectangulate; diaphragm strongly impressed, dorsal margin rectangulately excavate, medially with a vertical ridge, lateral margins oblique, no medioventral process present. Aedeagus short, laterally compressed, moderately expanding distad, bluntly rounded apically with two tracts of teeth subapically on left side, one tract in dorsal half, with three rows of teeth, the other in ventral half, with four rows of teeth; orifice apical. Genital styles rather long, narrow, sinuately tapering to near apex, abruptly expanded with inner and outer apical angles subacutely and about equally produced mesad and laterad, respectively.

♂: length (brachypterous) 2.4 mm.

Holotype ♂, AUSTRALIA: New South Wales, Barrington Tops, 22.xii.54 (*T. E. Woodward*), in Queensland Museum, Brisbane.

IZELLA gen. n.

Vertex moderately declivous, longer submedially than broad at base (about 1.3 : 1), rather shallowly rounding into frons, about as wide apically as at base, apical margin truncate, Y-shaped carina feeble, submedian carinae uniting at apex of vertex or at extreme base of frons, basal compartment of vertex wider at hind margin than greatest length (about 1.4 : 1); frons longer than broad (nearly 2 : 1), lateral margins shallowly arcuate, median carina simple or forked at extreme base; clypeus at base slightly wider than frons at apex, post-clypeal disc longer in middle line than broad at base (about 1.2 : 1); antennae reaching almost to level of apex of post-clypeus, basal segment longer than broad (about 1.5 : 1), second segment longer than first (about 1.5 : 1); ocelli obsolete; pronotum with disc longer in middle line than broad at anterior margin (about 1.1 : 1), lateral carinae concave, not attaining hind margin; mesonotum shallowly convex, surface minutely granulate, carinae of disc fine, not at all prominent; protibiae as long as profemora; post-tibiae with apical teeth moderately short, not strongly splayed out; post-tibial spur with about 22 teeth.

Anal segment of ♂ short. Pygofer moderately long, posterior opening slightly longer than broad; no medioventral process present.

Type-species, *Izella triopas* sp. n.

This genus may possibly prove to be most readily recognizable by the strong characters of the genitalia in both sexes. These apart, its members may be recognized by the combined characters of a narrow flat frons, a long rostrum, a relatively long pronotum with carinae nearly reaching the hind margin, and a convex granulate mesonotum with very fine carinae. The general build is comparatively stout.

Izella triopas sp. n.

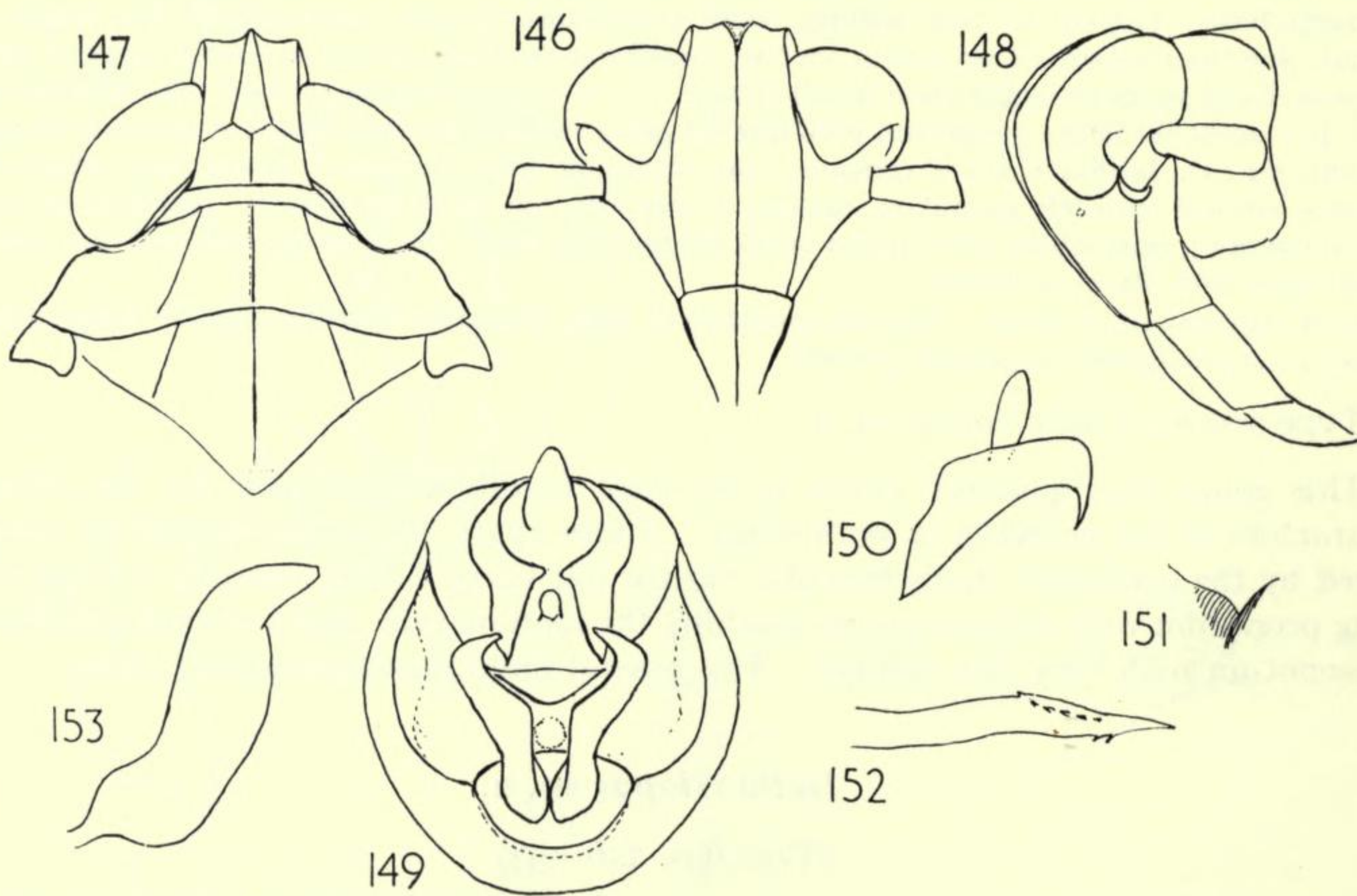
(Text-figs. 146-153)

Vertex longer submedially than broad at base (1.3 : 1) obtusely rounding into frons, as wide at apex as at base, lateral margins straight, apical margin truncate with submedian carinae a little prominent, Y-shaped carina feeble, submedian carinae uniting at apex of vertex or at extreme base of frons, basal compartment of vertex wider at hind margin than greatest length (1.4 : 1) and than median length (1.6 : 1), frons in middle line longer than wide at widest part (1.9 : 1),

widest near middle, lateral margins shallowly arcuate, median carina prominent, rather coarse, forked at extreme base, clypeus at base very slightly wider than frons at apex, its median carina as strongly developed as that of frons, postclypeal disc longer than broad at base (nearly 1.2 : 1), in profile rather strongly convex, anteclypeus in profile moderately curved caudad so that entire clypeus in profile is rather strongly convex; rostrum long, surpassing meso-trochanters, and nearly attaining post-trochanters; antennae reaching almost to level of apex of post-clypeus, basal segment longer than broad (1.5 : 1), second segment longer than first (nearly 1.5 : 1). Ocelli obsolete, represented only by a scar. Pronotum with disc longer in middle line than broad at anterior margin (about 1.1 : 1), lateral carinae strongly concave, not attaining hind margin. Post-tibial spur with 22 teeth.

Fuscous-piceous; carinae of frons and clypeus, posterior half of pronotum, posterior margin of ninth tergum, dorsal margin and lateral margins of pygofer, and anal style, stramineous to creamy white; antennae and legs testaceous, post-tibiae and mesotibiae distally paler; first valvifers of ovipositor rather broadly ochraceous on mesal border. Metafemora fuscous. Tegmina (brachypterous) castaneous-piceous, posterior margin broadly creamy-white.

Anal segment of ♂ short, ring-like, lateroapical angles each produced ventrad in a broad rather short spinose process. Pygofer moderately long, posterior opening slightly longer than broad, dorsolateral angles not or only feebly produced, lateral margins strongly sinuate; diaphragm with dorsal margin moderately broad, distinctly produced caudad at middle in a knob-like process flattened on its upper surface; medioventral process absent. Aedeagus moderately long, porrect caudad, serrate on both margins, orifice ventrally at apex. Genital styles moderately long, sinuate, inner margins parallel in basal half, strongly concave distally, exterior margin strongly convex distally, apical angle acute, directed mesad.



FIGS. 146-153. *Izella triopas* sp. n. 146, Frons and clypeus; 147, head and thorax, dorsal view; 148, head in profile; 149, ♂ genitalia, posterior view; 150, anal segment of ♂, left side; 151, median part of upper margin of diaphragm, posterolateral view from left; 152, aedeagus, left side, 153, genital style.

Pregenital sternite of ♀ a little produced caudad at middle in a shallowly convex lobe, deflexed at margin. First valvifers of ovipositor each strongly produced mesad in an acutely angulate lobe, of which the apical portion is shallowly reflected.

♂ (brachypterous) : length, 2.1 mm. ♀ (brachypterous) : length, 3.2 mm.

Holotype ♂, NEW GUINEA: Central Highlands, Daulo Pass, c. 8,000 ft., 20-22.viii.56 (*T. E. Woodward*), in Queensland Museum, Brisbane.

Paratypes, same data, 3 ♀.

***THRASYMEMNON* gen. n.**

Vertex longer medially than broad at base (about 1.3 : 1), subrectangularly rounding into frons, slightly narrower at apex than at base, lateral margins straight or shallowly concave, apical margin transverse with submedian carinae moderately prominent, Y-shaped carina present, submedian carinae not uniting at apex of vertex, basal compartment of vertex wider at hind margin than greatest length ; frons in middle line longer than wide at widest part (approximately 2.5 : 1), widest near middle, lateral margins shallowly arcuate, median carina forked in basal half ; postclypeal disc rather longer than broad at base, in profile weakly convex ; rostrum surpassing mesotrochanters, almost attaining post-trochanters ; antennae slightly surpassing frontoclypeal suture, basal segment twice as long as broad, second segment longer than first (about 1.7 : 1) ; ocelli prominent. Pronotum with disc slightly longer in middle line than broad at anterior margin, lateral carinae straight or weakly convex, almost attaining hind margin. Post-tibial spur with about 16 teeth, including one at apex.

Anal segment of ♂ short, lateroapical angles indistinct, not produced in a process. Pygofer moderately long, posterior opening distinctly longer dorsoventrally than broad, ventral margin produced caudad in a process medially ; diaphragm broad.

Type-species, *Delphax kaha* Kirkaldy.

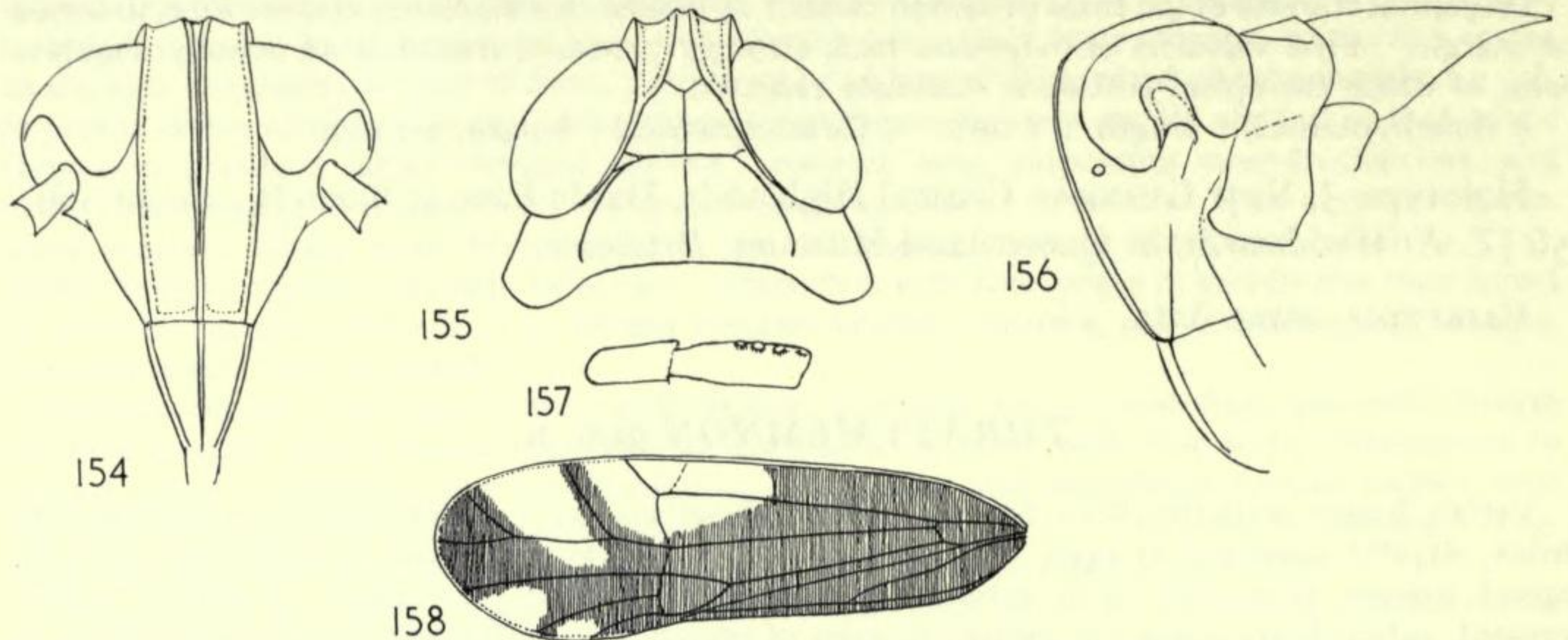
***Thrasymemnon kaha* (Kirkaldy) comb. n.**

(Text-figs. 154-158)

Delphax kaha Kirkaldy, 1907 : 158.

AUSTRALIA : Queensland, Tambourine Mts., 1 ♂, 18-25.v.35 (*R. E. Turner*) B.M. 1935-240.

Muir (1917d : 328) placed this species in *Megamelus*, a delphacine genus defined at that time largely by the proportions of the vertex and the direction of the lateral discal carinal of the pronotum. The ♂ genitalic structure of *D. kaha*, however, is entirely different from that of *Megamelus notula* Germar (type-species of *Megamelus*) and its allies, and the ocelli are well developed, not feeble. In superficial appearance *D. kaha* resembles a *Sardia* or *Sogatodes*, but the rostrum is distinctly longer than in either, and the structure of the vertex differs markedly from that of the former. From *Matutinus* the present genus is readily distinguishable by the form of the spur, which has teeth in a single row with a separated and well developed apical tooth : the latter is obsolete or weak in *Matutinus* and the teeth are usually arranged in two staggered rows.



FIGS. 154-158. *Thrasymemnon kaha* (Kirkaldy). 154, Frons and clypeus; 155, vertex and pronotum; 156, head in profile; 157, antenna; 158, tegmen.

SARDIA Melichar

Melichar, 1903b: 96.

Haplotype, *Sardia rostrata* Melichar, 1903b: 96.

Sardia rostrata pluto (Kirkaldy) **stat. n.**

Hadeodelphax pluto Kirkaldy, 1906c: 313.

AUSTRALIA: S.E. Queensland, Bell Bunya Rd., 2 ♂, 4 ♀, 11.viii.55 (*T. E. Woodward*); Brisbane, 1 ♀, 10.iii.46 (*R. Simmons*); 1 ♂, 3.xi.57 (*P. C. Kerridge*); 1 ♂, 4.iv.56 (*W. Jones*), 1 ♀, 4.iii.55. (*B. R. Grant*); 1 ♂, 1 ♀, 31.iii.56 (*Kirkpatrick*), 1 ♂, 9.iv.56. (*T. E. Woodward*); Cleveland, 1 ♀, 10.iii.57 (*N. Yarrow*); Queensland, 5 miles from Kingarry, 1 ♂, 5.vi.59 (*E. Exley*); Northern Territory, Glen Ormiston, 1 nymph, 18.viii.59 (*E. M. Exley*); Queensland, Lamington Nat. Pk., 1 ♀, 27.v.59 (*F. R. Perkins*); Lawes, 2 ♂, 6.xii.56, 8.i.57 (*W. F. Wildin*); Nosman, 1 ♂, 12.xi.58 (*I. Resaeva*) B.M. 1960-203.

The writer has examined material of both sexes of *rostrata* from Ceylon (the type locality of this species), of *pluto* from Queensland, and of populations from India, Pakistan, Saigon, Cocos Id., New Britain, and Sunday Id., and cannot find any clear-cut line of division to suggest the existence of two species. The most obvious difference between the population in Ceylon and that in Queensland is the length of the vertex, but a range of intermediate stages has been found in areas more or less intervening.

Sardia persephone (Kirkaldy)

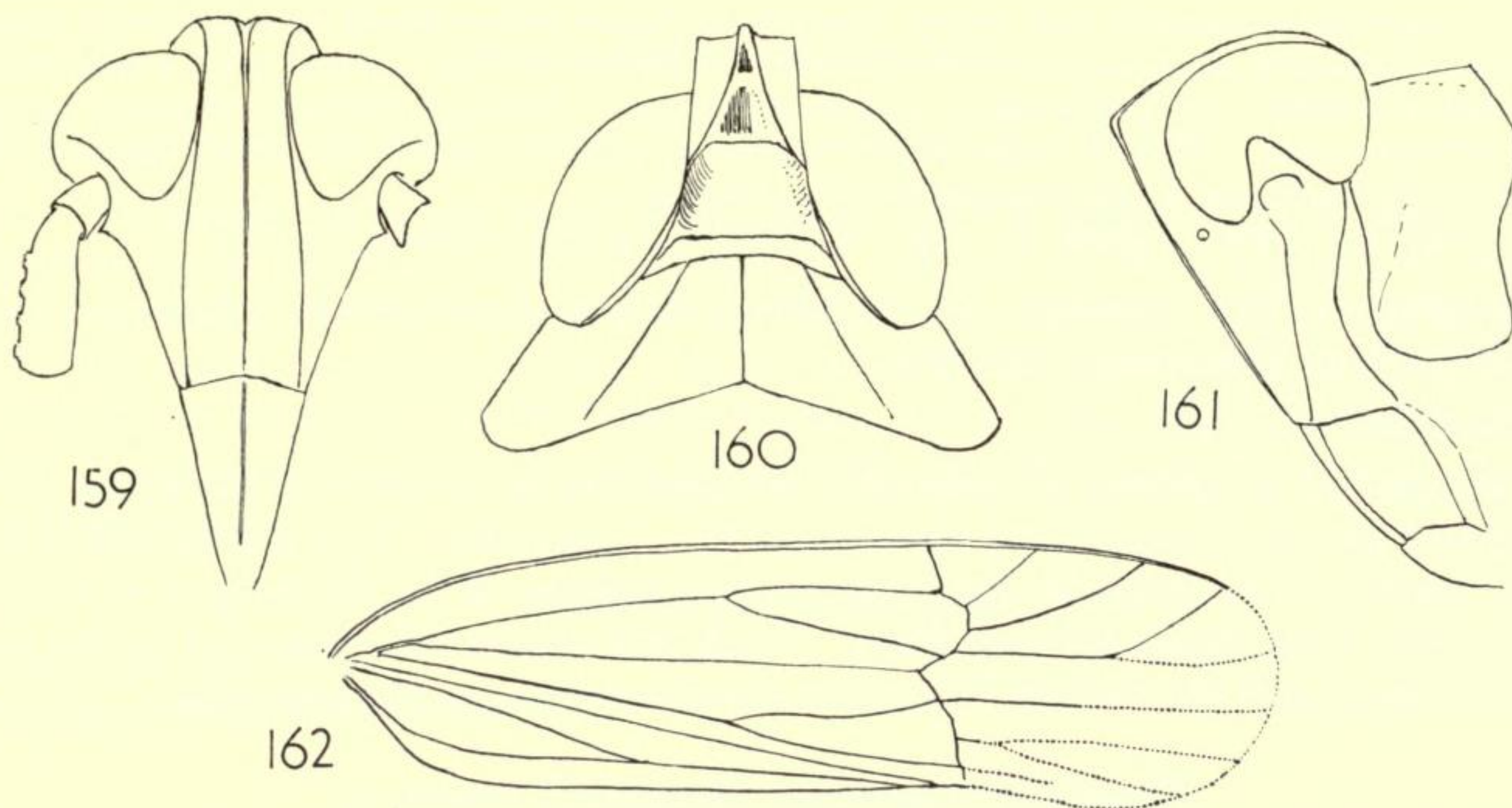
(Text-figs. 159-162)

Liburnia fumipennis Melichar, 1903b: 97 (preoccupied by *Liburnia fumipennis* Fieber, 1872a: 6), **syn. n.**

Hadeodelphax persephone Kirkaldy, 1907d : 141.

Sardia pronotalis Distant, 1916a : 141, **syn. n.**

AUSTRALIA : Lawes, 1 ♀, iii. 53 (*R. M. Beames*).



FIGS. 159-162. *Sardia persephone* (Kirkaldy). 159, Frons and clypeus ; 160, vertex and pronotum ; 161, head in profile ; 162, tegmen (apical portion incomplete).

SOGATODES Fennah

Fennah, 1963 : 71.

Orthotype, *Sogatodes molinus* Fennah, *op. cit.* : 72.

***Sogatodes nicias* sp. n.**

(Text-figs. 163-170)

Vertex longer submedially than broad at base (1.4 : 1), subacutely rounding into frons, almost as wide at apex as at base, lateral margins straight, apical margin truncate with submedian carinae slightly prominent, Y-shaped carina feeble, only its anterior arms distinct, submedian carinae uniting at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (about 1.4 : 1) and than median length (1.7 : 1) ; frons in middle line longer than wide at widest part (2.4 : 1), widest in distal half, lateral margins constricted between eyes, then parallel to frontoclypeal suture, median carina simple, clypeus at base little, if at all, wider than frons at apex, postclypeal disc as long as broad at base, in profile very shallowly convex, almost straight, anteclypeus in profile moderately convex, so that entire clypeus in profile is rather shallowly convex ; antennae attaining frontoclypeal suture, basal segment longer than broad (1.8 : 1), second segment longer than first (1.6 : 1). Pronotum with disc longer in middle line than broad at anterior margin (1.4 : 1) lateral carinae straight, not attaining hind margin. Total length of mesonotum longer than that of mesoscutellum (about 2.7 : 1). Post-tibial spur with 25-26 teeth.

Fuscous ; carinae of frons and clypeus, vertex, most of disc and lateral lobes of pronotum, disc of mesonotum and mesoscutellum and posterior margin of pygofer dorsally, creamy-white ;

disc of clypeus between carinae, antennae, fore and middle legs, light testaceous; hind legs stramineous or sordid white. Tegmina hyaline, most of corium and posterior half of membrane suffused fuscous, veins concolorous. Wings milky hyaline with fuscous veins.

Anal segment of ♂ short, ring-like, lateroapical angles each strongly produced ventrocephalad in a short stout spinose process, flattened laterally. Pygofer moderately long, posterior opening ovate, longer dorsoventrally than broad, dorsolateral angles not produced caudad, lateral margins oblique, diaphragm moderately broad, produced caudad in median portion, with dorsal margin elevated at middle; no medioventral process developed. Aedeagus tubular, sinuately tapering to acuminate apex. Genital styles short, twisted at middle, slightly expanded distally, inner apical angle acute, outer apical angle bluntly rounded.

♂: length, 2.3 mm., tegmen, 3.1 mm. ♀: length, 2.4 mm., tegmen, 3.2 mm.

Holotype ♂, NEW GUINEA: W. Highlands, Al Valley, c. 6,000 ft., 25.viii.56 (*T. E. Woodward*), in Queensland Museum.

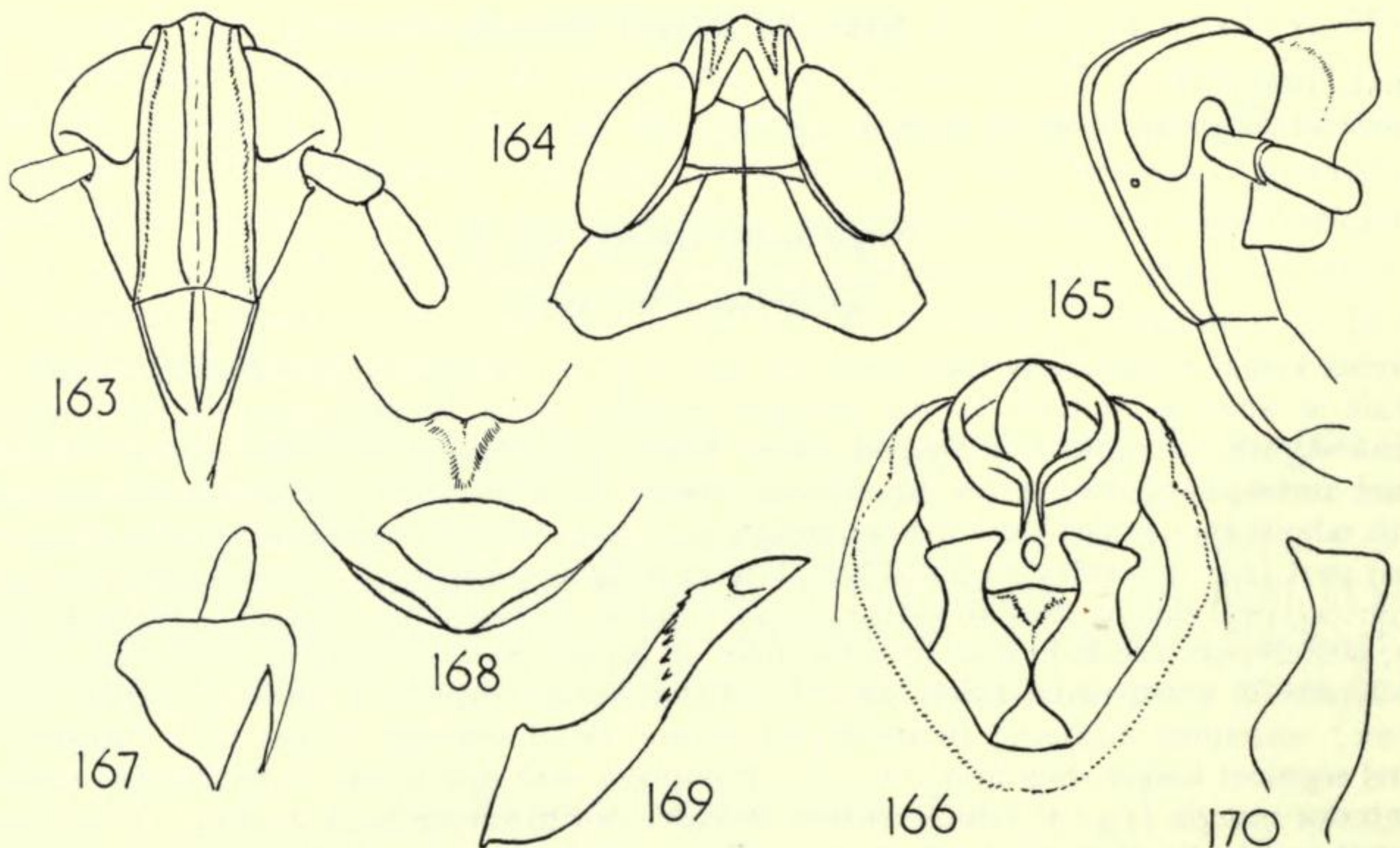
Paratype, 1 ♀, same data.

This species is referred provisionally to *Sogatodes* on account of the shape of the head and the structure of most elements of the ♂ genitalia. It is distinguished from other species of the genus by the shape of the armature of the diaphragm, in which it agrees only with *Sogata anomala* Muir. From this species it is separated by the short genital styles and the pattern of spinose ornamentation on the aedeagus.

***Sogatodes eupompe* (Kirkaldy) comb. n.**

Delphax eupompe Kirkaldy, 1907d: 150.

AUSTRALIA: Queensland, Babinda, 1 ♂, 11.x.35 (*R. W. Mungomery*).



FIGS. 163-170. *Sogatodes nicias* sp. n. 163, Frons and clypeus; 164, vertex and pronotum; 165, head in profile; 166, ♂ genitalia, posterior view; 167, anal segment of ♂, left side; 168, diaphragm of pygofer; 169, aedeagus, left side; 170, genital style.

CORONACELLA Metcalf

Metcalf, 1950 : 59.

Orthotype, *Coronacella kirkaldyi* (Muir), 1917d : 329. (= *C. bella* Metc.)***Coronacella kirkaldyi*** (Muir)

AUSTRALIA : Queensland, Cairns, 2 ♂, viii. 1904, B.M. 1942-95.

The two males before the writer show interesting differences that for their interpretation require the study of further material. In one, the frons is relatively longer than in the other, and the clypeus is distinctly carinate medially, and the carina, like the lateral carinae, is creamy white. In the other the clypeus is ecarinate medially, and the disc is infusate, only the lateral carinae being pale. The ♂ genitalia of the former specimen agree generally with those of the second, but all elements appear to be a little longer.

SOGATELLA Fennah

Fennah, 1956 : 471.

Orthotype, *Delphax furcifera* Horváth.***Sogatella kolophon*** (Kirkaldy)*Delphax kolophon* Kirkaldy, 1907d : 157.

AUSTRALIA : Brisbane, 1 ♂, 24.iii.55 (*D. Greenhill*), 1 ♀, 10.xii.55 (*W. F. Wildin*), 2 ♂, 19.iii.54 (*K. L. S. Harley*), 1 ♂, iv.54 (*R. Domrow*), 1 ♂, 12.x.56 (*J. Martin*) ; S. Queensland, Lamington Nat. Pk., 1 mutilated specimen, 4.v.56 (*I. G. Yeo*) ; Moggil, 2 ♀, 7.v.55, sweeping grass (*T. E. Woodward*) ; Queensland, Mackay (c. 100 m. S.), Lotus Creek, 1 ♀, 2.vi.56, on grasses (*I. C. Yeo*) ; Redland Bay, 1 ♂, 20.iii.54 (*G. Hooper*) ; Numinbah, 1 ♀, 20.iv.35 ; Yeerongpilly, 3 ♂, 6.xi.39, from lucerne (*W. A. Smith*) ; Running Ck., 1 ♂, 7 ♀, 15.iv.41 (*A. W. Smith*) ; Ashton Pk., near Nosman, 1 ♂, 16.xii.59 (*N. Nickitin*) B.M. 1960-203.

Sogatella furcifera (Horváth)*Delphax furcifera* Horváth, 1899a : 372.AUSTRALIA : Northern Territory, Humpty Doo, 2 ♂, 1 ♀, 12.iv.62 (*S. I. Li*).***Sogatella longifurcifera*** (Esaki & Ishihara)*Delphacodes longifurcifera* Esaki and Ishihara, 1947 : 41.AUSTRALIA : Lockyer, 1 ♂ (damaged), 24.vii.39, on lucerne (*Dept. of Agric.*).

This ♂ is tentatively assigned to this species. Its coloration is more intense and the medioventral process of the pygofer more distinct than in specimens of this species from Formosa.

SYNDELPHAX Fennah

Fennah, 1963 : 15.

Orthotype, *Delphax matanitu* Kirkaldy.***Syndelphax matanitu*** (Kirkaldy)*Delphax matanitu* Kirkaldy, 1907d : 155.AUSTRALIA : Queensland, Ayr, 1 ♂, 1.xii.54 (*G. Saunders*).**CORBULO** gen. n.

Vertex as long medially as broad at base, or a little longer than broad, obtusely angulately rounding into frons, about as wide at apex as at base, apical margin truncate with submedian carinae weakly prominent, Y-shaped carina distinct, submedian carinae uniting at apex of vertex or at extreme base of frons, basal compartment of vertex wider at hind margin than greatest length (about 1.5 : 1) ; frons in middle line longer than wide at widest part (about 2.2 : 1), widest near middle, lateral margins convex, median carina simple ; clypeus at base scarcely wider than frons at apex, postclypeal disc as long as broad at base, rostrum not quite reaching to post-trochanters ; antennae not or scarcely attaining level of frontoclypeal suture, basal segment about as long as broad, second segment longer than first (about 1.8 : 1) ; ocelli rather small but distinct, blemmata distinct. Pronotum slightly wider than head (with eyes), disc in middle line as long as broad at anterior margin, lateral carinae straight, not attaining hind margin. Post-tibial spur thin, tectiform with about 20 minute teeth.

Anal segment of ♂ moderately short, collar-like, two spinose processes arising apically, directed ventrad. Pygofer moderately short, with posterior opening longer dorsoventrally than broad or as long as broad, diaphragm moderately narrow. Genital styles rather short.

Type-species, *Delphax dilpa* Kirkaldy, 1907d : 162.

This genus is distinguishable by the combination of characters shown in the synopsis. From *Coronacella* it can be distinguished most readily by its distinctly coarser build. This is most evident in the structure of the hind leg, where, in *Corbulo*, the tibia is not greatly longer than the femur, and the spines at its apex are large and splayed-out, whereas the opposite conditions are found in *Coronacella*.

Corbulo dilpa (Kirkaldy)*Delphax dilpa* Kirkaldy, 1907d : 162.NEW ZEALAND : Auckland, Waitangi Est., 1 ♂, 18-19.xi.51 (*T. E. Woodward*) ; HE 4 3 Paddock, 1 ♂ ; Rotorua, Hannah's Bay, 1 ♂, 1 ♀, 4.ii.51 (*T. E. Woodward*).AUSTRALIA : Queensland, Lam. Nat. Pk., 1 ♂, 25.v.49 (*F. A. Perkins*) ; Lockhart, R. Mission, 1 ♂, 8.vi.56, sweeping grass and weeds (*E. N. Marks*) ; Eight M. Plns., 1 ♂, 14.iv.58 (*F. R. From*).***Corbulo dodona*** sp. n.

(Text-figs. 171-174)

Kelisia paludum Kirkaldy ; Muir, 1917 : 310 (*pars*).

Vertex as long medially as broad at base or slightly longer than broad. Subrectangularly-obtusely rounding into frons, slightly narrower at apex than at base, lateral margins straight,

apical margin truncate with submedian carinae moderately prominent, Y-shaped carina moderately distinct, submedian carinae uniting at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (about 1.5 : 1); and than median length (1.8 : 1); frons in middle line longer than wide at widest part (2.2 : 1), widest at two thirds from base, lateral margins shallowly convex, median carina simple; clypeus at base only very little wider than frons at apex, postclypeal disc as long as broad at base, in profile very weakly convex, anteclypeus in profile weakly convex; entire clypeus in profile shallowly convex; rostrum surpassing mesotrochanters, but not attaining post-trochanters; antennae slightly surpassing frontoclypeal suture, basal segment longer than broad (1.6 : 1), second segment longer than first (1.8 : 1); ocelli distinct, of moderate size. Pronotum with disc slightly longer in middle line than broad at anterior margin (1.1 : 1), lateral carinae weakly concave, not attaining hind margin. Total length of mesonotum greater than that of scutellum (2.4 : 1). Post-tibial spur with about 19 teeth.

Fuscous; vertex, disc and hind margin of pronotum, carinae of frons and clypeus, basal segment of rostrum, ventrites at posterolateral angles, and dorsal angles of pygofer, pallid yellow or creamy white; apical segment of rostrum, antennae and legs testaceous. Tegmina hyaline, with very dilute fuscous suffusion, veins fuscous, a linear spot between common claval vein and commissural margin dark fuscous, the margin pallid just basad of this.

Holotype ♂, AUSTRALIA: Deception Bay, 25.iii.54 (*Y. B. Beri*), in Queensland Museum, Brisbane.

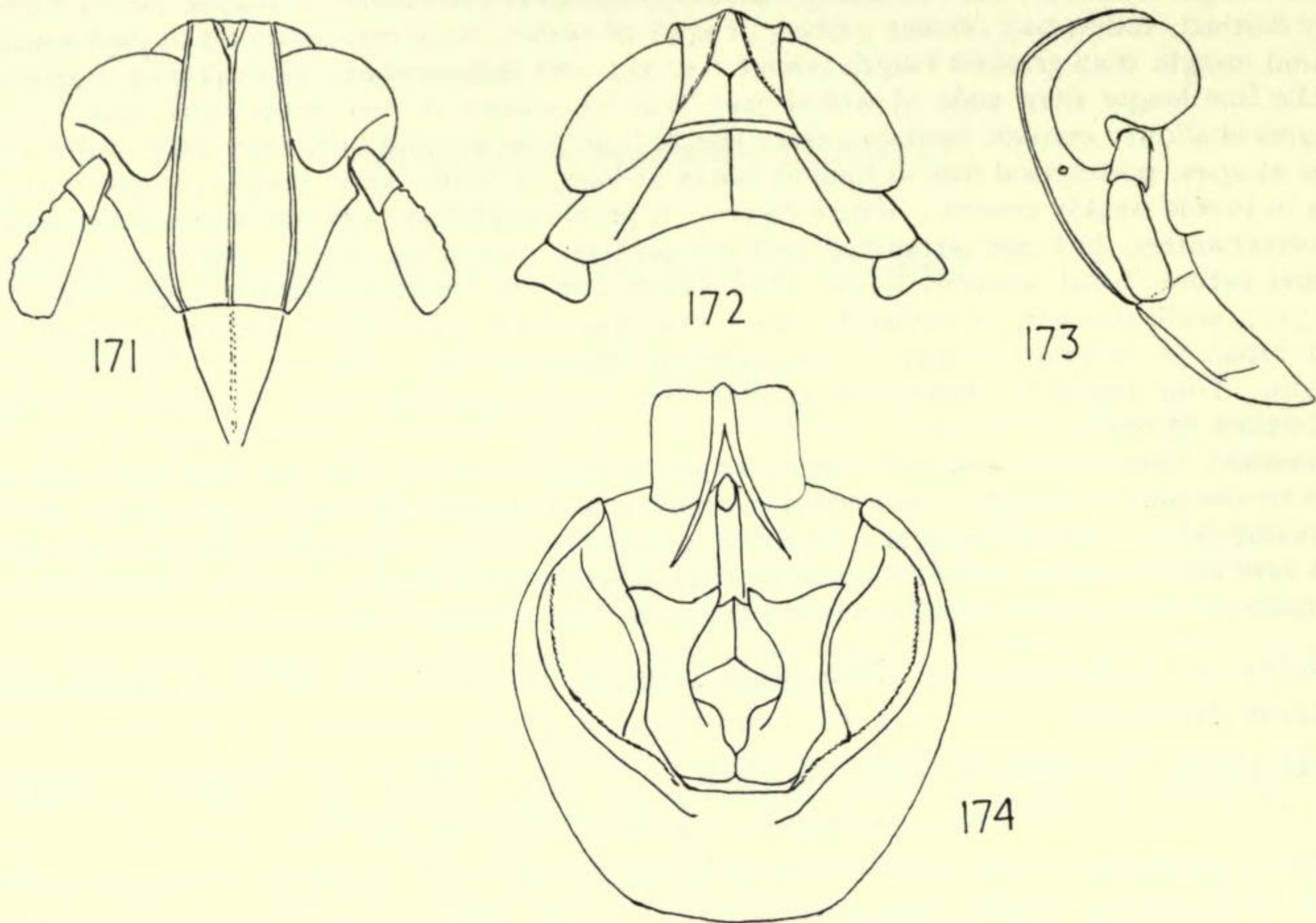
Paratypes, Lamington National Park, 1 ♂, 25.v.59 (*F. A. Perkins*); Moggil, 1 ♂, 27.vi.54 (*G. Hooper*); Brisbane, 1 ♂, iii.57 (*N. McKenna*).

The ♂ genitalia of this species have been figured by Muir and very closely resemble those of Hawaiian *Kelisia paludum* Kirk., to which Muir (*loc. cit.*) was satisfied that this Australian and eastern Asiatic species should be referred. The two species are separable by the size of the ocelli, the form of the head and the slope of the lateral pronotal carinae. The Fijian form that Muir considered to be annectant between the Hawaiian and Australasian populations is a more heavily built insect with dark coloration and minute ocelli that are not greatly more distinct than the blemmata.

SULIX gen. n.

Species of robust build. Vertex longer submedially than broad at base, if only slightly so, subacutely rounding into frons, as wide at apex as at base, lateral margins straight, rather coarsely carinate, apical margin transverse or slightly convex, with submedian carinae moderately prominent, Y-shaped carina distinct, submedian carinae uniting at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (approximately 1.5 : 1); frons in middle line longer than wide at widest part (about 2 : 1), widest at level of lower margin of eyes, lateral margins distinctly convex, median carina simple; clypeus at base slightly or even markedly wider than frons at apex, postclypeal disc about as long as broad at base, in profile convex, anteclypeus in profile evenly curved caudad, so that entire clypeus in profile is moderately convex; rostrum surpassing mesotrochanters; antennae a little surpassing frontoclypeal suture, basal segment short, slightly longer than broad, second segment longer than first (about 2 : 1); ocelli small or obsolete. Pronotum with disc longer in middle line than broad at anterior margin, lateral carinae anteriorly straight, but curved laterad basally, not attaining hind margin. Post-tibial spur tectiform, with about 18 teeth. Basal metatarsal segment apically with seven or eight spines.

Anal segment of ♂ with distal margin narrow at middle, otherwise rather broad. Pregenital sternite of ♀ rather thick, produced ventrocaudad in a short narrowly-rounded finger-like lobe.



FIGS. 171-174. *Corbulo dodona* sp. n. 171, Frons and clypeus; 172, vertex and pronotum, 173, head in profile; 174, ♂ genitalia, posterior view.

Type-species, *Sulix vetranio* sp. n.

This genus is distinguished by the combination of characters given in the key to genera. Its members are all of moderate size, with a vertex longer than broad, and with coarse carinae, a moderately long rostrum and small ocelli, or none.

***Sulix meridionalis* (Muir) comb. n.**

Delphacodes meridionalis Muir, 1917d: 334.

In this species the ocelli are small but distinct, and in the ♂ genitalia the dorso-lateral angles of the pygofer are inflected and acutely pointed; the diaphragm is narrow in its median portion and is inclined caudad from the ventral to the dorsal margin, and no vertical carina is developed in the middle line.

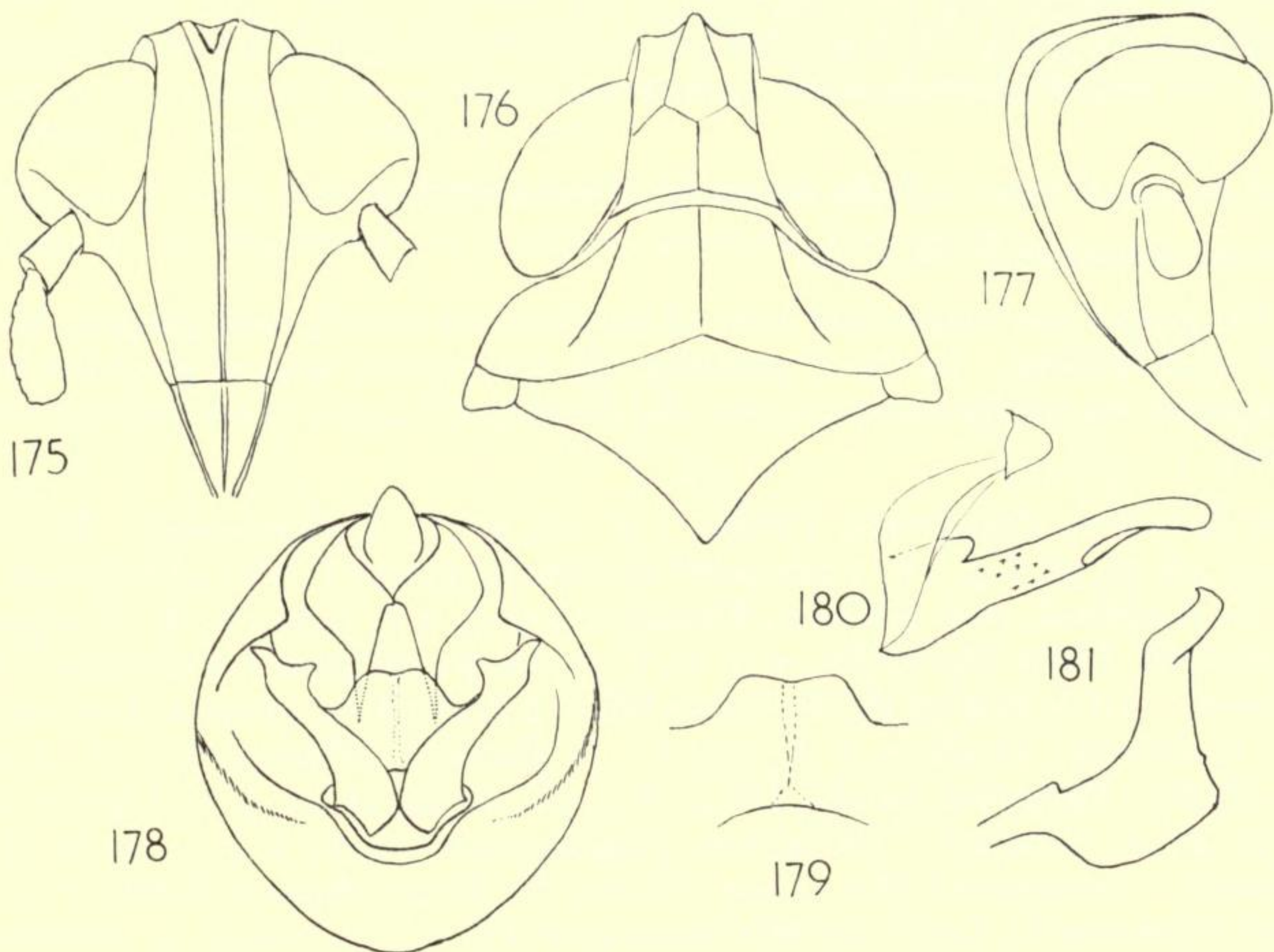
NEW ZEALAND: Three Kings Group, Great Id., East Point, cliff slopes, on and under *Poa anceps*, 9 ♂, 11 ♀, 14.1.51 (*T. E. Woodward*), 1 ♂, 2 ♀, 21 (*J. S. Edwards*); Great Id., Castaway Stream, 1 ♀, 10.1.51, on sedges (*T. E. Woodward*); Great Id., Bald Hill, 1 ♀, 12.1.51, on grasses and rushes (*T. E. Woodward*); Great Id., Tasman valley, east side, 1 ♀, 12.1.51, on grasses and sedges (*T. E. Woodward*); S.W. Id.

1 ♀, 3.i.51, on grasses (*T. E. Woodward*); Wellington, Titahi Bay, 5 ♂, 5 ♀, 1.ii.51, on grasses, sedges and rushes (*T. E. Woodward*); Manawatu, Foxton, 1 ♂, 4 ♀, 28.i.51, in sand dunes, on *Scirpus frondosus* (*T. E. Woodward*).

Sulix insecutor sp. n.

(Text-figs. 175-181)

Vertex longer submedially than broad at base (1.2 : 1), subacutely rounding into frons, rather narrower at apex than at base, lateral margins feebly sinuate or straight, apical margin truncate with submedian carinae narrowly prominent, Y-shaped carina weak but distinct, submedian carinae uniting at apex of vertex or at extreme base of frons, basal compartment of vertex wider at hind margin than greatest length (1.7 : 1) and than median length (1.8 : 1); frons in middle line longer than wide at widest part (2.3 : 1); widest at about two-fifths from base, lateral margins shallowly arcuate, median carina simple or narrowly forked at extreme base; clypeus at base not wider than frons at apex, postclypeal disc as long as broad at base, in profile straight, anteclypeus in profile moderately convex, separated from postclypeus by a shallow transverse sulcus, so that entire clypeus in profile is shallowly sinuately convex. Rostrum slightly surpassing mesotrochanters. Antennae reaching to frontoclypeal suture, basal segment longer than broad (1.8 : 1), second segment longer than first (1.6 : 1). Ocelli obsolete. Pronotum with disc longer in



FIGS. 175-181. *Sulix insecutor* sp. n. 175, Frons and clypeus; 176, head and thorax, dorsal view; 177, head in profile; 178, ♂ genitalia, posterior view; 179, median portion of diaphragm; 180, aedeagus, left side; 181, genital style.

middle line than broad at anterior margin (1.2 : 1), lateral carinae straight or weakly concave, not attaining hind margin. Post-tibial spur with 17 teeth.

Anal segment of ♂ short, broader than long, lateroapical angles moderately separated, each produced ventrad in a slender spinose process. Pygofer longer ventrally than dorsally, posterior opening as broad as long; dorsolateral angles not produced, broadly rounded and very weakly inflected, diaphragm moderately narrow with dorsal margin strongly convex in its middle portion, and with a fine but distinct vertical carina medially; medioventral process absent. Aedeagus moderately long, tubular, in lateral view with dorsal margin abruptly elevated in basal quarter; about nine very small teeth laterally in the middle; orifice on ventral surface subapically. Genital styles moderately long, rather narrow, sinuately diverging from base and tapering to apical quarter, where each expands and curves slightly mesad; apical margin shallowly concave, with inner and outer angles subacutely produced.

♂ (brachypterous): length, 3.4 mm.

Holotype ♂, NEW ZEALAND: Paiaka (Man.) H.E. 41, 4.i.50 (R. A. Cumber), in collection of the Entomology Division, D.S.I.R., Nelson.

Paratype, Paiaka (Man.) H.E. 41, 1 ♂, 4.i.50 (R. A. Cumber).

This species is near to *S. meridiana* Muir, but is distinguishable by the dorso-lateral angles of the pygofer not being acute or pointed, by the median portion of the diaphragm being strongly convex dorsally, vertical, and medially carinate, as opposed to weakly convex, obliquely inclined ventrocephalad and medially ecarinate, and by the strongly sinuate and tapering form of the genital styles. The species may be separated by the ocelli, which are obsolete or represented only by a scar in the present species, but present, though small, in *S. meridiana*.

Sulix tasmani (Muir) **comb. n.**

Delphacodes tasmani Muir, 1923i: 258.

In this species the intercarinal areas of the frons are usually dark fuscous, and the lateral ocelli distinct. In the ♂ genitalia, the lateroapical spinose processes of the anal segment are widely separated and the dorsolateral angles of the pygofer are not inflected.

NEW ZEALAND: Manawatu, Paiaka, 1 ♂, 4.i.50 (T. E. Woodward); HE 7 RS, 7, 10, 31, 46, 57, 58, 6 ♂, 2 ♀, 2 mutilated specimens, nymph; HE7 48 Paddock, 2 ♂, 1 ♀; N. Auckland, near Kaikohe, Punakitere, 3 ♂, 1 ♀, ii.52 (T. E. Woodward); Hauraki Gulf, Little Barrier Id., 9 ♂, 13 ♀, 11.xii.50, on grasses and sedges (T. E. Woodward); Little Barrier Id., Te Titoki Point, 1 ♀, 25.xi.54, swept at bush margin, (R. A. Harrison); Ohakura, 1 ♂, 1923 (T. R. Harris); Whangarei, 1 ♂, 12.xi.23 (J. G. Myers); Mangonui, Paiaka, HE 41, 6 ♂, 2 ♀, 11-14, 11.49, 4, 30.i.50, 12.ii.50, 16.i.51 (R. A. Cumber); Wellington, Ngahuaranga Gorge, 1 ♀, 1.vii.51 (T. E. Woodward); Coromandel Pen., Cape Colville, Te Hope, Moehau Track, 1 ♂, 1 ♀, 17.i.52, grass sward; Cape Colville, Otautu area, 2 ♂, 2 ♀, 16.i.52 (T. E. Woodward); Manawatu, Foxton, 1 ♂, 6 ♀, 5.i.50 (T. E. Woodward); Rotorua, Whaka, 3 ♂, 5.ii.52 (T. E. Woodward); W. Spirits Bay 1 ♀, 25.i.50, on small-leaved *Muehlenbeckia* (T. E. Woodward).

Sulix vetranio sp. n.

(Text-figs. 182-187)

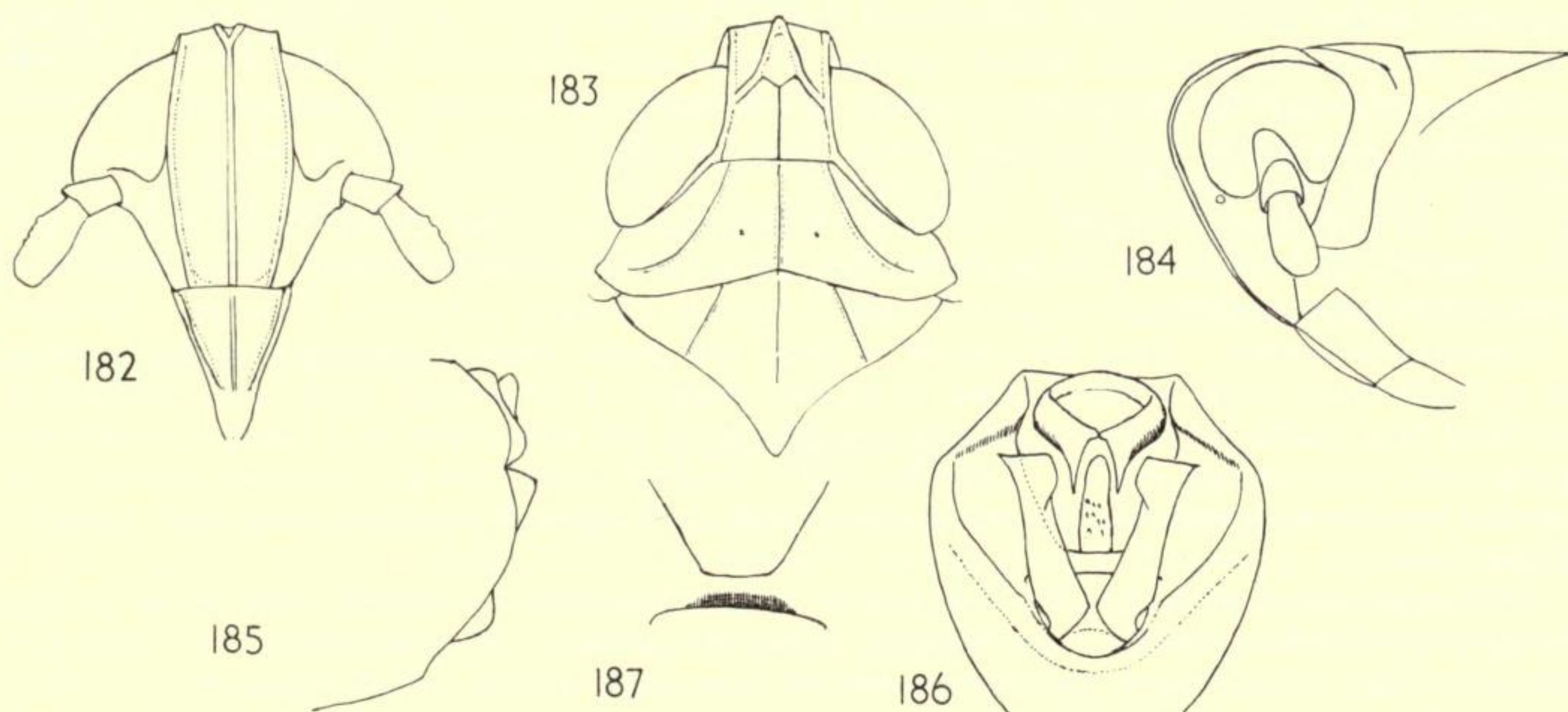
Vertex scarcely longer submedially than broad at base (not quite 1.1 : 1), subacutely rounding into frons, as wide at apex as at base, lateral margins straight, apical margin transverse with submedian carinae moderately prominent, Y-shaped carina distinct, submedian carinae uniting at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (1.5 : 1) and than median length (2 : 1); frons in middle line longer than wide at widest part (2 : 1), widest near middle, lateral margins distinctly convex, median carina simple; clypeus at base markedly wider than frons at apex, postclypeal disc as long as broad at base, in profile convex, anteclypeus in profile evenly curved caudad so that entire clypeus in profile is moderately convex; rostrum surpassing mesotrochanters but not attaining post-trochanters; antennae a little surpassing frontoclypeal suture, basal segment short, a little longer than broad, second segment longer than first (about 2 : 1); ocelli small. Pronotum with disc longer in middle line than broad at anterior margin (nearly 1.6 : 1), lateral carinae distally straight, weakly curved laterad basally, not attaining hind margin. Post-tibial spur with 18 teeth.

Stramineous; a slight suffusion on coxae, abdominal terga anteriorly towards lateral margins, and ♂ genitalia except posterior margin of pygofer, castaneous; distal part of genital styles more yellowish-brown. Tegmina castaneous, entire margin stramineous.

Anal segment of ♂ collar-like, lateroapical angles moderately close together, each produced ventrad in a stout spinose process. Pygofer moderately long, posterior opening broader than long, dorsolateral angles not produced, very weakly developed and inflected, diaphragm with dorsal margin deeply excavate, narrow medially, devoid of ornamentation, medioventral process absent. Genital styles rather long, directed mainly dorsad, approximately of equal width throughout, with inner margin slightly more concave than outer, and weakly produced mesad in a quadrate lobe in distal fifth; apical margin truncate, outer apical angle acute.

♂: length, 3.0 mm. ♀: length, 3.5 mm.

Holotype ♂, NEW ZEALAND: Manawatu, Foxton, 28.i.51, sand dunes, on *Scirpus frondosus* (T. E. Woodward), in Dominion Museum, Wellington.



FIGS. 182-187. *Sulix vetranio* sp. n. 182, Frons and clypeus; 183, head and thorax, dorsal view; 184, head in profile; 185, ♂ genitalia, left side; 186, ♂ genitalia, posterior view; 187, median portion of diaphragm.

Paratypes, 3 ♂, 4 ♀, same data, in Queensland Museum, Brisbane.

This species is distinguished by the postclypeus being very markedly wider than the apical margin of the frons. The ♂ genitalia are generally similar to those of *S. meridionalis*, but the two species are different in the shape of the head and in coloration.

EUMETOPINA Breddin

Breddin, 1896a : 109.

Haplotype, *Eumetopina kruegeri* Breddin, *loc. cit.*

Gelastodelphax Kirkaldy, 1906c : 411, **syn. n.**

***Eumetopina histrionica* (Kirkaldy) comb. n.**

Gelastodelphax histrionicus Kirkaldy, 1906c : 411.

Post-tibial spur with about eleven teeth.

AUSTRALIA : Victoria (S.E.), Bonang, 9.i.55 (*T. E. Woodward*).

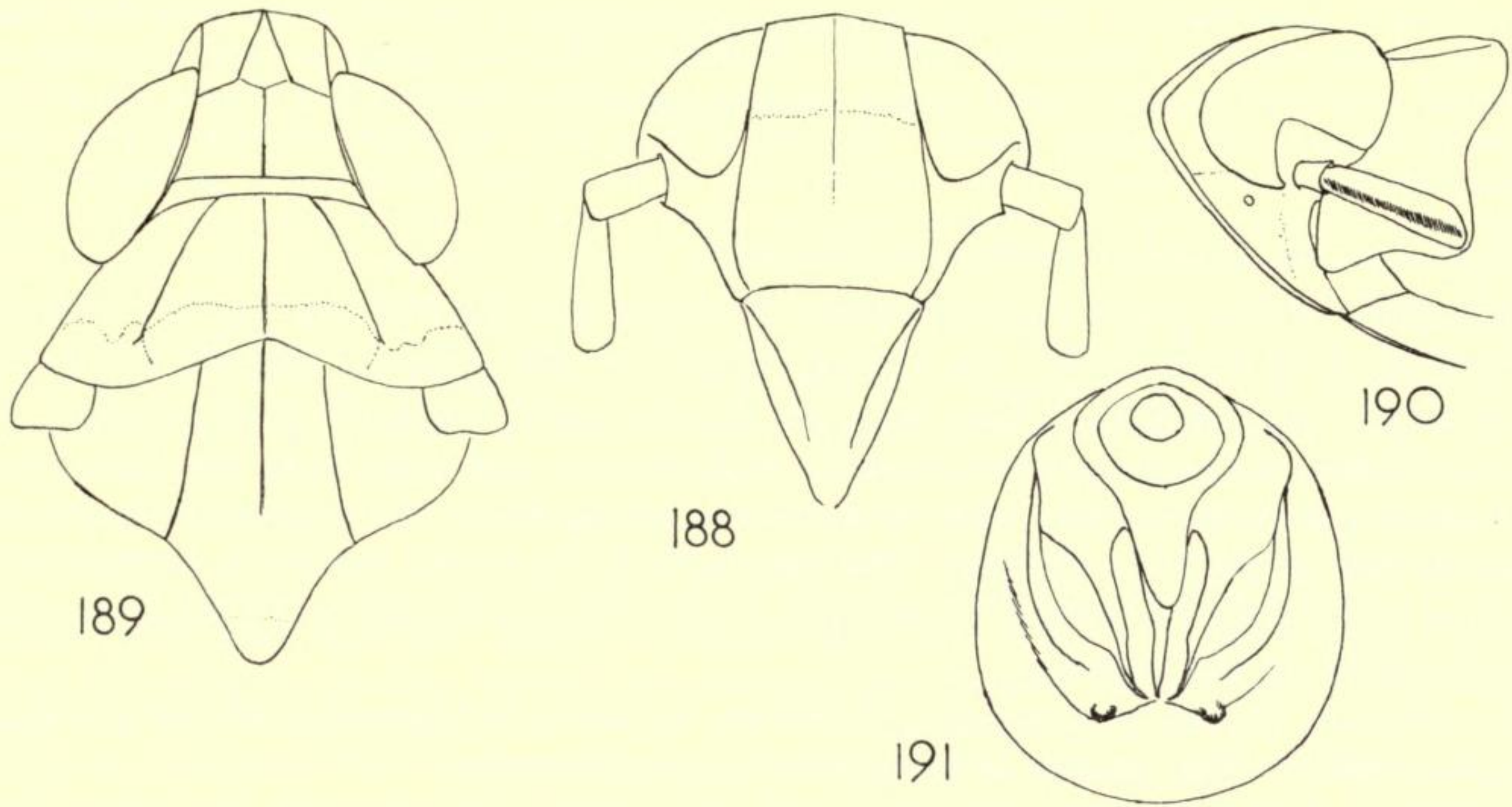
***Eumetopina bicornis* sp. n.**

(Text-figs. 188–191)

Vertex as long submedially as broad at base, subacutely rounding into frons, only very slightly narrower at apex than at base, lateral margins distinctly concave, apical margin transverse-convex with submedian carinae not at all prominent, Y-shaped carina with only distal arms distinct, submedian carinae uniting at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (1.6 : 1) and than median length (1.8 : 1); frons in middle line longer than wide at widest part (1.4 : 1), widest at one-fifth from base, lateral margins shallowly convex, median carina simple; clypeus at base distinctly wider than frons at apex, a little depressed below level of frons, postclypeal disc as long as broad at base, in profile shallowly convex, anteclypeus in profile almost straight, so that entire clypeus in profile is very shallowly convex; rostrum attaining mesotrochanters, apical segment about equal to subapical; antennae moderately surpassing frontoclypeal suture, basal segment longer than broad (2 : 1), second segment longer than first (2.2 : 1), ocelli distinct. Pronotum with disc longer in middle line than broad at anterior margin (nearly 2 : 1), lateral carinae almost straight, not attaining hind margin. Total length of mesonotum longer than that of scutellum (nearly 1.8 : 1). Post-tibial spur with 25–30 minute teeth.

Castaneous-piceous; distal two-thirds of frons and genae, second antennal segment, except for a longitudinal band, a broad band along hind margin of pronotum, apex of mesoscutellum, and hind legs, pallid stramineous; clypeus, tegulae, fore and middle legs and abdominal ventrites marginally, pale orange-yellow. Tegmina milky hyaline, apical margin infused fuscous from apex of tegmen to apex of clavus, veins concolorous. Wings milky hyaline, with pale yellowish brown veins.

Anal segment of ♂ moderately long, rectangulately deflexed in distal half, apical margin strongly produced at middle in an elongate triangular process. Pygofer moderately long, posterior opening a little longer than broad, dorsolateral angles rather weakly produced, obtuse in lateral view, diaphragm developed only at sides, median transverse portion absent; posterior margin of pygofer ventrally with a stout spinose process, flattened above and porrect caudad, on each side of middle line. Aedeagus narrowly tubular, porrect caudad, a slender spinose process arising on left at apex directed ventrocephalad, a stouter spinose process arising on right at apex,



FIGS. 188-191. *Eumetopina bicornis* sp. n. 188, Frons and clypeus ; 189, head and thorax, dorsal view ; 190, head in profile ; 191, ♂ genitalia, posterior view.

directed to right. Genital styles moderately long and narrow, diverging only little, with dorsal margin straight and ventral margin shallowly convex, apical margin short, oblique. Anal segment, pygofer posteriorly and genital styles distally with rather long and stout setae.

♂: length, 4.0 mm., tegmen, 4.3 mm.

Holotype ♂, NEW GUINEA: Central Highlands, Daulo Pass, 7,300 ft.-8,000 ft., 20-22.viii.56 (T. E. Woodward), in Queensland Museum, Brisbane.

Paratypes, Gomanigu Valley, c. 3 miles S.W. of Mt. Otto, c. 7,300 ft., 1 ♂, 1 ♀, 16-18.iii.56 (T. E. Woodward).

This species is separable in the ♂ from all others of the genus by the presence of a single pair of stout spinose processes ventrally on the hind margin of the pygofer. The male of *Eumetopina histrionica* (Kirk.) possesses similar, but longer, processes, but between them lies a second pair of short stout processes, of which there is no trace in *E. bicornis*. In both sexes the present species is also distinguishable by details of bodily and tegminal coloration.

TERTHRON gen. n.

Vertex as long medially as broad at base, subacutely rounding into frons, as wide at apex as at base, lateral margins straight or feebly concave, apical margin transverse with submedian carinae very feebly prominent, Y-shaped carina weakly present, submedian carinae uniting at apex of vertex, basal compartment of vertex wider at hind margin than greatest length (about 2:1); frons in middle line longer than wide at widest part (2:1), widest at middle, lateral margins shallowly convex, median carina simple, clypeus at base very slightly wider than frons at apex, postclypeal disc as long as broad at base, in profile very feebly convex, almost straight, entire clypeus in profile moderately convex; rostrum rather short, surpassing mesotrochanters but not attaining post-trochanters; antennae attaining level of frontoclypeal suture or slightly

surpassing it, basal segment distinctly longer than broad, second segment longer than first (about 1.5 : 1); ocelli distinct, blemmata present. Pronotum with disc about as long in middle line as broad at anterior margin, lateral carinae straight, not quite attaining hind margin, not directed towards tegulae, but farther mesad. Post-tibial spur thin, shallowly tectiform with about twenty teeth.

Type-species, *Delphax anemonias* Kirkaldy.

Members of this genus resemble those of *Toya*, but differ in having the following combination of characters; the lateral carinae of the pronotal disc do not extend towards the tegulae and, if they were produced, would reach the hind margin; the first valvulae of the ovipositor are long and narrow and arise from the base of the abdomen, which, in ventral view, is narrowly triangular; the ♂ genitalic pattern is close to that of the type-species. The species so far included possess a narrow white median stripe from the vertex to the apex of the mesoscutellum and a white commissural margin on the tegmina.

In addition to the type-species, *Terthron* includes *Delphacodes albovittata* Mats., (1931a : 1268). The gender of the generic name is neuter.

Terthron anemonias (Kirkaldy)

Delphax anemonias Kirkaldy, 1907d : 159.

AUSTRALIA : Queensland, Carmila, 1 ♀, 8.v.27, 6729.

In this species a narrow pale stripe extends along the dorsal edge of the femora, and the veins in the tegminal membrane are light yellowish brown.

TOYA Distant

Distant, 1906i : 472.

Orthotype, *Toya attenuata* Distant.

Toya propinqua (Fieber) comb. n.

Delphax propinqua Fieber, 1866b : 525.

AUSTRALIA : Brisbane, 1 ♂, 9.iv.56 (*T. E. Woodward*).

Toya dryope (Kirkaldy) comb. n.

Delphax dryope Kirkaldy, 1907d : 154.

NEW ZEALAND : N. Auckland, Waitangi Est., 24 ♂, 25 ♀, 7 mutilated specimens, 1 nymph, 18-19.xi.51 (*T. E. Woodward*); 17 ♂, 6 ♀, HE 4, 1, 15, 24, 28 Paddock, 1, 3, 41 Road; Paihia, 7 ♂, 4 ♀, 1 mutilated specimen, ii.53 (*R. A. Cumber*).

AUSTRALIA : Lockyer, 14 ♂, 2 ♀, 24.viii.39 (*Dept. of Agric.*); Brisbane, 1 ♂, 2 ♀, at light (*H. Jarvis*); Bolingbroke, 2 ♂, 22.v.27; five miles from Kingaroy, 1 ♂, 3.vi.59 (*E. Bernays*); Bald Hills, 1 ♂, 24.iii.54 (*K. L. S. Harley*); Yeerongpilly, 2 ♂, 6.xi.39, from lucerne (*W. A. Smith*).

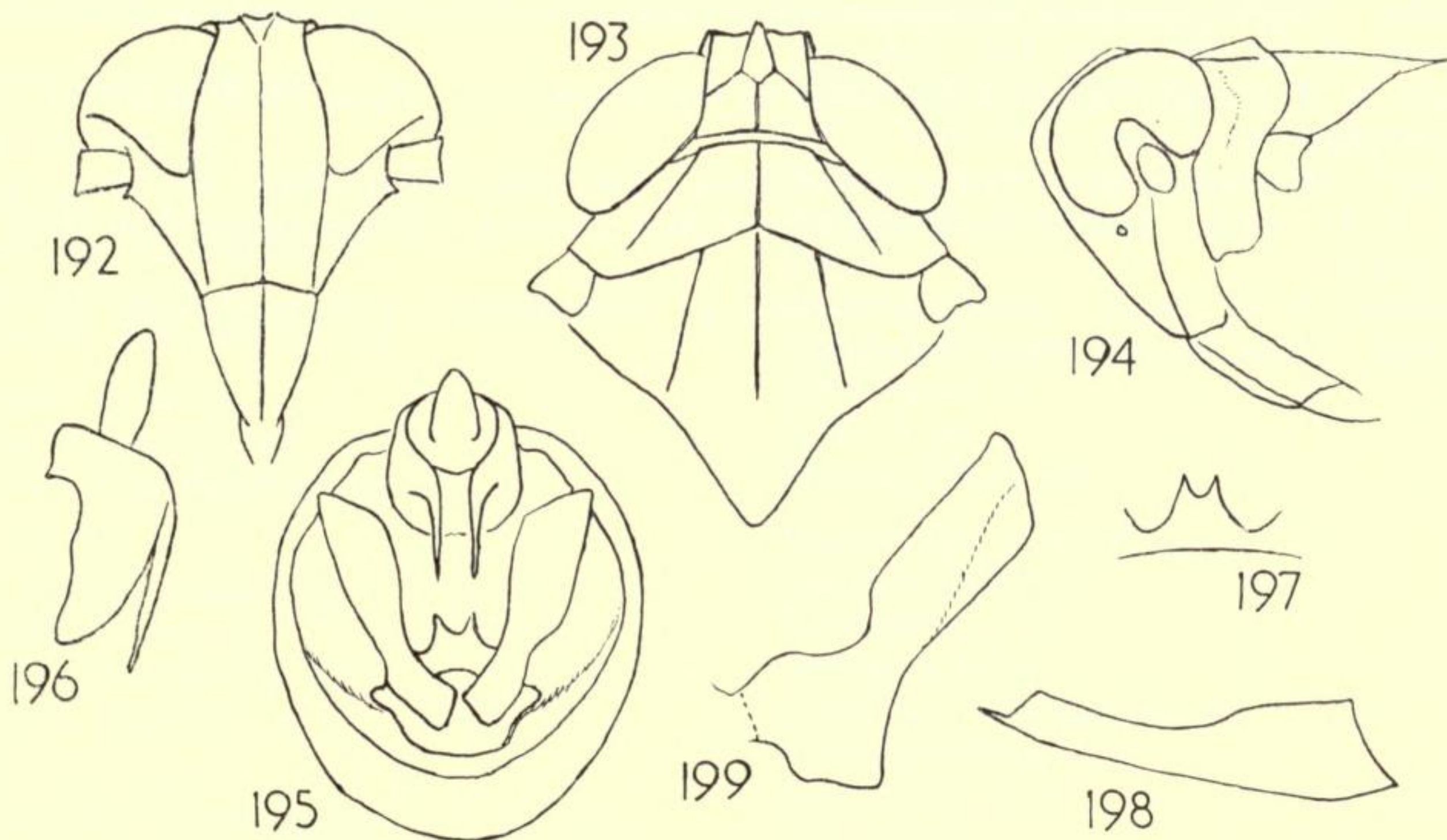
Toya euonymus sp. n.

(Text-figs. 192-199)

Vertex shorter submedially than broad at base (about 1 : 1.2), obtusely rounding into frons, slightly narrower at apex than at base, lateral margins straight, apical margin truncate, with submedian carinae very weakly prominent, Y-shaped carina distinct, submedian carinae uniting at apex of vertex or at extreme base of frons, basal compartment of vertex wider at hind margin than greatest length (2 : 1) and than median length (2.5 : 1); frons in middle line longer than wide at widest part (2.2 : 1), widest at two-fifths from base, lateral margins very feebly convex, median carina simple, or forked at extreme base; clypeus at base distinctly wider than frons at apex, postclypeal disc longer than broad at base (nearly 1.2 : 1), in profile moderately convex, anteclypeus in profile very shallowly convex, so that entire clypeus in profile is shallowly convex; rostrum short, attaining meso-trochanters; antennae distinctly surpassing frontoclypeal suture, basal segment longer than broad (1.6 : 1), second segment longer than first (2 : 1); ocelli distinct. Pronotum with disc shorter in middle line than broad at anterior margin (about 1 : 1.3), lateral carinae weakly concave, not attaining hind margin. Total length of mesonotum longer than that of scutellum (about 2.6 : 1). Post-tibial spur with 19 teeth.

Fuscous; carinae of head and pronotum, antennae, clypeus, rostrum, tegulae, mesonotum at lateral angles and along posterior margin, and legs, testaceous; posterior margin of pronotum broadly white. Tegmina hyaline, veins very dilute testaceous, almost concolorous. Wings hyaline with dilute testaceous veins.

Anal segment of ♂ very short, ring-like, lateroapical angles rather closely approximated, each produced ventrad in a long slender spinose process. Pygofer moderately long, posterior opening as broad as long, dorsolateral angles not produced, diaphragm with dorsal margin deeply concave, very narrow at middle, where dorsal margin is produced in a pair of small acutely angulate lobes; medioventral process absent. Aedeagus moderately long, tubular, slightly



FIGS. 192-199. *Toya euonymus* sp. n. 192, Frons and clypeus; 193, head and thorax, dorsal view; 194, head in profile; 195, ♂ genitalia, posterior view; 196, anal segment of ♂, left side; 197, median portion of diaphragm; 198, aedeagus, left side; 199, genital style.

broader in basal two-fifths than in distal three-fifths, orifice at apex, its lower lip produced caudad in an acuminate lobe; aedeagus otherwise without ornamentation. Genital styles long, flattened and rather broad, slightly expanding distad, apical margin oblique, inner margin at base a little produced caudad.

♂: length, 3.0 mm., tegmen, 3.1 mm.

Holotype ♂, AUSTRALIA: South-east Queensland, Tambourine Mts., 11-18.iv.35 (R. E. Turner) B.M. 1935-240, in B.M. (N.H.).

Paratype, Miva, 1 ♂, 1.51 (*Lipsett*).

This species is distinguished by the proportions of the head, bodily coloration, and the structure of the ♂ genitalia.

***Toya lazulis* (Kirkaldy) comb. n.**

Delphax lazulis Kirkaldy, 1907d: 155.

Delphacodes lazulis (Kirkaldy) Muir, 1917d: 333.

AUSTRALIA: Queensland, five miles from Kingaroy, 1 ♂, 3.vi.59 (*E. Bernays*).

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Synonyms printed in italics.

- Acrodelphax, 5, 38
 Anchodelphax, 5, 34
 ancon, Temenites, 15
 anderida, Thymalops, 20
 Anectopia, 6
 anemonias, Terthron, 56
 Aplanodes, 5, 21
 australiae, Aplanodes, 22
 bicornis, Eumetopina, 54
 caelatus, Ugyops, 7
 Cemus, 4, 18
 cicatrifrons, Eorissa, 30
 Corbulo, 6, 48
 Coronacella, 6, 47
 darwini, Haplodelphax, 33
 dilpa, Corbulo, 48
 dodona, Corbulo, 48
 dryas, Tropidocephala, 13
 dryope, Toya, 56
 Eorissa, 5, 28
 erosus, Notohyus, 23
 Eumetopina, 6, 54
 euonymus, Toya, 57
 eupompe, Sogatodes, 46
 euronotianus, Haplodelphax, 32
 eximia, Tropidocephala, 13
 furcifera, Sogatella, 47
Gelastodelphax, 54
 Haerinella, 4, 13
 hagnon, Anchodelphax, 36
 Haplodelphax, 5, 31
 histrionica, Eumetopina, 54
 insecutor, Sulix, 51
 ithoma, Notogryps, 28
 iuncicola, Haplodelphax, 32
 Izella, 5, 41
 kaha, Thrasymemnon, 43
 kirkaldyi, Cemus, 19
 kirkaldyi, Coronacella, 47
 kolophon, Sogatella, 47
 lazulis, Toya, 58
 longifurcifera, Sogatella, 47
 lugens, Nilaparvata, 24
 macleayi, Pseudembolophora, 12
 maidis, Peregrinus, 18
 matanitu, Syndelphax, 48
 melanthus, Notogryps, 26
 meridianalis, Sulix, 50
Micromasoria, 7, 12
 musgravei, Ugyops, 10
 myersi, Nilaparvata, 25
 nicias, Sogatodes, 45
 Nilaparvata, 5, 24
 Notogryps, 5, 26
 Notohyus, 5, 22
 olenus, Anchodelphax, 35
 Paracona subgen. of Ugyops, 4, 11
 Peliades, 4, 17
 pelorus, Ugyops, 11
 Peregrinus, 4, 18
 Perkinsiella, 4, 16
 persephone, Sardia, 44
 Phacalastor, 4, 17
 phyllocnemis, Peliades, 18
 propinqua, Toya, 56
 proserpina australis, Tarophagus, 37
 Proterosydne, 5
 Pseudembolophora, 4, 12
 pseudomaidis, Phacalastor, 17
 raouli, Ugyops, 12
 rhadamanthus, Ugyops, 9
 rostrata pluto, Sardia, 44
 saccharicida, Perkinsiella, 17
 saeva, Haerinella, 14
 Sardia, 5, 44
 Smicrotatodelphax, 5
 Sogata, 6
 Sogatella, 6, 47
 Sogatodes, 6, 45
 Stenocranus, 5
 Sulix, 6, 49
 Syndelphax, 6, 48
 Tarophagus, 5, 6, 37
 tasmani, Sulix, 52
 Temenites, 4, 15
 Terthron, 6, 55
 thimbron, Acrodelphax, 39
 Thrasymemnon, 4, 43
 Thymalops, 5, 20
 Toya, 6, 56
 triopas, Izella, 41
 Tropidocephala, 4, 12
 Ugyops, 4, 6
 vetranio, Sulix, 53