

## THE GENUS *BAJAUANA* AND TWO ALLIED NEW GENERA IN NEW GUINEA (FULGOROIDEA: CIXIIDAE)<sup>1</sup>

By **R. G. Fennah**<sup>2</sup>

*Abstract.* *Bajauana* and *Caneirona* are recalled from synonymy with *Ptoleria*, and new synonymies are proposed in *Bajauana* and allied genera as follows: *Ptoleria* and *Ambalangoda* with *Eucarpia*; *Epaustraloma* with *Dystheatius*; *Saccharias* and *Australoma* with *Bajauana*. Thirty-nine species of *Bajauana* found in New Guinea are described as new, and supplementary descriptions are given of *Bajauana rufula*, *B. bicolor* and *B. marginata*. Two new genera, *Phytoceator* and *Dilacreon*, are described to accommodate 1 and 14 new species, respectively, and the new combination *Dilacreon telamon* is proposed for *Dystheatius telamon*.

This report is primarily concerned with the cixiid genus *Bajauana* in New Guinea, and is based on a study of some 500 specimens received on loan from the Bishop Museum, Honolulu (BISHOP) and on type specimens in the British Museum (Natural History), London (BMNH). The collectors and the years in which they worked in the island are as follows: W. W. Brandt (1957-1959), E. J. Ford, Jr. (1956), J. L. Gressitt (1955, 1957-1959), D. E. Hardy (1957) and T. C. Maa (1959). The type specimens of all new species described are in the Bishop Museum.

### HISTORY

*Bajauana* was erected by Distant (1907: 277) to accommodate *Brixia bicolor* Wlk., *B. marginata* Wlk., *B. rufula* Wlk. (from New Guinea), *B. palliceps* Wlk. (from Misol), *B. puncticosta* Wlk. (from Morotai), *B. tenebrosa* Wlk. (from Ceram), *B. varia* Wlk., *B. variegata* Wlk. (from Sula) and *Cixius trahens* Wlk. (from Borneo). Together with *Commolenda*, *Caneirona*, *Ambalangoda* and *Australoma*, it was synonymized by Muir (1925) with *Ptoleria*. Muir refrained from suppressing *Ptoleria* under *Eucarpia*, though he recognized that the latter was affiliated with this generic complex.

No critical reevaluation of *Ptoleria* as defined by Muir has since been published, and for the purpose of the present study it has been necessary to reassess the status of *Bajauana*. This has been done, and it is considered that the complex can most conveniently be regarded as including 7 relatively weak genera. These are briefly differentiated below by extension from alternative 32 of Muir's key to cixiid genera (1925: 104), and the necessary new synonymy is given.

1. Material examined results from fieldwork supported by grants from the U.S. National Science Foundation (G-2127, G-4774) and the U.S. National Institutes of Health (A1-01723) to Bishop Museum and a grant from the J. S. Guggenheim Foundation to J. L. Gressitt (1955-56).
2. % Commonwealth Institute of Entomology, British Museum (Natural History), London SW7 5BD, England.

KEY TO GENERA OF THE *Eucarpia* GROUP

(Sc + R forming a stalk, M arising separately from basal cell; base of abdomen without processes; tegmina steeply tectiform; length of vertex in middle less than 2× the width at apex; no median transverse carina on vertex)

1. Tegmen with transverse veinlet  $M_{3+4}-Cu_{1a}$  at least as long as vein  $M_{3+4}$  from M fork to this veinlet, and about as long as transverse veinlet R-M ..... 2  
 Tegmen with veinlet  $M_{3+4}-Cu_{1a}$  much shorter than  $M_{3+4}$  from M fork to this veinlet, and much shorter than transverse veinlet R-M ..... 4
2. Subapical cell  $M_{3+4}$  with upper margin (vein  $M_{3+4}$ ) straight or only weakly concave; gena in same plane as side of clypeus; basal cell of tegmen at least 4× as long as broad, apically acute ..... 3  
 Subapical cell  $M_{3+4}$  with upper margin strongly curved or angulately bent; gena more or less tumid and lateral carina of frons distally thickened into a callus extending on to gena; basal cell of tegmen about 3× as long as broad, subtransverse apically ..... **Dystheatias**
3. Frons elongate, transversely convex throughout; basal metatarsal segment longer than broad at apex (about 5.0:1); veinlet  $M_{3+4}-Cu_{1a}$  in tegmen distad of level of veinlet R-M, and only as long as  $M_{3+4}$  from fork to this veinlet ..... **Caneirona**  
 Frons not markedly elongate, hollowed in basal ½; basal metatarsal segment longer than broad at apex (3.0-3.9:1); veinlet  $M_{3+4}-Cu_{1a}$  in tegmen basad of level of veinlet R-M, and distinctly longer than  $M_{3+4}$  from M fork to this veinlet ..... **Eucarpia**
4. Tegmen with basal cell typically narrowly fusiform, Sc+R, M and  $Cu_1$  emerging from it very close together; vertex in profile horizontal, in same line as thorax, meeting frons abruptly rectangularly; frons usually speckled with small pale spots; rostrum with subapical segment longer than apical segment (about 3.5:1); basal metatarsal segment with 7-8 teeth (usually 8) apically ..... **Kirbyana**  
 Tegmen with basal cell subquadrate, rarely subfusiform; Sc+R and M emerging remote from  $Cu_1$ ; vertex in profile not horizontal and not in same line as thorax, and not meeting frons abruptly rectangularly; frons not sprinkled with small pale spots; rostrum with subapical segment longer than apical segment (less than 2.0:1); basal metatarsal segment with 5-7 teeth apically ..... 5
5. Length from base of frons to apex of anteclypeus more than 2.5× greatest width of frons; 2nd antennal segment cylindrical, much longer than broad ..... **Phytoceptor, n. gen.**  
 Length from base of frons to apex of anteclypeus not more than 2.5× greatest width of frons; 2nd antennal segment subglobose, at most only slightly longer than broad ..... 6
6. Wing with vein R simple to apex ..... **Dilacreon, n. gen.**  
 Wing with vein R forked apically ..... **Bajauana**

On the basis of this characterization, synonymy in the group is now as follows.

Genus *Eucarpia* Walker

*Eucarpia* Walker, 1857: 159. Type-species, *Eucarpia univitta* Walker, 1857: 159.

*Ptoleria* Stål, 1859: 321. Type-species, *Ptoleria arcuigera* Stål, 1859: 321. **New synonymy.**

*Ambalangoda* Distant, 1912: 187. Type-species, *Ambalangoda insignis* Distant, 1912: 188. **New synonymy.**

Genus *Dystheatias* Kirkaldy

*Dystheatias* Kirkaldy, 1907a: 113. Type-species, *Dystheatias beecheyi* Kirkaldy, 1907a: 113.

*Quirosia* Kirkaldy, 1907a: 114. Type-species, *Quirosia vitiensis* Kirkaldy, 1907a: 115. Synonymized by Muir, 1925: 103.

*Epaustraloma* Fennah, 1950: 17. Type-species, *Epaustraloma simois* Fennah, 1950: 17. **New synonymy.**

### Genus *Caneirona* Distant, resurrected from synonymy

*Caneirona* Distant, 1916: 38. Type-species, *Caneirona maculipennis* Distant, 1917: 277.

This genus appears to be confined to the Seychelles. *C. indica* Distant, which Muir (1925: 100) took as the type-species, does not belong here and is closely related to *Ptoleria arcuigera*.

### Genus *Kirbyana* Distant

*Kirbyana* Distant, 1906: 255. Type-species, *Kirbya pagana* Melichar, 1903: 38.

*Saccharias* Kirkaldy, 1907b: 125. Type-species, *Saccharias deventeri* Kirkaldy, 1907b: 125. **New synonymy.**

*Commolenda* Distant, 1911: 741. Type-species, *Commolenda deusta* Distant, 1911: 741. Synonymized by Fennah, 1978: 211.

### Genus *Bajauana* Distant, resurrected from synonymy

*Bajauana* Distant, 1907: 277. Type-species, *Brixia rufula* Walker, 1870: 106.

*Australoma* Kirkaldy, 1907a: 114. Type-species, *Australoma austrina* Kirkaldy, 1907: 114. **New synonymy.**

## TAXONOMIC MORPHOLOGY

Characters that serve to separate species are to be found in the proportions of the rostrum, head, mesonotum and metatarsus, in the dentition of the last, in the shape and venation of the tegmen, in the wing venation, in the detailed structure of the genitalia in both sexes and in coloration.

While most of the characters used in the descriptions are readily comprehensible, a few require explanation. The points between which measurements of various bodily features were taken are shown in the figures as follows: frons (FIG. 25); vertex, mesonotum (FIG. 26); stigma, tegminal veins (FIG. 28); tegminal cells (FIG. 4); pre-genital sternite of female (FIG. 5); and 1st valvifer (FIG. 6). In some species, the disc of the frons meets the basal margin abruptly; in others, the basal margin projects slightly forward above the depressed base of the frontal disc, and is then described as *elevated*. The median carina may terminate just before reaching the margin of the vertex and is separated from it by the jutting portion. The degree of separation is usually slight, and careful scrutiny is necessary. The terms used with reference to the stigma are as follows. The stigma in Cixiidae usually involves only the 1st marginal cell beyond the costal cell. Along the basal margin of this cell is a colorless transparent band that extends to the very edge of the tegmen: this is the *node*, or anterior hinge of the membrane. Adjacent to this, the anterior margin is broad and tapers distad as far as the next apical veinlet. This opaque area is bounded on its inner margin by a vein ( $Sc_1$ ) that in *Bajauana* and its allies is scarcely recognizable as such. The opaque area, here termed the *marginal area*, in this group of cixiids usually tapers into the anterior margin at the apical vein that bounds the cell distally ( $Sc_{2a}$ ), but in some species may continue tapering distad as far as the 2nd apical vein ( $Sc_{2b}$ ). In some instances vein  $Sc_{2a}$  may be absent, and to avoid confusion in the taking of measure-

ments, the term *stigma* is here applied to the area between the apex of the costal cell and the junction of the distal subcostal apical vein ( $Sc_{2b}$ ) with the margin, even though this may include 2 apical cells in some species. The stigma (brand-mark) is properly the dark spot immediately adjacent to the node on its distal side, but the extent of this pigmented area is variable: pigment may be absent, or may at the other extreme involve the entire cell  $Sc_1$ . The marginal area is bounded on its inner edge by a row of granules, and there may be 1 or more rows of similar granules in the thickened area itself. The marginal area is invariably conspicuous, and the remaining part of the stigmal cell is usually of the same texture and appearance as other cells of the membrane. In some species, however, a lenticular portion of this clear area, adjacent to the marginal area, is indicated by a slight difference in color or texture. This lenticular portion is termed the *submarginal area*.

The male genitalia show differences between species in almost every element. The form of the copulatory apparatus, which comprises the medioventral process of the pygofer and the inner margin of the basal  $\frac{1}{2}$  of the genital styles, provides a useful clue not only to the identity, but also to the affinity of species, and to some extent this is true of the *suspensorium*, the halterlike sclerite that connects the base of the aedeagus with that of the anal segment. The female genitalia show differences both between species and species-groups in the relative size of the pregenital sternite, in the curvature and degree of elevation of its basal margin, in the shape of the posterior margin of the basal part of the 1st valvifer, in the form and degree of inclination of the base of the 1st valvula, and in the degree of exposure of the ventral wall of the atrium. The last is mainly determined by the degree of inclination of the bases of the 1st valvulae, but also to some extent by the height of a *vertical ridge* that extends dorsad from the posterior margin of the pregenital sternite.

#### Family CIXIIDAE Spinola

##### **Phytocentor** Fennah, new genus

Body strongly laterally compressed. Length of head from base of frons to apex of anteclypeus greater than width of frons at widest part (about 2.8:1). Frons with disc slightly depressed in basal  $\frac{1}{2}$ , median carina forked basally; antennae long, not recessed in a pit; no subantennal process developed; rostrum long. Vertex much broader than long in middle, no median transverse carina present, anterior margin transverse or nearly so. Tegmina steeply tectiform;  $Sc+R$  and  $M$  emerging from basal cell distinctly separately from  $Cu_1$ ; transverse veinlet  $M_{3+4}-Cu_{1a}$  much shorter than transverse veinlet  $R-M$  and than vein  $M_{3+4}$  from  $M$  fork to  $M_{3+4}-Cu_{1a}$ .

Type-species: *Phytocentor longicornis*, n. sp.

The tegminal venation suggests that *Phytocentor* is allied to *Bajauana*, but the differences between *P. longicornis* and all species of *Bajauana* are not restricted to the shapes of the antennae and median frontal carina, but their taxonomic status is at present uncertain. They include the well-defined but only weakly produced lateral carinae of the frons, marked obliquity of the axis of the eye, abnormally small lateral ocelli and lateral pronotal carinae that remain well separated from the hind margin (as in *Kirbyana*), and a short basal metatarsal segment.

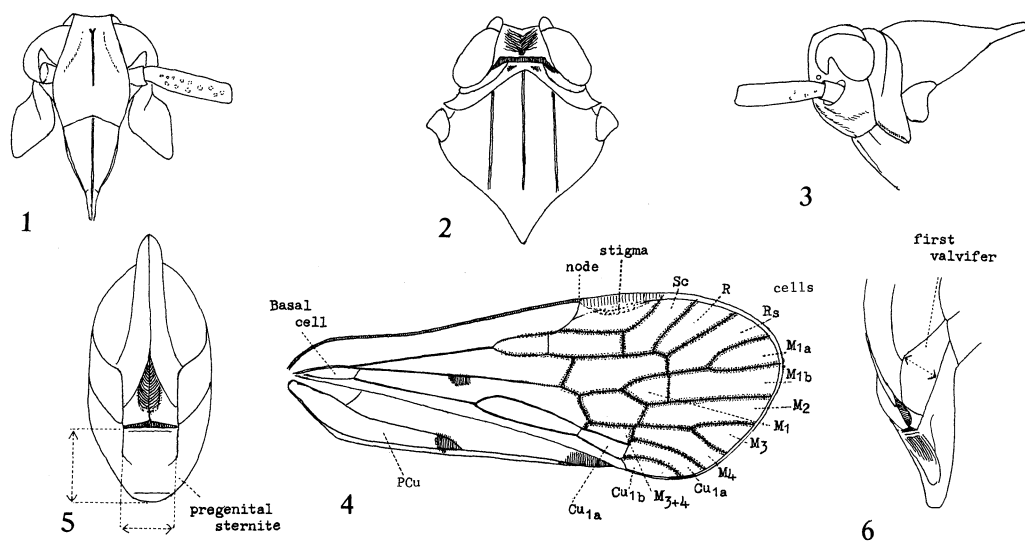


FIG. 1-6. *Phytocentor longicornis*: 1, frons, clypeus and lateral lobes of pronotum; 2, vertex, pronotum and mesonotum; 3, head and thorax, lateral view; 4, tegmen; 5, ♀ genitalia, posteroventral view; 6, pregenital sternite, 1st valvifer and base of ovipositor.

### *Phytocentor longicornis* Fennah, new species

FIG. 1-6

Vertex wider at anterior margin than long in middle line (1.5:1), anterior margin weakly concave, almost straight, lateral margins strongly diverging caudad, width between basal angles greater than at anterior margin (1.7:1), length of lateral margin greater than length in middle (1.6:1), posterior margin shallowly concave, disc deeply depressed, medially ecarinate. Frons in middle line longer than broad at widest part (1.4:1), wider at widest part than at base (2.2:1), wider at apex than at base (1.6:1), basal margin only weakly elevated, lateral margins weakly produced, especially in basal  $\frac{1}{2}$ , median carina obsolete basally and in apical  $\frac{1}{3}$ , furcate at its basal extremity, median ocellus absent, post-clypeus longer than broad (1.2:1); antenna with basal segment longer than broad at apex, 2nd segment longer than 1st and than broad (about 4:1), cylindrical, slightly widening distad, antennal socket much inflating lower  $\frac{1}{2}$  of gena. Mesonotum longer in middle line than broad between lateral carinae (about 2.2:1). Basal metatarsal segment longer than broad at apex (3.0:1), with 6 teeth. Tegmina with costa only weakly produced at base, stigma longer than broad (2.6:1), marginal area with 3 rows of coarse granules, submarginal area obscure, without granules,  $Sc_2$  rather weakly bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $M_{3+4}-Cu_{1a}$  longer than latter (6.0:1), subapical cell  $M_{3+4}$  as long as subapical cell  $Cu_{1a}$ , apical margin of tegmen rather obliquely rounding. Wing with R apparently simple.

Fuscous; frons in basal  $\frac{1}{2}$ , genae, lateral fields of pronotum, lateral carinae of mesonotum, pleura, post-coxae and abdominal sternites except at sides, and tergites along posterior margin, light brownish yellow. Tegmina grayish, subhyaline, veins piceous, closely granulate, a spot in M at middle of corium, a spot at union of claval veins and a suffusion narrowly overlying each vein of membrane, piceous. Wings subhyaline, veins dark fuscous.

♀. Pregenital sternite in middle line longer than width at hind margin (1.3:1) and than greatest width of 1st valvifer (1.9:1), basal margin strongly elevated, almost knoblike at middle, hind margin transverse, inner vertical ridge above hind margin narrow, widest at middle. First valvifer shallowly subangulately rounding at level of base of 3rd valvula; 2nd valvifer tumid, longer than broad (2.3:1). First valvulae rapidly widening to base, combined width of bases of these valvulae greater than the length in middle line to level of base of 3rd valvulae (about 1.4:1), lateral margins strongly convex near base, inner margin deeply depressed. Ventral wall of atrium not exposed.

♀: length, 5.0 mm; tegmen, 6.5 mm.  
♂. Unknown.

Holotype ♀, IRIAN: NEW GUINEA (NW): Waris, S of Hollandia, 450-500 m, 16-23.VIII.1959, T.C. Maa (BISHOP 11,649).

In 1 tegmen of this specimen, there is a supernumerary transverse veinlet between Sc and R just basad of the stigma, and in the other, there is no transverse veinlet between  $Cu_{1a}$  and  $Cu_{1b}$  at the level of  $M_{3+4}-Cu_{1a}$ ; both these conditions are regarded as aberrations from the normal condition in the species.

### **Dilacreon Fennah, new genus**

Species of moderate size (length to apex of folded tegmina 5.0-5.6 mm). Body strongly laterally compressed. Length of head from base of frons to apex of anteclypeus greater than width of frons at widest part (1.9-2.3:1). Frons not or only slightly depressed basally, median carina simple, sometimes attaining basal margin, sometimes not; antennae short, not sunk in a pit; no subantennal process present. Vertex much broader than long in middle, no median transverse carina present, anterior margin transverse or weakly angulately produced. Basal metatarsal segment normally with more than 5 teeth apically. Tegmina steeply tectiform; Sc+R and M emerging from basal cell distinctly separately from  $Cu_1$ ; a supernumerary transverse veinlet sometimes present between M and  $Cu_{1a}$  close to Cu fork; transverse veinlet  $M_{3+4}-Cu_{1a}$  much shorter than transverse veinlet R-M and than vein  $M_{3+4}$  from M fork to  $M_{3+4}-Cu_{1a}$ . Wing with R simple.

Type-species: *Dystheatias orpheus* Fennah (1956: 78).

This genus is regarded as comprising 2 subgenera, separable as follows.

Frons with lateral margins produced almost laterad; tegmen with a transverse veinlet from M to $Cu_1$ near Cu fork .....	<b>Dilacreon</b>
Frons with lateral margins produced distinctly anterolaterad; tegmen without a transverse veinlet from M to $Cu_1$ near Cu fork .....	<b>Eluzalmon, n. subgen.</b>

In addition to the type-species, the typical subgenus includes a further species from Micronesia, *Dilacreon telamon* (Fennah), n. comb. (*Dystheatias telamon* Fennah, 1956: 79), and the following 2 new species from New Guinea. On the basis of material so far seen, the subgenus does not appear to be represented in the Solomon Is, Samoa or Fiji.

The names *Dilacreon* and *Eluzalmon* are arbitrary combinations of letters and both are of masculine gender.

### **Dilacreon (Dilacreon) semiramis Fennah, new species**

FIG. 7-14

Vertex wider at anterior margin than long in middle line (2.1-2.6:1), anterior margin obtusely angulate, lateral margins moderately weakly diverging caudad, width between basal angles greater than at anterior margin (1.2-1.3:1), length of lateral margin greater than length in middle line (1.5-1.7:1), posterior margin shallowly angulately excavate, disc shallowly depressed, medially carinate. Frons in middle line not longer than broad at widest part (1:1.2), wider at widest part than at base (1.8:1), about as wide at apex as at base, basal margin elevated, lateral margins moderately foliaceous, produced laterad, median carina distinct to basal margin, median ocellus absent; post-clypeus not quite as long as broad (1:1.1); antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.3:1). Basal metatarsal segment with about 7 teeth. Tegmen with costa strongly produced at base, stigma longer than broad (2.5:1), marginal area with 4-5 rows of granules, submarginal area distinct, without

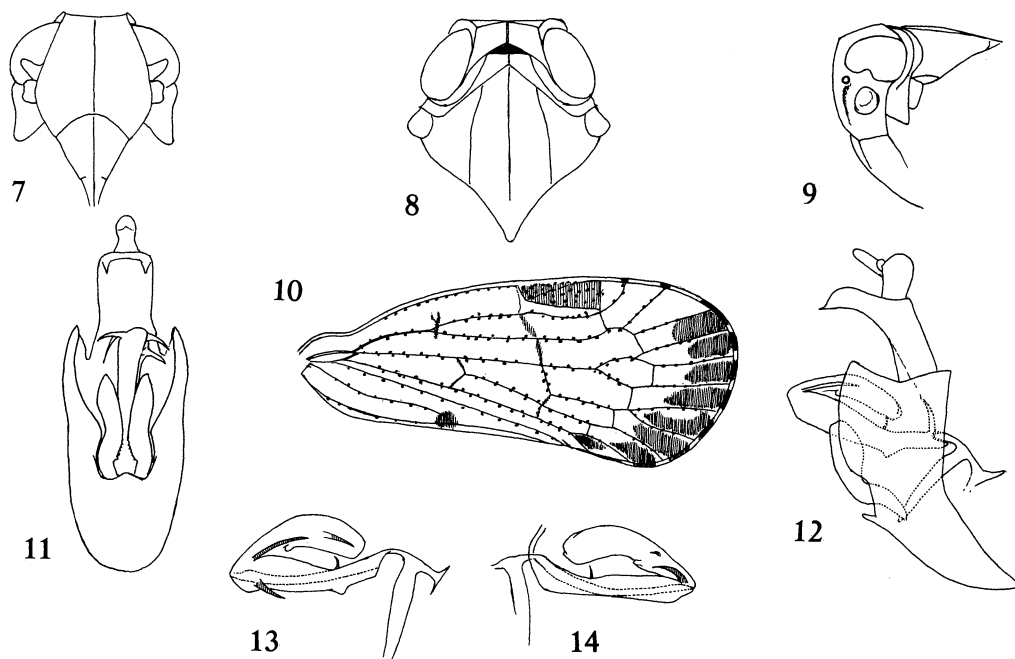


FIG. 7-14. *Dilacreon (Dilacreon) semiramis*: 7, frons, clypeus and lateral lobes of pronotum; 8, vertex, pronotum and mesonotum; 9, head and thorax, lateral view; 10, tegmen; 11, ♂ genitalia, posterior view; 12, the same, right side; 13, aedeagus, right side; 14, aedeagus, left side.

granules,  $Sc_2$  weakly bent at level of 1st transverse vein, vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (2.8:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.4:1), apical margin of tegmen evenly broadly rounding.

Dull grayish brown; carinae of head and thorax lighter, pygofer fuscous basally, pale ochraceous distally, genital styles pale ochraceous; abdomen of ♀ fuscous, with margin of 1st valvifer and inner edge of 3rd valvula narrowly ochraceous. Tegmina subhyaline to translucent, more or less dilute grayish brown, granules on veins, transverse veinlets of corium, stigma except in some populations, apical cells and apical margin between apices of veins, fuscous. Wings dilute fuscous with veins darker.

♂. Anal segment rather short, markedly deflexed in distal  $\frac{1}{2}$ , lateral margin in side view strongly concave, lateroapical angles each acuminate, apical margin transverse or shallowly concave. Pygofer with dorsolateral angles strongly produced caudad, rectangulate or rounded (specimens from Ifar), lateral margin in side view shallowly convex except in ventral  $\frac{1}{3}$ , medioventral process triangular, broader at base than long in middle. Aedeagus in side view rather narrow, a small lobe ventrally about  $\frac{1}{3}$  from base, a short spinose process on left dorsally at same level, directed dorsad, a rather larger spinose process on left apically near base of flagellum, directed cephalad, a similar spinose process on right side a little before apex, directed ventrocephalad, and a longer spinose process on right at base of flagellum directed dorsocephalad; flagellum with a moderately long spinose process on right in distal  $\frac{1}{3}$ , and a very small spinose process on left in basal  $\frac{1}{3}$ ; suspensorium  $\frac{1}{2}$  as long as basal plate strut. Genital style in side view upcurved in distal  $\frac{1}{2}$ , widening from middle to distal  $\frac{1}{4}$ , apical margin strongly oblique, apical angle broadly rounding.

♀. Pregenital sternite in middle line longer than wide at hind margin (1.2:1), and than greatest width of 1st valvifer (1.8:1), basal margin narrowly elevated, hind margin very slightly convex, inner vertical ridge above hind margin rather deep. First valvifer obtusely rounding at level of base of 3rd valvulae.

First valvulae rapidly widening to base, with outer margins convex, ventral surface more or less weakly sloping to middle line. Ventral wall of atrium not or only slightly exposed.

♂: length, 3.6 mm; tegmen, 5.0 mm. ♀: length, 3.2 mm; tegmen, 4.9 mm.

Holotype ♂, IRIAN: NEW GUINEA (NW): Waris, S of Hollandia, 450-500 m, 1-2.VIII.1959, T.C. Maa (BISHOP 11,650). Paratypes, 14♂, 16♀, IRIAN: NEW GUINEA (NW): Waris, S of Hollandia, 450-500 m, 24-31.VIII.1959, T.C. Maa; Bodem, 100 m, 11 km SE of Oerberfaren, 7-17.VII.1959, Maa; Ifar, E end of Cyclops Mts, 150 m, 18.X.1957, J.L. Gressitt; Hollandia area, W Sentani, Cyclops Mts, 150-250 m, 17.VI.1959, Maa; PNG: NEW GUINEA (NE): Torricelli Mts, Mobitei, 750 m, 1-15.IV.1959, W.W. Brandt; Wewak, 2-26 m, 13.X.1957, Gressitt; Madang, 5 m, 28.X.1958, on palm, Gressitt; Maprik, 160 m, 29.XII.1959-17.I.1960, Maa; Amok, 165, 169 m, 6.I.1960, Maa; NEW GUINEA (SE): Brown Riv, 20.VIII.1959, Maa. All types in BISHOP.

This species is distinguishable by the proportions of the head and by the tegminal venation. There is some variation in the intensity of pigmentation of the tegmina and in the area pigmented: sometimes the tegmen is generally infuscate, though the granules on the veins of the corium are always darker than the ground color; sometimes the stigma is pale or even hyaline, or there may be a clear lunate area in the anterior ½ of the membrane. The apical margin of the tegmen is usually obliquely rounded, but occasionally (Ifar specimens) may be almost straight and oblique, with the apical angle abruptly rounding. Such a range of differences has not been found in a population sample from a single locality, and it is likely that with further material it will prove possible to recognize a number of distinct geographical subspecies.

### **Dilacreon (Dilacreon) nigricornis Fennah, new species**

FIG. 15-24

Vertex wider at anterior margin than long in middle line (1.5-1.8:1), anterior margin angulate, lateral margins strongly diverging caudad, width between basal angles greater than at anterior margin (1.7:1), length of lateral margin greater than length in middle line (2.0:1), posterior margin deeply subangulately excavate, disc rather deeply depressed, weakly medially carinate at base. Frons in middle line scarcely as long as broad at widest part, wider at widest part than at base (2.6:1), wider at apex than at base (1.8:1), basal margin not elevated, lateral margins only weakly foliaceous, median carina distinct to basal margin, median ocellus absent; post-clypeus not as long as broad (1:1.3); antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.4:1). Basal metatarsal segment with about 7 teeth. Tegmen with costa very weakly produced at base, stigma longer than broad (3.1-3.4:1), marginal area with 2 rows of granules, submarginal area obscure, without granules, Sc<sub>2</sub> weakly bent at level of 1st transverse vein, vein M<sub>3+4</sub> from M fork to M-Cu<sub>1a</sub> longer than M-Cu<sub>1a</sub> (2.2:1), subapical cell M<sub>3+4</sub> longer than subapical cell Cu<sub>1a</sub> (1.2:1), apical margin of tegmen broadly and slightly obliquely rounding.

Light yellowish brown; antennae with 2nd segment black, abdominal sternites V-VIII and IX basally, suffused fuscous, spines at apex of post-tibiae and post-tarsal segments, dark fuscous, carinae of thorax ochraceous. Tegmina subhyaline, yellowish gray, veins of corium concolorous, transverse veinlets, a supernumerary vein between M and Cu fork, and a spot overlying union of claval veins, fuscous, costa and apical margin yellowish brown, veins paler yellowish brown. Wings hyaline, veins fuscous.

♂. Anal segment bilaterally symmetrical, long, strongly decurved distad of middle, lateral margin in side view strongly concave, lateroapical angles not produced, rounding into apical margin. Pygofer with dorsolateral angles strongly acutely produced caudad, lateral margin then straight or weakly concave to ventral ⅓, where it is angulately produced caudad; medioventral process broadly rounded, wider at base



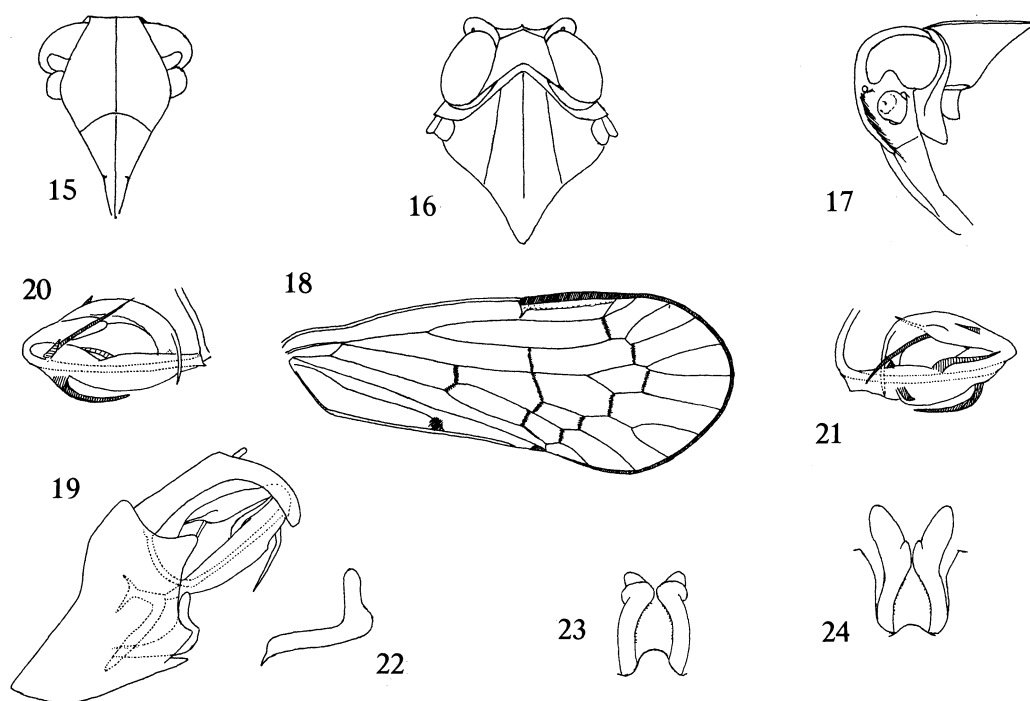


FIG. 15–24. *Dilacreon (Dilacreon) nigricornis*: 15, frons and clypeus; 16, vertex, pronotum and mesonotum; 17, head, pronotum and mesonotum, lateral view; 18, tegmen; 19, ♂ genitalia, left side; 20, aedeagus, right side; 21, aedeagus, left side; 22, left genital style, side view; 23, genital styles and medioventral process of pygofer, ventral view; 24, genital styles, posteroventral view.

than long in middle, dorsal surface transversely convex. Aedeagus with a small flattened acuminate process on left lateroventrally  $\frac{1}{4}$  from base, directed ventrocaudad, a rather long sinuate spinose process dorsally on left near middle, directed caudad, a longer spinose process arising ventrally in distal  $\frac{1}{4}$ , directed ventrad and curving cephalad, a very short acute process, directed ventrad, on dorsal margin on right, directed ventrad; flagellum with a long spinose process on right at base, directed dorsocephalad, a spinose process on left at basal  $\frac{1}{3}$ , directed cephalad, a long spinose process on left at middle, directed ventrocephalad, a moderately long slender spinose process at apex of flagellum, curving ventrad; suspensorium moderately long, shorter than basal plate strut (1:1.6). Genital style in side view rather narrow, obtuse-angulately bent upward at middle, apical margin deeply rounded, inner margin in basal  $\frac{1}{2}$  microcrenulate, not excavate or angulate at base.

♂: length, 2.8 mm; tegmen, 4.0 mm.

♀. Unknown.

Holotype ♂, PNG: NEW GUINEA (NE): Maprik, 150 m, 29.XII.1959, 17.I.1960, T.C. Maa (BISHOP 11,651). Paratype, PNG: NEW GUINEA (SE): Bisianumu, NE of Port Moresby, 500 m, 3.IX.1959, T.C. Maa. Types in BISHOP.

This species is distinguished by the proportions of the head, the tegminal venation and the color of the 2nd antennal segment. It is worth noting that all species of the subgenus have a pygofer with the dorsolateral angles well developed.

### Eluzalmon Fennah, new subgenus

Length of head from base of frons to apex of anteclypeus greater than width of frons at widest part (more than 2.0:1). Frons with lateral margins produced anterolaterad. Tegmen without a transverse veinlet from  $M$  to  $Cu_1$  near  $Cu$  fork.

Type of subgenus, *Dilacreon (Eluzalmon) caudatus*, n. sp.

This subgenus appears to contain at least 3 species groups, but the material available for study was not sufficient to make an analysis of variation within each.

#### KEY TO SPECIES OF *Dilacreon (Eluzalmon)* IN NEW GUINEA

1. Anterior margin of vertex straight or very weakly convex, transverse ..... 2  
Anterior margin of vertex angulate ..... 9
2. Tegmen with transverse veinlets  $M_{3+4}$ - $Cu_{1a}$  and  $Cu_{1a}$ - $Cu_{1b}$  present ..... 3  
Tegmen with 1 of these veinlets absent or occluded ..... 4
3. Frons longer in middle line than wide at base (about 1.9:1); tegmen with posterior cell of clavus darker than all other cells ..... **idomeneus, n. sp.**  
Frons longer in middle line than wide at base (2.4:1); tegmen with posterior cell of clavus not darker than all other cells ..... **vashni, n. sp.**
4. Frons longer in middle line than wide at base (2.2-2.3:1) ..... 5  
Frons relatively shorter in relation to its basal width (2.0-2.1:1) ..... 7
5. Vertex broader at anterior margin than long in middle (1.3-1.6:1); tegminal cell  $Cu_{1a}$  shorter than its stalk ( $Cu_1$ ) ..... **koa, n. sp.**  
Vertex broader at anterior margin than long in middle (about 2.1:1); tegminal cell  $Cu_{1a}$  longer than its stalk ..... 6
6. Antennae tawny; abdomen dorsally brown; vertex in profile obtusely angulately meeting frons; 1st vein of stigma ( $Sc_{2a}$ ) transverse ..... **parmenion, n. sp.**  
Antennae creamy white; abdomen dorsally creamy white; apex of vertex in profile evenly rounding into frons; 1st vein of stigma oblique ..... **caudatus, n. sp.**
7. Frons pale, piceous between eyes ( $\delta$ ), or dark fuscous with lateral margins and an oval spot in middle line at level of ocelli pallid ( $\text{♀}$ ); vertex weakly medially carinate ..... **pictifrons, n. sp.**  
Frons not so marked; vertex ecarinate ..... 8
8. Vertex wider at anterior margin than long in middle line (2.0:1); frons weakly recurved basally; mesonotum in side view a little elevated anteriorly above level of vertex ..... **gibber, n. sp.**  
Vertex wider at anterior margin than long in middle line (1.6:1); frons not recurved basally; mesonotum in side view not at all elevated ..... **sordidus, n. sp.**
9. Width between basal angles of vertex greater than width at anterior margin (1.7:1); frons wider at widest part than at base (2.3:1); lateral fields of pronotum and mesonotum creamy white ..... **chionomus, n. sp.**  
Width between basal angles of vertex greater than width at anterior margin (1.3-1.5:1); frons wider at widest part than at base (1.9-2.0:1); lateral fields of pronotum and mesonotum not creamy white ..... 10
10. Frons slightly visible throughout its width in dorsal view of head; tegmen with stigma longer than broad (about 2.3:1); subapical cell  $M_1$  only slightly longer than broad; vein  $M_{3+4}$  fusing in part with  $Cu_{1a}$  ..... **themistius, n. sp.**  
Frons not visible throughout its width in dorsal view of head; tegmen with stigma longer than broad (about 3.5:1); subapical cell  $M_1$  2 $\times$  as long as broad; vein  $M_{3+4}$  not touching  $Cu_{1a}$  ..... 11
11. Frons longer in middle line than broad at base (2.4-2.5:1); tegmen with about 8 dilute fuscous spots and with apical margin fuscous ..... **pentagonus, n. sp.**  
Frons longer in middle line than broad at base (2.1:1); tegmen with 2 fuscous spots on corium and with apical margin alternately pallid and fuscous ..... **salma, n. sp.**

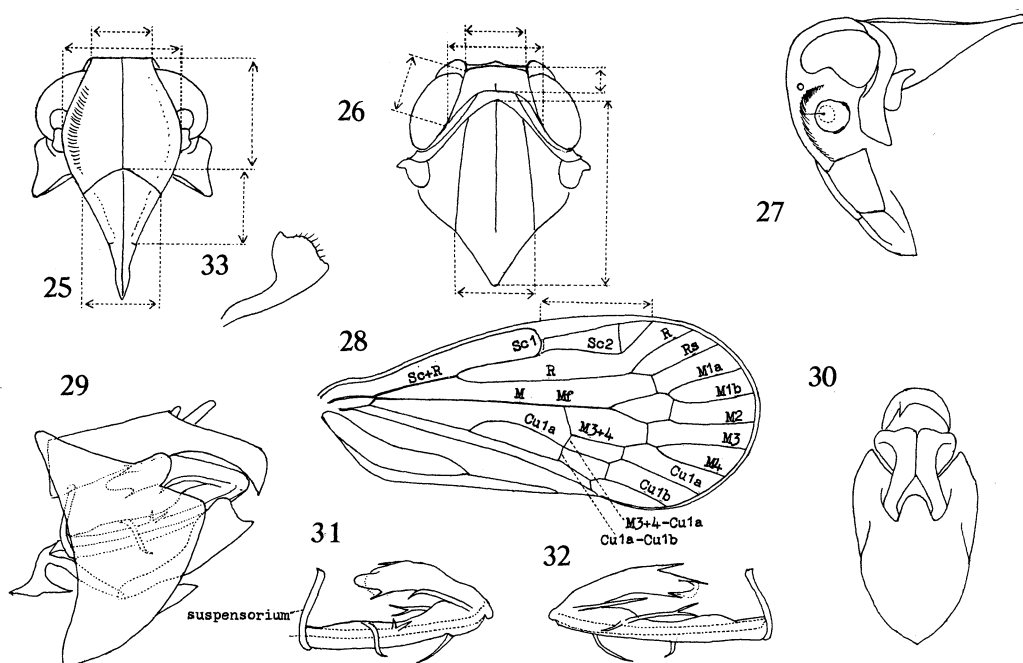


FIG. 25–33. *Dilacreon (Eluzalmon) idomeneus*: 25, frons and clypeus; 26, vertex, pronotum and mesonotum; 27, head and thorax, lateral view; 28, tegmen; 29, ♂ genitalia, left side; 30, ♂ genitalia, ventral view; 31, aedeagus, left side; 32, aedeagus, right side; 33, left genital style, lateral view.

### *Dilacreon (Eluzalmon) idomeneus* Fennah, new species

FIG. 25–33

Vertex wider at anterior margin than long in middle line (2.0:1), anterior margin slightly convex, lateral margins moderately strongly diverging caudad, width between basal angles greater than at anterior margin (1.4:1), length of lateral margin greater than length in middle line (1.5:1), posterior margin rather broadly subangulately concave; disc moderately depressed, medially carinate basally. Frons in middle line shorter than broad at widest part (1:1.1), wider at widest part than at base (2.1:1), wider at apex than at base (1.3:1), basally recurved, margin not elevated, lateral margins not foliaceous, median carina distinct to basal margin; median ocellus absent; postclypeus not quite as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.7:1). Basal metatarsal segment with about 7 teeth. Tegmen with costa strongly produced at base, stigma longer than broad (2.9:1), marginal area with 2–3 rows of small granules, submarginal area moderately distinct, without granules,  $Sc_2$  weakly bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $M_{3+4}-Cu_{1a}$  longer than latter (2.5:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.3:1), apical margin of tegmen broadly rounding.

Light orange-brown; mesonotum slightly darker. Tegmina subhyaline, uniformly dilute yellowish brown except in posterior cell of clavus, which is darker; veins concolorous in corium, light brown in membrane, transverse veinlets a little darker brown, costa and stigma pale yellowish brown, apical margin darker. Wings dilute fuscous, with fuscous veins.

♂. Anal segment relatively long, asymmetrical, moderately deflexed distad of anal foramen, lateral margin in side view concave, apical angle of left side produced ventrad in a short stout spine, apical margin smoothly rounding into lateral margin of right side. Pygofer with dorsolateral angles strongly produced in rounded lobe, lateral margin subrectangulate at middle, medioventral process relatively large, lateral

margins converging distad, apical margin broadly rounded. Aedeagus with a rather long, distally bifurcate, spinose process dorsally on right  $\frac{2}{3}$  from base, directed cephalad, a short slender spine arising almost at same point, directed laterocaudad; distad of this, a moderately long spinose process ventrally, curving ventrocephalad; an equally long spinose process on right near base of flagellum, directed cephalad; a narrow flange dorsally on left of aedeagus extending from base to apical  $\frac{1}{4}$ , emitting a spinose process  $\frac{1}{3}$  from base, directed ventrad and slightly curved laterad at tip, and 2 small spinose processes distad of this, arising from same point, 1 directed subdorsad, the other dorsolaterad; a rather long spinose process arising on left near base of flagellum, directed cephalad; flagellum with 2 unequal spinose processes dorsally near apex, directed cephalad, and a small spinose process on left near apex, directed cephalad; suspensorium relatively long, shorter than basal plate strut (1:1.6). Genital style rather short, in side view narrow in basal  $\frac{1}{2}$ , abruptly and strongly expanding in distal  $\frac{1}{2}$ , apical margin convex, apical angle prominent; inner margin of style in basal  $\frac{1}{2}$  with about 5 obscure teeth, margin not excavate or angulate basally.

♀. Pregenital sternite in middle line longer than wide at hind margin (1.2:1) and than greatest width of 1st valvifer (1.6:1), basal margin rather strongly elevated, rather broadly angulately convex, hind margin transverse to feebly convex, inner vertical ridge above hind margin moderately deep, deepest at middle. First valvifer obtusely angulately bent and slightly inflected at level of base of 3rd valvula; 2nd valvifer tumid, longer than broad (3:1). First valvulae rapidly widening to base, lateral margins subangulately bent rather than convex; combined width of bases of these valvulae greater than length in middle line to level of base of 3rd valvulae (about 1.5:1); ventral surface of 1st valvula at base slightly inclined towards middle line. Ventral wall of atrium slightly exposed.

♂: length, 2.9 mm; tegmen, 4.2 mm. ♀: length, 3.1 mm; tegmen, 4.4 mm.

Holotype ♂, PNG: NEW GUINEA (SE): Daradae, nr Javarere, Musgrove Riv, 100 m, 4.X.1958, J.L. Gressitt (BISHOP 11,652). Paratypes, 3 ♀, NEW GUINEA (SE): NE of Port Moresby, 150 m, Bisianumu, 19.VI.1957, D. Elmo Hardy. Types in BISHOP.

This species is distinguished by the proportions of the head and mesonotum and the shape and venation of the tegmen, as well as by the coloration.

### **Dilacreon (Eluzalmon) vashni** Fennah, **new species**

FIG. 34-42

Vertex wider at anterior margin than long in middle line (1.6:1), anterior margin straight, lateral margins rather strongly diverging caudad, width between basal angles greater than at anterior margin (1.3:1), length of lateral margin greater than length in middle (1.5:1), posterior margin shallowly concave, disc deeply depressed, medially ecarinate. Frons in middle line slightly longer than broad at widest part (1.1:1), wider at widest part than at base (2.1:1), wider at apex than at base (1.7:1), basal margin not elevated, lateral margins rather strongly foliaceous, median carina not distinct to basal margin, median ocellus absent; post-clypeus slightly longer than broad (1.1:1), antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.5:1). Basal metatarsal segment with about 6 teeth. Tegmen with costa weakly produced at base, stigma longer than broad (2.1:1), marginal area with 3-4 rows of granules, submarginal area obscure, without granules,  $Sc_2$  rather strongly bent at level of 1st transverse vein, vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (3.3:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.3:1), apical margin of tegmen rather narrowly obliquely rounding.

Pallid ochraceous; frons basally, vertex and mesonotal disc light brown; lateral fields of mesonotum, femora, pro- and mesotibiae at base and apex, apical segment of pro- and mesotarsi and pygofer, dark reddish brown; abdominal tergites V-VIII fuscous. Tegmina subhyaline, dilute brownish gray, a suffusion over corium at base, a spot in M at middle of corium, a spot near fork of  $Cu_1$  and a small spot near union of claval veins, costal cell apically, a band along stigma, apical transverse veinlets from stigma to  $M_2$  and a suffusion in apical cells between stigma and apical angle, fuscous, veins and margins otherwise concolorous. Wings sordid gray, with fuscous veins.

♂. Anal segment bilaterally asymmetrical, in side view deflexed through about  $45^\circ$  in distal  $\frac{1}{2}$ , apical margin moderately broad, slightly concave, apical angle of right side shallowly rounded, that of left side forming a shallow subquadrate lobe. Pygofer with dorsolateral angles not developed, lateral margin in side view rather deeply convex, medioventral process deeply rounded, as long as broad at base, with dorsal

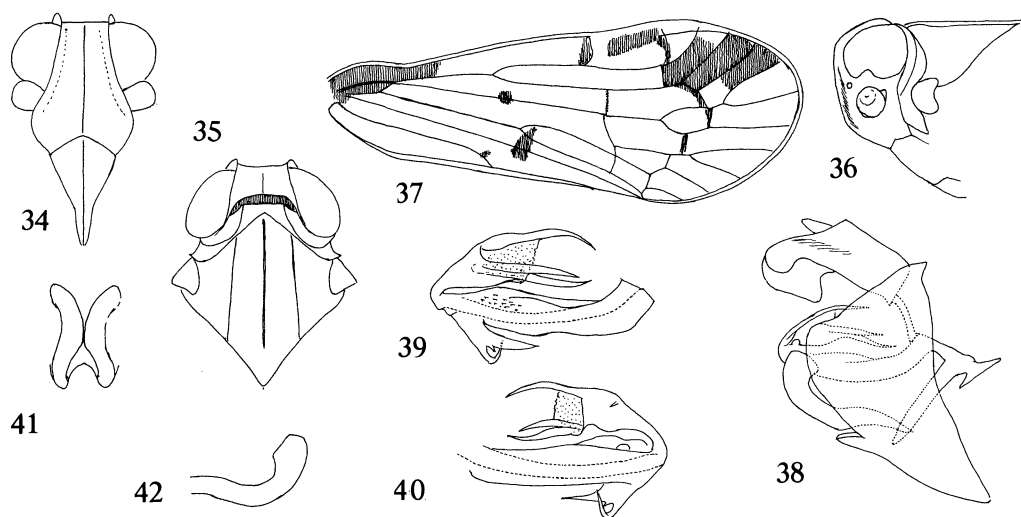


FIG. 34-42. *Dilacreon (Eluzalmon) vashni*: **34**, frons and clypeus; **35**, vertex, pronotum and mesonotum; **36**, head and thorax, lateral view; **37**, tegmen; **38**, ♂ genitalia, right side; **39**, aedeagus, right side; **40**, aedeagus, left side; **41**, medioventral process of pygofer and genital styles, posteroventral view; **42**, left genital style, side view.

margin horizontal. Aedeagus with dorsal margin on right at  $\frac{3}{5}$  from base inflated into a shallow lobe beset with small spicules directed caudad, a small lobe on right ventrally at apex extending ventrocephalad and produced into 4 spinose processes, 2 long and 2 short; flagellum extending basad for about  $\frac{4}{5}$  length of aedeagus, with a long spinose process dorsally and a pair of subequal shorter spinose processes distally below the former, a shorter spinose process on left  $\frac{1}{3}$  from base, directed laterocephalad; suspensorium slightly more than  $\frac{1}{2}$  as long as basal plate strut. Genital style moderately long, in side view moderately narrow, upcurved in distal  $\frac{1}{2}$  and widening to apex, apical margin rounded, inner margin in basal  $\frac{1}{2}$  not denticulate and not incised at base.

♂: length, 3.0 mm; tegmen, 4.5 mm.

♀. Unknown.

Holotype ♂, IRIAN: NEW GUINEA (NW): Bodem, 100 m, 11 km, 7-17.VII.1959, T.C. Maa (BISHOP 11,653). Paratype, 1 ♂, same data as holotype. Types in BISHOP.

This species is characterized by the proportions of the head and details of the tegminal venation in combination with the tegminal coloration. The unusual feature of the last is the rather gradual merging of the dark areas into the lighter; this is particularly evident in the spots on the corium.

The specific epithet is a noun.

#### ***Dilacreon (Eluzalmon) koa* Fennah, new species**

FIG. 43-51

Vertex wider at anterior margin than long in middle line (1.3-1.6:1), anterior margin straight, lateral margins moderately strongly diverging caudad, width between basal angles greater than at anterior margin (1.3-1.4:1), length of lateral margin greater than length in middle line (1.4-1.6:1), posterior margin rather shallowly concave, disc deeply depressed, medially ecarinate. Frons in middle line about as long as broad at widest part, wider at widest part than at base (2.2-2.4:1), wider at apex than at base (1.4-1.7:1), basal

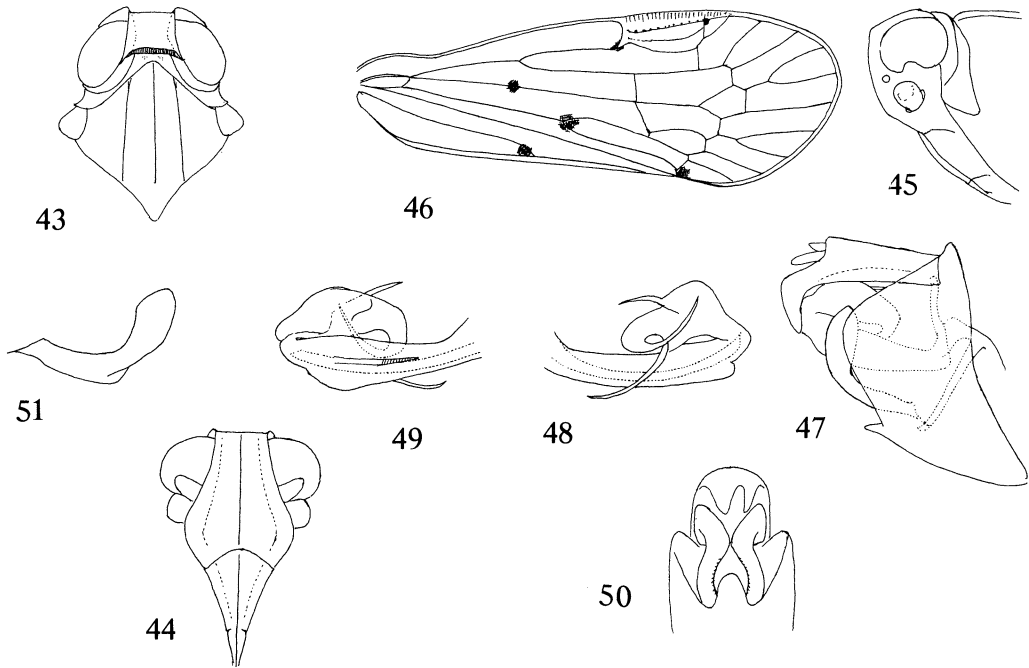


FIG. 43-51. *Dilacreon (Eluzalmon) koa*: 43, vertex, pronotum and mesonotum; 44, frons and clypeus; 45, head and pronotum, lateral view; 46, tegmen; 47, ♂ genitalia, right side; 48, aedeagus, left side; 49, aedeagus, right side; 50, ♂ genitalia, ventral view; 51, left genital style, lateral view.

margin only slightly elevated, lateral margins moderately foliaceous, median carina not distinct to basal margin, median ocellus absent; post-clypeus as long as broad or slightly longer; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.5-2.7:1). Basal metatarsal segment with 5-6 teeth. Tegmen with costa rather weakly produced at base, stigma longer than broad (2.4-2.5:1), marginal area with 2-3 rows of granules, submarginal area obscure, without granules,  $Sc_2$  moderately strongly bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (at least 5:1),  $M-Cu$  sometimes absent, subapical cell  $Cu_{1a}$  without a transverse veinlet  $Cu_{1a}-Cu_{1b}$ , apical margin of tegmen rather narrowly obliquely rounding.

Stramineous; a suffusion overlying lateral carinae of mesonotum pale ochraceous. Profemur with a fuscous lower margin or apical spot. Tegmina hyaline, a spot in M at middle of corium, a small spot near  $Cu_1$  fork and another just distad of apex of clavus and a slightly larger spot at union of claval veins, fuscous; veins yellowish, transverse veinlets and veins distad of subapical line, and apical margin, yellowish brown to fuscous. Wings grayish hyaline, with fuscous veins.

♂. Anal segment moderately long, bilaterally symmetrical, lateral margin in side view very shallowly concave in basal  $\frac{1}{2}$ , deeply concave in distal  $\frac{1}{2}$ , lateroapical angles each strongly produced ventrad in a deeply rounded lobe, apical margin concave. Pygofer with dorsolateral angles not developed, lateral margins broadly convex; medioventral process slightly broader at base than long in middle, lateral margins convex, meeting subangulately at apex. Aedeagus with a spinose process on right side at middle, directed cephalad; flagellum extending basad for scarcely  $\frac{2}{3}$  length of aedeagus, decurved distally, a moderately long slender spinose process dorsally at middle, directed dorsocephalad, 2 long subfilamentous processes arising at apex of membranous portion, 1 directed ventrocephalad, the other recurved dorsocaudad; suspensorium relatively long, portion above level of dorsal margin of aedeagus  $\frac{3}{4}$  length of basal plate strut. Genital style in side view curved evenly upward distad, not much widening, apical margin convex, inner margin minutely subdenticulate in basal  $\frac{1}{2}$ , not excavate or angulate basally.

♀. Pregenital sternite in middle line longer than wide at hind margin (1.6:1) and than greatest width of 1st valvifer (2.0:1), basal margin distinctly and rather broadly elevated, hind margin transverse, inner vertical ridge above hind margin comparatively deep. First valvifer obtusely rounding at level of base of 3rd valvulae. First valvulae rapidly widening to base, lateral margins convex, ventral surface strongly sloping to middle line. Ventral wall of atrium only moderately exposed.

♂: length, 2.5 mm; tegmen, 4.2 mm. ♀: length, 3.7 mm; tegmen, 5.4 mm.

Holotype ♂, IRIAN: NEW GUINEA (NW): Bodem, 100 m, 11 km SE of Oerberfaren, 7–17.VII.1959, T.C. Maa (BISHOP 11,654). Paratypes, 1♂, 1♀, same data as holotype. Types in BISHOP.

This species is recognizable by the proportions of the head and features of tegminal venation. The combination of a relatively narrow quadrate vertex and a tegmen in which the transverse veinlet M-Cu<sub>1</sub> is extremely short or even absent, and no transverse veinlet is present between Cu<sub>1a</sub> and Cu<sub>1b</sub> and a profemur with a fuscous spot at the apex of the lower margin, or a fuscous band along the lower margin, suffices to identify this species.

The specific epithet is a noun.

#### ***Dilacreon (Eluzalmon) parmenion* Fennah, new species**

FIG. 52–56

Vertex wider at anterior margin than long in middle line (2.1:1), anterior margin straight, lateral margins rather strongly diverging caudad, width between basal angles greater than at anterior margin (1.3:1), length of lateral margin greater than length in middle line (1.4:1), posterior margin shallowly concave, disc deeply depressed, medially ecarinate. Frons in middle line longer than broad at widest part (1.2:1), wider at widest part than at base (1.8:1), wider at apex than at base (1.2:1), basal margin weakly elevated, lateral margins moderately foliaceous, median carina not distinct to basal margin, median ocellus absent; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle than broad between lateral carinae at base (2.4:1). Basal metatarsal segment with about 7 teeth. Tegmen with costa moderately strongly produced at base, stigma longer than broad (2.9:1), marginal area with 1–2 rows of granules, submarginal area obscure, without granules, Sc<sub>2</sub> weakly bent at level of 1st transverse vein, vein M<sub>3+4</sub> from M fork to Cu<sub>1a</sub> longer than Cu<sub>1a</sub>-Cu<sub>1b</sub> (4.3:1), veinlet M-Cu absent, subapical cell M<sub>3+4</sub> longer than subapical cell Cu<sub>1a</sub> (1.2:1), apical margin of tegmen evenly broadly rounding.

Light reddish brown; intercarinal areas of mesonotal disc and abdomen darker. Tegmina yellow, hyaline, posterior cell of clavus and sometimes an oblique fascia from costal margin to claval suture and a suffusion over transverse veinlets of nodal and subapical lines, or a cloud covering apex of costal cell and subapical cells R, M<sub>1+2</sub> and M<sub>3+4</sub> and apical cells R and R<sub>s</sub> in membrane, dark reddish brown. Wings pearly gray, veins pallid or concolorous.

♀. Pregenital sternite in middle line longer than wide at hind margin (1.7:1) and than greatest width of 1st valvifer (2.2:1), basal margin slightly elevated, acutely rounding medially, hind margin broadly convex, no inner vertical ridge above hind margin. First valvifer obtusely rounding at level of base of 3rd valvulae. First valvulae uniformly widening to base, with outer margins very weakly convex, ventral surface on its inner ½ moderately sloping to middle line, a small eminence on inner margin in basal ⅓, a broad depression laterobasally. Ventral wall of atrium slightly exposed.

♀: length, 3.3 mm; tegmen, 5.6 mm.

♂. Unknown.

Holotype ♀, PNG: NEW GUINEA (NE): Mt Otto, 2200 m, 23.VI.1955, J.L. Gressitt (BISHOP 11,655). Paratypes, 2♀, NEW GUINEA (NE): Mt Otto, 2200 m, 23.VI.1955; Daulo Pass, 2800 m (Asaro-Chimbu div.), 14.VI.1955, J.L. Gressitt. Types in BISHOP.

This species is recognizable by the proportions of the head and tegmen, the features of tegminal venation and the coloration. In the tegmen, the stalk Sc+R is shorter

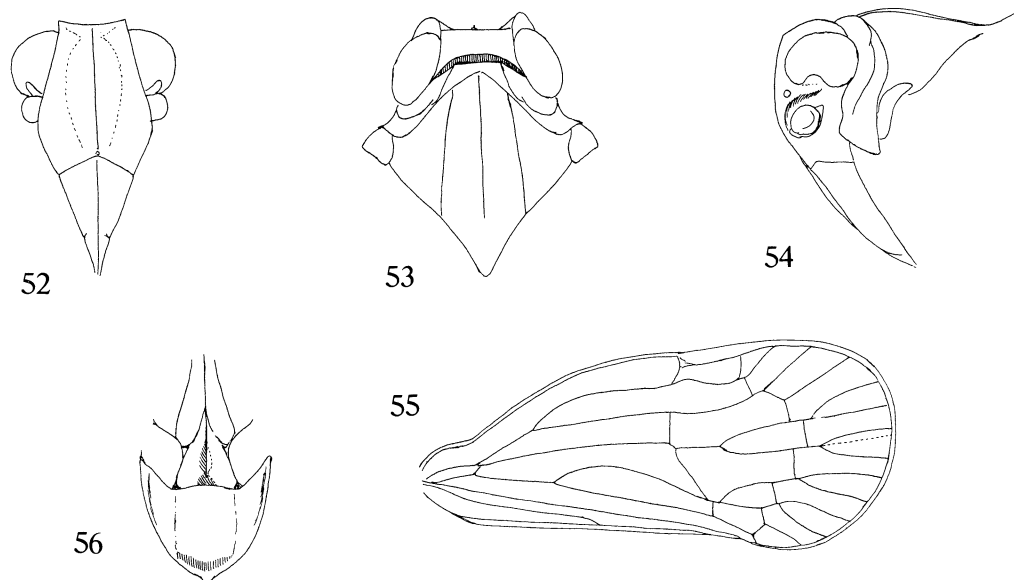


FIG. 52-56. *Dilacreon (Eluzalmon) parmenion*: **52**, frons and clypeus; **53**, vertex, pronotum and mesonotum; **54**, head, pronotum and mesonotum, lateral view; **55**, tegmen; **56**, pregenital sternite and bases of 1st valvulae of ovipositor, ventral view.

than cell Sc measured from the Sc+R fork to the 1st fork of Sc (the base of the stigma) (1:2.2);  $Cu_{1a}$  is forked distad of the subapical line of transverse veinlets; when the folded tegmina are viewed in transparency, the margin of the wing can be seen to be close to the apical margin of the tegmen, separated from it by a distance about equal to  $3\times$  the thickness of the apical margin of the tegmen. The female genitalia are characterized by the relatively great length of the pregenital sternite and the apparent absence of the inner vertical ridge above the hind margin. (It is possible that the ridge in this species is produced caudad instead of dorsad.) As in the majority of species of this subgenus, and both species of the typical subgenus, the post-tibial apical teeth are arranged in groups of 1, 5, with the 5 comprising an oblique row of 4 equal-sized teeth and a small tooth, somewhat displaced from this line, at its outer edge.

#### ***Dilacreon (Eluzalmon) caudatus* Fennah, new species**

FIG. 57-67

Vertex wider at anterior margin than long in middle line (2.1:1), anterior margin straight, lateral margins weakly diverging caudad, width between basal angles greater than at anterior margin (1.2:1), length of lateral margin greater than length in middle line (1.7:1), posterior margin shallowly concave, disc deeply depressed, medially ecarinate. Frons in middle line longer than broad at widest part (1.2:1), wider at widest part than at base (1.9:1), wider at apex than at base (nearly 1.3:1), basal margin slightly elevated, lateral margins moderately foliaceous, median carina scarcely distinct to basal margin; median ocellus absent; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.4:1). Basal metatarsal segment with about 7 teeth. Tegmen with costa moderately strongly produced at base, stigma longer than broad (3.0:1), marginal area



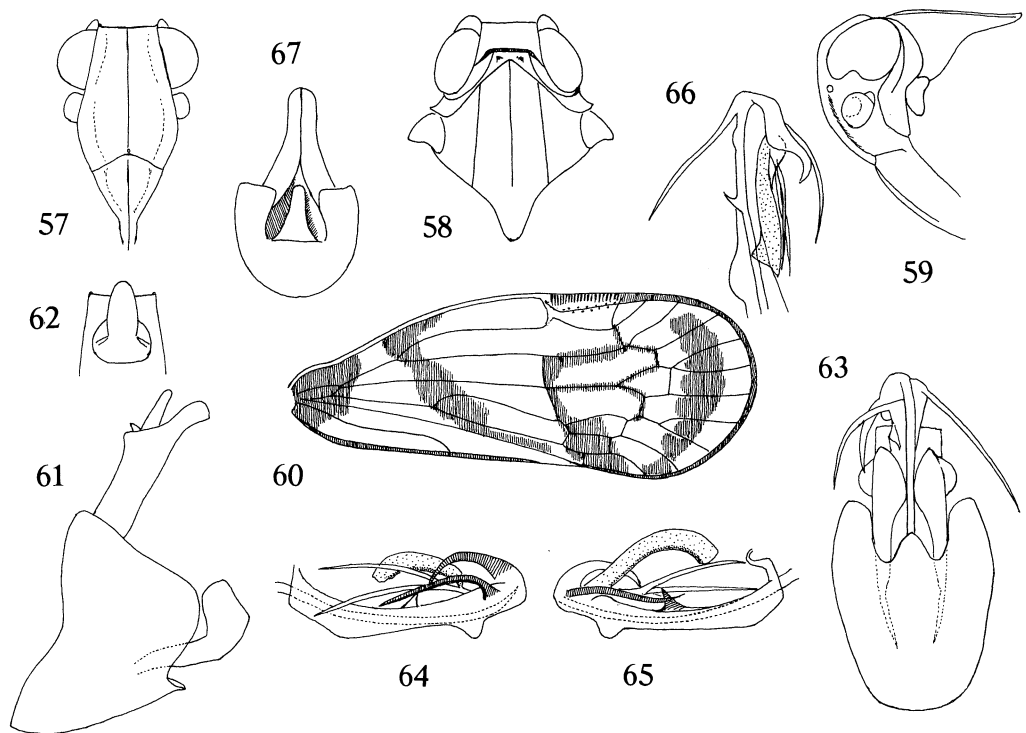


FIG. 57-67. *Dilacreon (Eluzalmon) caudatus*: 57, frons and clypeus; 58, vertex, pronotum and mesonotum; 59, head, pronotum and mesonotum, lateral view; 60, tegmen; 61, anal segment, pygofer and genital style, left side; 62, apex of anal segment, dorsal view; 63, ♂ genitalia, ventral view; 64, aedeagus, left side; 65, aedeagus, right side; 66, aedeagus, dorsal view; 67, pregenital sternite and basal part of 1st valvifers, ventral view.

with 1-2 rows of granules, submarginal area obscure, without granules,  $Sc_2$  not or weakly bent at level of 1st transverse vein, vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (7.0:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.4:1), apical margin of tegmen evenly broadly rounding.

Castaneous; carinae of frons, sides of head above eyes, antennae, rostrum and tibiae and tarsi lighter reddish brown. Tegmina yellowish, subhyaline, basal 7th, clavus in distal  $\frac{1}{2}$ , a linear mark from apex of costal cell across to M, transverse veinlets between stigma and M, and apical margin, reddish brown (in 1 ♀ an additional oblique fascia from basal  $\frac{1}{2}$  of costal margin to  $Cu_2$  near apex of clavus). Wings white, with veins concolorous.

♂. Anal segment in dorsal view quadrate, slightly narrowing distad, apical margin transverse, lateral margin in side view weakly concave, lateroapical angles each produced lateroventrad in a minute peglike process. Pygofer with dorsolateral angles not developed, lateral margin in side view rather deeply convex, medioventral process relatively large, subtriangular, with lateral margins weakly convex and apex rounded. Aedeagus with a triangular lobe dorsally on right at middle, directed dorsolaterocaudad, a small rounded vertical lobe on ventral margin  $\frac{3}{4}$  from base, an elongate spinose process on right at apex, directed laterocephalad, 2 curved spinose processes arising on left close to apex, upper process  $\frac{1}{2}$  as long and  $2\times$  as thick as lower, both directed laterocephalad and curving cephalad; flagellum in form of a membranous tube of equal width throughout, 2 long spinose processes arising from a common stem articulating with its basal end; suspensorium short, portion above level of upper margin of aedeagus much shorter than basal plate strut (1:3.7). Genital style in side view only moderately widening distally, strongly curved upward in distal  $\frac{1}{2}$ , apical margin convex, inner and outer apical angles broadly rounded.

♀. Pregenital sternite in middle line shorter than wide at hind margin (1:1.4) and longer than greatest width of 1st valvifer (nearly 1.2:1), basal margin moderately elevated, rectangulate at middle, hind margin transverse, a flattened tapering process, as long as remainder of pregenital sternite, extending caudad from hind margin. First valvifer subangulately rounding at level of base of 3rd valvulae. First valvulae evenly widening to base, inner margin with a small eminence a little before base, ventral surface strongly sloping to middle line. Ventral wall of atrium almost concealed, but slightly visible in posterolateroventral view.

♂: length, 3.6 mm; tegmen, 4.4 mm. ♀: length, 3.5 mm; tegmen, 5.9 mm.

Holotype ♂, PNG: NEW GUINEA (NE): Asaro-Chimbu div., 3000 m, nr Wilhelm, 29.VI.1955, J.L. Gressitt (BISHOP 11,656). Paratypes, 3 ♀, NEW GUINEA (NE): same data as holotype; Bubia, Markham Val, 50 m, 20.IX.1955, J.L. Gressitt; Huon Penin., Finisterre Range, Saidor, Kiambavi Vill, 22-29.VIII.1958, W.W. Brandt. Types in BISHOP.

This species is recognizable by the proportions of the head and features of the tegminal venation, and, most readily, by the bold chestnut marking on the deep yellowish tegmina. In the male, the form of the flagellum is unlike that of any other species, and in the female, the long process extending caudad from the hind margin of the pregenital sternite appears to be a profound modification of the small inner vertical ridge found in females of other species.

### ***Dilacreon (Eluzalmon) pictifrons* Fennah, new species**

FIG. 68-76

Vertex wider at anterior margin than long in middle line (1.7:1), anterior margin straight, lateral margins rather strongly diverging caudad, width between basal angles greater than at anterior margin (1.4-1.5:1), length of lateral margin greater than length in middle line (1.7-1.8:1), posterior margin rather deeply concave, disc deeply depressed, medially carinate. Frons in middle line as long as broad at widest part, wider at widest part than at base (2.0:1), wider at apex than at base (1.4:1), basal margin elevated, lateral margins moderately foliaceous, median carina not quite attaining basal margin; median ocellus absent; post-clypeus about as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.3-2.4:1). Basal metatarsal segment with 7 teeth. Tegmen with costa only moderately produced at base, stigma longer than broad (2.8-3.1:1), marginal area with 1-2 rows of granules, the upper row obscure, submarginal area obscure, without granules, Sc<sub>2</sub> weakly bent at level of 1st transverse vein; vein M<sub>3+4</sub> extending from M fork to Cu<sub>1a</sub>, subapical cell M<sub>3+4</sub> longer than subapical cell Cu<sub>1a</sub> (1.1-1.3:1), apical margin of tegmen rather broadly obliquely rounding.

♂. Stramineous; a pair of subquadrate spots on frons in basal ¼ fuscous to piceous. Tegmina grayish subhyaline, linear marks on R at Sc+R fork, on Sc near stigma, on M at middle of corium, on Cu<sub>1</sub> at and near Cu fork and on anterior claval vein near union, all transverse veinlets and all apical veins apically, reddish brown to fuscous.

♀. Pale yellowish brown; intercarinal areas of frons, post-clypeus, vertex and pronotum darker yellowish brown; intercarinal areas of mesonotum and abdomen, except at posterior margin of sternites and lower margin of 3rd valvulae of ovipositor, dark fuscous. Tegmina gray, subhyaline, with fuscous markings obliquely across base and middle of corium, transverse veinlets, apical cells R<sub>s</sub>, M<sub>1a</sub>, M<sub>1b</sub> and Cu<sub>1a</sub> in membrane, and at union of claval veins and junction of common claval vein with margin; apical veins at junction with margin, fuscous.

♂. Anal segment moderately long, deflexed in distal ½, apically rather hoodlike, lateroapical angles not produced, rounding into apical margin, which is transverse. Pygofer bilaterally symmetrical with dorsolateral angles not produced, lateral margin in side view broadly convex; medioventral process about as long as broad at base, subtriangular, with margins sinuate and median lobe relatively narrow, dorsal surface of process convex. Aedeagus broadly tubular, a pair of weak horizontal ledges near ventral margin in basal ½, a triangular lobe on dorsal margin of right side in basal ½, directed dorsad, a rather long

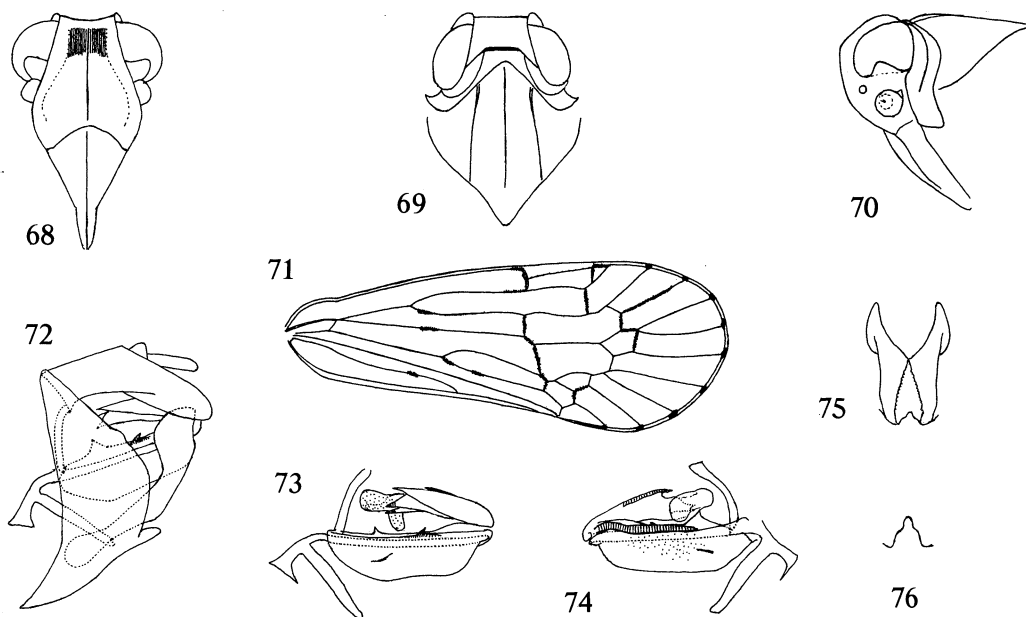


FIG. 68–76. *Dilacreon (Eluzalmon) pictifrons*: **68**, frons and clypeus; **69**, vertex, pronotum and mesonotum; **70**, head, pronotum and mesonotum, lateral view; **71**, tegmen; **72**, ♂ genitalia, left side; **73**, aedeagus, left side; **74**, aedeagus, right side; **75**, genital styles, ventral view; **76**, medioventral process of pygofer, ventral view.

stout spinose process on right at apex, directed cephalad, a small spinose process dorsally just distad of middle, directed dorsocaudad; flagellum with a short spinose process dorsally and 2 stouter short processes at apex of sclerotized portion, all directed cephalad; suspensorium about  $\frac{2}{3}$  as long as basal plate strut. Genital style in side view angulately bent dorsocaudad at middle; inner margin in basal  $\frac{1}{2}$  denticulate, margin not excavate at base.

♀. Pregenital sternite in middle line slightly shorter than wide at hind margin (1:1.1) and longer than greatest width of 1st valvifer (1.5:1), basal margin not elevated, hind margin very shallowly convex, inner vertical ridge above hind margin extremely narrow. First valvifer obtusely rounding at level of base of 3rd valvulae. First valvulae rapidly widening to base, with lateral margins convex, ventral surface steeply sloping to middle line. Ventral wall of atrium deeply exposed.

♂: length, 3.0 mm; tegmen, 4.5 mm. ♀: length, 3.3 mm; tegmen, 5.0 mm.

Holotype ♂, PNG: NEW GUINEA (NE): Kassam, 1350 m, 48 km E of Kainantu, 30.X.1959, T.C. Maa (BISHOP 11,657). Paratypes, NEW GUINEA (NE): 2♂, 12♀, same data as holotype; Moife, 2100 m, 7–14.X.1959, in primary forest, T.C. Maa; Finisterre Range, Saidor, Matoko, 29.VIII, 5.IX.1958, W.W. Brandt; Sepik-Waghi div., W of Banz, 1900 m, 11.VII.1955, J.L. Gressitt. Types in BISHOP.

This species is distinguished by bodily proportions and tegminal venation. Notwithstanding the striking difference in the coloration of the sexes, 2 markings in combination appear to be characteristic; these are deep infuscation of the basal  $\frac{1}{3}$  of the frons and also of the short stalk between the base of subapical cell  $M_{3+4}$  and its point of contact with the junction of  $M_{3+4}$  and  $Cu_{1a}$ .

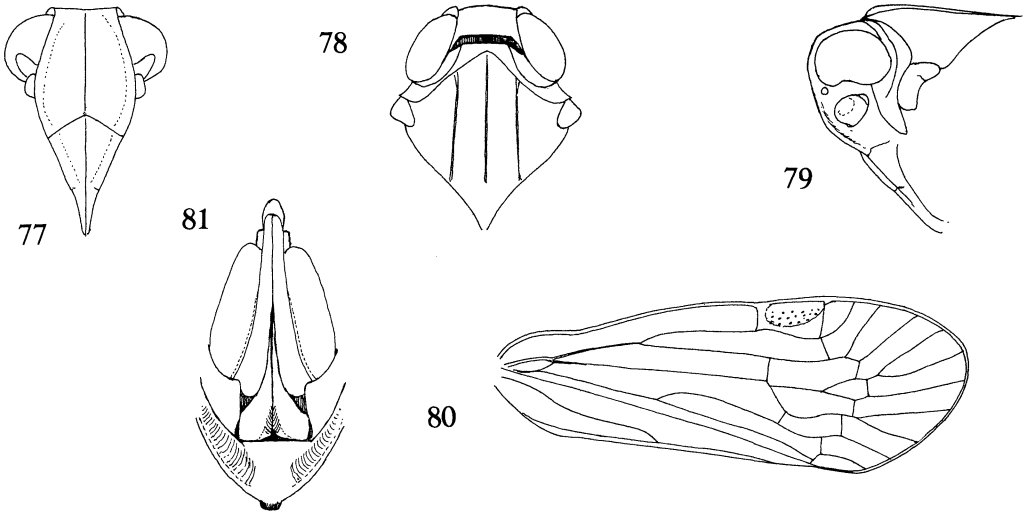


FIG. 77-81. *Dilacreon (Eluzalmon) gibber*: 77, frons and clypeus; 78, vertex, pronotum and mesonotum; 79, head, pronotum and mesonotum, lateral view; 80, tegmen; 81, ♀ genitalia, ventral view.

### *Dilacreon (Eluzalmon) gibber* Fennah, new species

FIG. 77-81

Vertex wider at anterior margin than long in middle line (2.0:1), anterior margin weakly convex, lateral margins rather weakly diverging caudad, width between basal angles greater than at anterior margin (nearly 1.3:1), length of lateral margin greater than length in middle line (1.3:1), posterior margin shallowly concave, straight in middle  $\frac{2}{3}$ , disc moderately deeply depressed, medially ecarinate. Frons slightly recurved basally, only weakly convex in profile, slightly longer in middle line than broad at widest part (1.1:1), wider at widest part than at base (1.8:1), wider at apex than at base (1.3:1), basal margin not elevated, lateral margins moderately to weakly foliaceous, median carina distinct to basal margin, median ocellus absent; post-clypeus not as long as broad (1:1.2); antenna with 2nd segment subglobose. Mesonotum markedly elevated anteriorly, longer in middle line than broad between lateral carinae at base (2.7:1). Basal metatarsal segment with about 6 teeth. Tegmen with costa weakly produced at base, stigma longer than broad (2.1:1), marginal area with 2-3 rows of granules, submarginal area obscure with a few granules,  $Sc_2$  strongly bent at level of 1st transverse vein, vein  $M_{3+4}$  from M fork to M-Cu $_{1a}$  longer than latter (3:1); no Cu $_{1a}$ -Cu $_{1b}$  veinlet at level of M-Cu $_{1a}$ ; apical margin of tegmen deeply obliquely rounding.

Fuscous; pronotum, legs and pleura light yellowish brown. Tegmina subhyaline, grayish, veins of corium much darker than ground, veins of membrane concolorous with ground, stigma piceous, with anterior  $\frac{1}{2}$ , excluding margin, dull ochraceous. Wings dilute fuscous, with veins slightly darker.

♀. Pregenital sternite in middle line fully as long as wide at hind margin and slightly longer than greatest width of 1st valvifer (1.1:1), basal margin elevated, subrectangular medially, and abruptly further elevated in a small boss, hind margin transverse, inner vertical ridge above hind margin very narrow. First valvifer obtusely rounding at level of base of 3rd valvulae. First valvulae rapidly widening to base, with outer margins convex, ventral surface slightly sloping towards middle line, more strongly decurved close to it. Ventral wall of atrium only slightly exposed.

♀: length, 3.7 mm; tegmen, 4.7 mm.

♂. Unknown.

Holotype ♀, PNG: NEW GUINEA (NE): Adelbert Mts, Wanuma, 800-1000 m, 25.X.1958, J.L. Gressitt (BISHOP 11,658). Type in BISHOP.

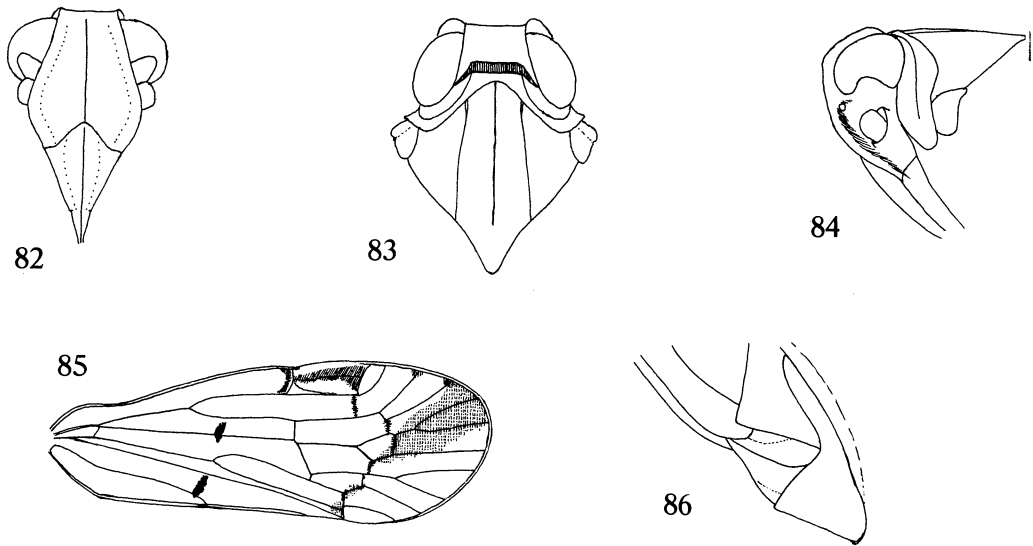


FIG. 82–86. *Dilacreon (Eluzalmon) sordidus*: **82**, frons and clypeus; **83**, vertex, pronotum and mesonotum; **84**, head, pronotum and mesonotum, lateral view; **85**, tegmen; **86**, pregenital sternite, base of 1st valvifer and base of ovipositor, ventrolateral view from right, showing rectangulate margin of valvifer.

This species is distinguishable by the proportions of the head and features of the tegminal venation and by the tegminal coloration. The presence in combination of a basally recurved frons, an anteriorly elevated mesonotum and an infusate tegmen serve to set this species apart, but the detailed structure of the female genitalia in itself is characteristic.

#### *Dilacreon (Eluzalmon) sordidus* Fennah, new species

FIG. 82–86

Vertex wider at anterior margin than long in middle line (1.6:1), anterior margin straight, lateral margins moderately strongly diverging caudad, width between basal angles greater than at anterior margin (1.4:1), length of lateral margin greater than length in middle line (1.6:1), posterior margin shallowly concave, disc deeply depressed, medially ecarinate. Frons in middle line as long as broad, wider at widest part than at base (2.1:1), wider at apex than at base (1.4:1), basal margin slightly elevated, lateral margins moderately foliaceous, median carina not distinct to basal margin, median ocellus absent; post-clypeus about as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.5:1). Basal metatarsal segment with 6 teeth. Tegmen with costa weakly produced at base, stigma longer than broad (2.2:1), marginal area with 1–2 rows of granules, submarginal area obscure without granules,  $Sc_2$  weakly bent at level of 1st transverse vein, vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (5.7:1), no  $Cu_{1a}-Cu_{1b}$  veinlet at level of  $M-Cu_{1a}$ , apical margin of tegmen obliquely rounding.

Pallid brown or stramineous; clypeus, frons, vertex except near margins, intercarinal areas of pronotum and mesonotum, tibiae apically, protarsi distally, abdomen, 2nd valvifers and 3rd valvulae except on inner margin, fuscous. Tegmina subhyaline, brownish gray, costal cell narrowly at apex, stigma distally and sometimes anteriorly also, a spot in corium on M at middle, a spot in clavus between  $Cu_2$  and union of claval veins, and veins of corium, dark fuscous; a diffuse cloud across membrane between apical angle

and apex of clavus; transverse veinlets and all veins of membrane, lighter fuscous. Wings subhyaline, sordid white with veins dilute brown.

♀. Pregenital sternite in middle line slightly shorter than wide at hind margin (1:1.1), and longer than greatest width of 1st valvifer (1.2-1.3:1), basal margin strongly elevated, narrowly transverse medially, ventral surface with a transverse sulcus near base and another near apical margin, hind margin transverse, inner vertical ridge above hind margin uniformly narrow. First valvifer abruptly rectangulately bent at level of base of 3rd valvulae. First valvulae rather rapidly widening to base, outer margin convex, strongly deflexed close to base, ventral surface weakly convex, strongly sloping to middle line. Ventral wall of atrium rather deeply exposed.

♀: length, 2.8 mm; tegmen, 4.0 mm.

♂. Unknown.

Holotype ♀, IRIAN: NEW GUINEA (SW): S of Vogelkop, Bomberi, 700-900 m, nr Fak Fak, 8.VI.1959, J.L. Gressitt (BISHOP 11,659). Paratypes, 2♀, NEW GUINEA (SW): same data as holotype; Vogelkop, Fak Fak, S coast of Bomberi, 10-100 m, 11.VI.1959, J.L. Gressitt. Types in BISHOP.

This species is distinguishable by the proportions of the head, features of the tegminal venation and coloration of the tegmen. The most distinctive element in the last of these is the relatively uniform brownish-gray ground color, with which the darker markings do not strongly contrast. The female genitalia exhibit a character that appears to be unique in the genus: this is the abruptly angulate form of the posterior margin of the 1st valvifer in its lower ½.

### **Dilacreon (Eluzalmon) chionomus** Fennah, new species

FIG. 87-94

Vertex wider at anterior margin than long in middle line (1.5:1), anterior margin angulate, lateral margins strongly diverging caudad, width between basal angles greater than at anterior margin (1.7:1), length of lateral margin greater than length in middle line (1.7:1), posterior margin deeply angulately excavate, disc rather deeply depressed, medially carinate in basal ½. Frons in middle line as long as broad at widest part, wider at widest part than at base (2.3:1), wider at apex than at base (1.5:1), basal margin very slightly elevated, lateral margins moderately foliaceous, median carina distinct to basal margin, median ocellus faintly present; post-clypeus not as long as broad (1:1.2); antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.4:1). Basal metatarsal segment with about 7 teeth. Tegmen with costa very weakly produced at base, stigma longer than broad (2.8:1), marginal area with 3 rows of granules, submarginal area moderately distinct, without granules, Sc<sub>2</sub> not or weakly bent at level of 1st transverse vein, vein M<sub>3+4</sub> from M fork to M-Cu<sub>1a</sub> longer than M-Cu<sub>1a</sub> (3.3:1), subapical cell M<sub>3+4</sub> longer than subapical cell Cu<sub>1a</sub> (1.2:1), apical margin of tegmen evenly broadly rounding.

Fuscous; frons, except near lateral margins, clypeus, rostrum, carinae and lateral lobes of pronotum and most of lateral fields of mesonotum, ivory white; legs slightly more yellowish; post-tibiae and metatarsal segments infuscate distally. Tegmina rather dark yellowish, hyaline; stigma, clavus submarginally and a dilute suffusion over apical cells, fuscous; veins almost concolorous. Wings brownish hyaline, with veins concolorous or dilute fuscous.

♂. Anal segment relatively long, bilaterally symmetrical, slightly deflexed distad of middle and narrowing to a point apically. Pygofer with dorsolateral angles moderately produced, obtusely rounding, lateral margin in side view rather abruptly obtusely rounding at middle; medioventral process triangular, broader at base than long, with margins slightly convex, dorsal surface horizontal or slightly hollowed. Aedeagus with a spinose process on dorsal margin at middle, directed dorsad and curving mesad, a slender spinose process arising on left at same level, directed laterocaudad; flagellum strongly deflexed in distal ½, a moderately long spinose process on left at base, directed cephalad and slightly curved, 2 rather long spinose processes arising at base on right, 1 directed dorsocephalad, the other curving cephalad, a slender

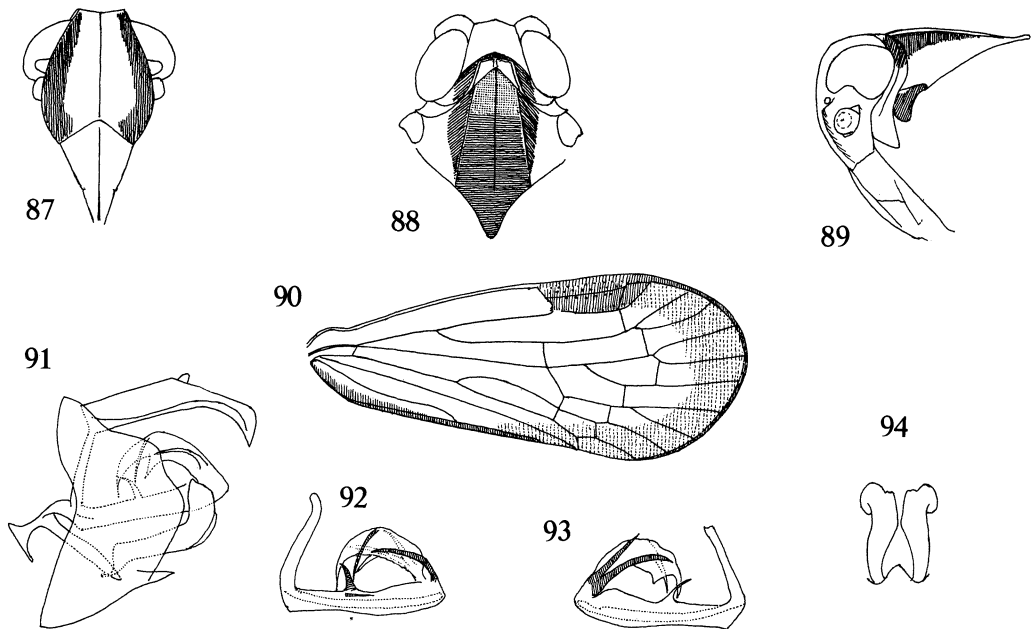


FIG. 87–94. *Dilacreon (Eluzalmon) chionomus*: 87, frons and clypeus; 88, vertex, pronotum and mesonotum; 89, head, pronotum and mesonotum, lateral view; 90, tegmen; 91, ♂ genitalia, left side; 92, aedeagus and suspensorium, left side; 93, the same, right side; 94, medioventral process and genital styles, ventral view.

spinose process arising dorsally at middle, decurved ventrocephalad, a shorter acuminate process at apex, directed ventrad; suspensorium long, portion above dorsal margin of aedeagus almost as long as basal plate strut. Genital style in side view rather abruptly curving dorsad at middle, only slightly widening distally; inner margin long, in basal  $\frac{1}{2}$  minutely denticulate, not angulate or excavate at base.

♀. Pre genital sternite in middle line longer than wide at hind margin (1.6:1) and than greatest width of 1st valvifer (2.6:1), basal margin slightly elevated sublaterally, more strongly elevated in middle line and separated from remainder of ventral surface by a transverse depression, hind margin weakly convex, inner vertical ridge above hind margin concealed. First valvifer obtusely rounding at level of base of 3rd valvulae. First valvulae abruptly widening close to base, lateral margins weakly concave approaching base, then strongly convex when adjacent to it, ventral surface horizontal, not sloping to middle line. Ventral wall of atrium concealed.

♂: length, 3.1 mm; tegmen, 4.5 mm. ♀: length, 2.8 mm; tegmen, 4.9 mm.

Holotype ♂, IRIAN: NEW GUINEA (NW): Hollandia-Binnen, Abepura, nr Jayapura, 100 m, 1.XI.1958, J.L. Gressitt (BISHOP 11,660). Paratypes, 1♂, 4♀, NEW GUINEA (NW): Hollandia-Binnen, 100 m, 1.XI.1958, J.L. Gressitt; Bodem, 100 m, 11 km SE of Oerberfaren, 7–17.VII.1959, T.C. Maa; PNG: NEW GUINEA (NE): Amok, 165 m, 6.I.1960, Maa. Types in BISHOP.

This species is immediately recognizable by its bold and unique color pattern.

The specific epithet is a noun and refers to the white lateral areas of the pronotum and mesonotum.

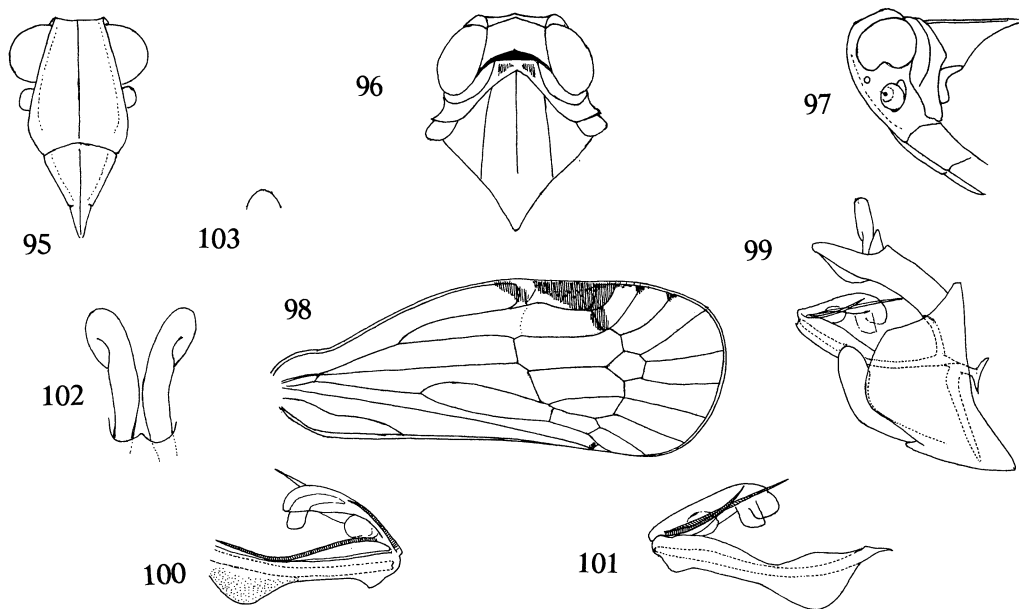


FIG. 95-103. *Dilacreon (Eluzalmon) themistius*: **95**, frons and clypeus; **96**, vertex, pronotum and mesonotum; **97**, head, pronotum and mesonotum, lateral view; **98**, tegmen; **99**, ♂ genitalia, right side; **100**, aedeagus, left side; **101**, aedeagus, right side; **102**, genital styles, posteroventral view; **103**, medioventral process of pygofer, ventral view.

### *Dilacreon (Eluzalmon) themistius* Fennah, new species

FIG. 95-103

Vertex wider at anterior margin than long in middle line (1.9:1), anterior margin angulate, lateral margins moderately diverging caudad, width between basal angles greater than at anterior margin (1.3:1), length of lateral margin greater than length in middle line (1.4:1), posterior margin shallowly concave, disc moderately deeply depressed, medially ecarinate. Frons in middle line longer than broad at widest part (1.1:1), wider at widest part than at base (2:1), wider at apex than at base (1.5:1), basal margin elevated, lateral margins moderately foliaceous, median carina distinct to basal margin; median ocellus absent; post-clypeus not as long as broad (1:1.1); antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.2:1). Basal metatarsal segment with about 6 teeth. Tegmen with costa strongly produced at base, stigma longer than broad (2.3:1), marginal area with 1 row of granules, submarginal area obscure, without granules,  $Sc_2$  strongly bent at level of 1st transverse vein, vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than latter (3.8:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.5:1), apical margin of tegmen evenly broadly rounding.

Orange-brown; carinae of head and thorax and hind legs a little lighter. Tegmina yellowish subhyaline, costal cell at apical margin, anterior margin and distal  $\frac{1}{2}$  of stigma,  $Sc-R$  transverse vein, R and  $R_s$  at junction with apical margin, and a small spot in membrane just distad of claval apex, fuscous. Wings sordid white, with veins concolorous.

♂. Anal segment moderately long, directed caudad, lateral margin in side view very shallowly concave, almost straight, slightly produced ventrad on left side in distal  $\frac{1}{2}$ , apical angles not produced. Pygofer with dorsolateral angles moderately well-defined, rounded-obtuse, lateral margin in side view obtusely angulately rounding at middle, medioventral process subtriangular, about  $2\times$  as broad at base as long in middle, with sides slightly convex. Aedeagus rather long, lower surface produced ventrad in basal  $\frac{1}{2}$  in a broadly convex lobe, with its surface on left side granulate; a long sinuate spinose process arising apically



on left near base of flagellum, directed cephalad; flagellum with 2 rather slender spinose processes on right at base, the longer straight, lying alongside and as long as flagellum, the shorter  $\frac{2}{3}$  as long as the longer, and almost parallel with it but slightly curved, a slender spinose process arising on left at base of flagellum and lying along it as far as middle; suspensorium moderately long, portion above level of upper margin of aedeagus not quite  $\frac{1}{2}$  as long as basal plate strut. Genital style in side view upcurved and moderately widening in side view, apical margin oblique, shallowly convex, apical angle rather deeply rounded, inner margin not denticulate in basal  $\frac{1}{2}$ , and not excavate or angulate at base.

♂: length, 3.0 mm; tegmen, 3.8 mm.

♀. Unknown.

Holotype ♂, PNG: NEW GUINEA (NE): 2800 m, Upper Chimbu-Kerowagi div., 6.VII.1955, J.L. Gressitt (BISHOP 11,661). Type in BISHOP.

This species is distinguished by bodily proportions, tegminal venation and tegminal color pattern. In the specimen examined, the base of the frons is slightly visible in dorsal view of the head.

### **Dilacreon (Eluzalmon) pentagonus** Fennah, new species

FIG. 104–111

Vertex wider at anterior margin than long in middle line (1.4:1), anterior margin angulate, lateral margins strongly diverging caudad, width between basal angles greater than at anterior margin (1.5:1), length of lateral margin greater than length in middle line (1.4:1), posterior margin rather deeply concave, disc deeply depressed, medially ecarinate. Frons in middle line longer than broad at widest part (1.2:1), wider at widest part than at base (2.0:1) and at apex than at base (1.5:1), basal margin slightly elevated, lateral margins moderately foliaceous, median carina distinct to basal margin, median ocellus absent; postclypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.5:1). Basal metatarsal segment with 7–8 teeth. Tegmen with costa strongly produced at base, stigma longer than broad (3.5:1), marginal area with 2 rows of obscure granules, submarginal area obscure, without granules,  $Sc_2$  weakly bent at level of 1st transverse vein, vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (4.8:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (nearly 1.2:1), apical margin of tegmen evenly broadly rounding.

Stramineous; head, pronotum dorsally and mesonotum except median carina, light orange-brown; abdominal tergites light brown or scarlet. Tegmina hyaline, pearly gray, a spot at base of cell M, 2 spots in costal cell, 1 in cell  $Sc+R$ , 1 overlying veins  $Cu_{1b}$  and  $Cu_2$  slightly distad of  $Cu_1$  fork, transverse veinlets, apical veins at margin, a spot at union of claval veins and 1 at apex of clavus, light yellowish brown, veins concolorous. Wings hyaline, pearly gray, veins concolorous.

♂. Anal segment moderately long, bilaterally symmetrical, lateral margin in side view abruptly produced ventrolaterad in distal  $\frac{1}{2}$ , lateroapical angles not produced, apical margin convex. Pygofer with dorsolateral angles each developed only as a small shallowly convex lobe, lateral margin in side view rectangularly bent slightly ventrad of this lobe, medioventral process subtriangular, lateral margins convex, obtusely meeting at apex. Aedeagus with a vertical triangular median lobe ventrally in basal  $\frac{1}{3}$ , with surface in part minutely granulate; 2 spinose processes on left at apex, lower process  $2\times$  as long as upper, both directed cephalad; 2 spinose processes on right near apex, directed cephalad, lower process not quite  $2\times$  as long as upper; flagellum extending basad for  $\frac{2}{3}$  length of aedeagus, dorsal surface terminating in a short spinose process, membranous subapical lobe curving ventrad and to left, with a small sclerotized rounded plate dorsally at its base; suspensorium moderately long, with portion above dorsal margin of aedeagus  $\frac{1}{2}$  as long as basal plate strut. Genital style in side view upcurved and rather strongly widening distad, apical margin shallowly convex, apical angle rather deeply rounded; inner margin in basal  $\frac{3}{5}$  minutely subdenticulate or crenulate, margin concave, not abruptly angulate or excavate basally.

♀. Pre genital sternite in middle line slightly shorter than wide at hind margin (1:1.1) and longer than greatest width of 1st valvifer (about 1.5:1), basal margin slightly elevated sublaterally, but not at all elevated medially, hind margin transverse, inner vertical ridge above hind margin rather deep, broadly trapezoidal. First valvifer obtusely rounding at level of base of 3rd valvulae. First valvulae rather rapidly widening to base, with outer margins shallowly sinuate, convex basally, basal margin of 1st valvula oblique, ventral

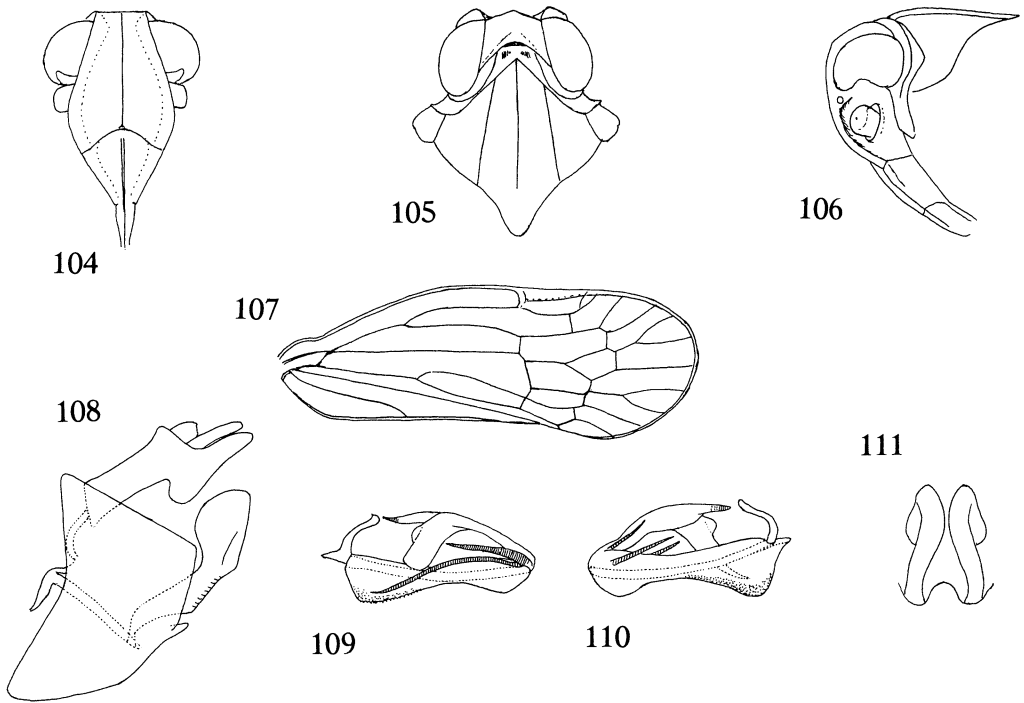


FIG. 104-111. *Dilacreon (Eluzalmon) pentagonus*: **104**, frons and clypeus; **105**, vertex, pronotum and mesonotum; **106**, head, pronotum and mesonotum, lateral view; **107**, tegmen; **108**, anal segment, pygofer and genital style, left side; **109**, aedeagus and suspensorium, left side; **110**, the same, right side; **111**, medioventral process of pygofer and genital styles, ventral view.

surface uneven, with median portion sloping strongly to middle line, except near base, horizontal portion of ventral surface traversed obliquely by a shallow depression. Ventral wall of atrium slightly exposed.  
 $\delta$ : length, 3.4 mm; tegmen, 5.4 mm.  $\text{♀}$ : length, 3.5 mm; tegmen, 5.5 mm.

Holotype  $\delta$ , PNG: NEW GUINEA (NE): Huon Penin.: main Finisterre Range nr Freyberg Pass (N), 2550 m, 1-21.X.1958, W.W. Brandt (BISHOP 11,662). Paratypes, 1 $\delta$ , 1 $\text{♀}$ , PNG: NEW GUINEA (NE): same data as holotype; Salawaket Range, Sepalakang, 1920 m, 14.IX.1956, E.J. Ford Jr. Types in BISHOP.

This species is distinguishable by the proportions of the head, the features of tegminal venation and the coloration of the tegmina, as well as by the very distinctive genitalia in both sexes.

The specific epithet is a Latin adjective.

### ***Dilacreon (Eluzalmon) salma* Fennah, new species**

FIG. 112-119

Vertex wider at anterior margin than long in middle line (1.6:1), anterior margin angulate, lateral margins strongly diverging caudad, width between basal angles greater than at anterior margin (1.4:1), length of lateral margin greater than length in middle line (1.4:1), posterior margin deeply concave or

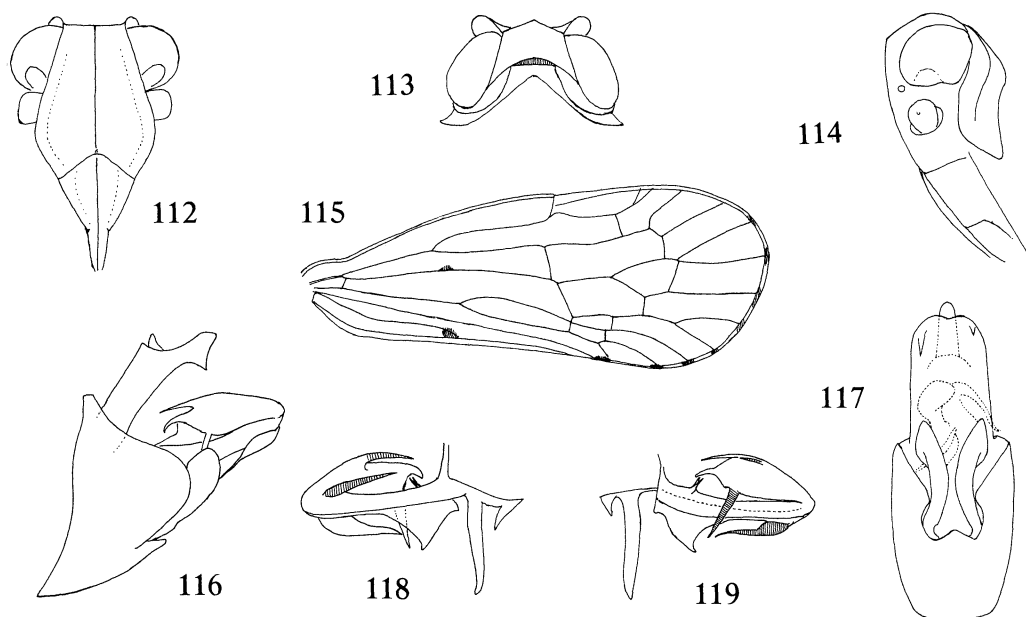


FIG. 112–119. *Dilacreon (Eluzalmon) salma*: **112**, frons and clypeus; **113**, vertex and pronotum; **114**, head and pronotum, lateral view; **115**, tegmen; **116**, ♂ genitalia, left side; **117**, the same, ventral view; **118**, aedeagus and basal plate strut, right side; **119**, the same, left side.

angulately excavate; disc deeply depressed, medially ecarinate. Frons in middle line scarcely longer than broad at widest part (1.1:1), wider at widest part than at base (2:1), wider at apex than at base (1.3:1), basal margin slightly, lateral margins moderately foliaceous, median carina distinct to basal margin, median ocellus absent; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (about 2.8:1). Basal metatarsal segment with about 6 teeth. Tegmen with costa rather strongly produced at base, stigma longer than broad (3.6:1), marginal area with 2 rows of granules, submarginal area obscure, without granules,  $Sc_2$  very weakly bent at level of 1st transverse vein, vein  $M_{3+4}$  from M fork to M-Cu longer than M-Cu (7.5:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.1:1), apical margin of tegmen evenly broadly rounding.

Stramineous to corn-golden. Tegmina hyaline, faintly yellowish, a linear mark on M at middle of corium, a spot at union of claval veins, transverse veinlets of membrane, all veins at apex and union of common claval vein with margin, dilute fuscous. Wings hyaline, with veins concolorous or pale stramineous.

♂. Anal segment longer than broad (about 1.5:1), apical margin convex, slightly incised medially, lateroapical angles not quite symmetrical, each produced ventrad in a short slender acuminate process. Pygofer with dorsolateral angles not developed, in side view with lateral margin rather deeply convex, inflected in lower  $\frac{1}{2}$ ; medioventral process subtriangular, wider at base than long in middle, thin, dorsal surface only very shallowly convex. Aedeagus with 2 short spinose processes dorsally in basal  $\frac{1}{2}$ , one on left, the other in middle line, a large vertical triangular lobe ventrally in basal  $\frac{1}{2}$ , acuminate apically and bent to left, a stout spinose process on right at apex, directed cephalad, and a loosely attached spinose process on left at apex directed laterocephalad; flagellum produced ventrad on left in a stout spinose process, 2 unequal spinose processes arising at middle of dorsal margin, directed cephalad, flagellum abruptly narrowing apically into a short narrow deflexed lobe; suspensorium stout, about  $\frac{2}{5}$  length of basal plate strut. Genital style in side view curving upward and widening distad, apical margin straight, slightly oblique, apical angle deeply rounded.

♂: length, 3.7 mm; tegmen, 4.7 mm.

Holotype ♂, IRIAN: NEW GUINEA (NW): Swart Val, W ridge, 1800-2000 m, 19.XI.1958, J.L. Gressitt (BISHOP 11,663). Type in BISHOP.

This species is distinguished by the proportions of the head and the venation and color pattern of the tegmen. The most obvious features are the angulate anterior margin of the vertex, the subequal  $M_{3+4}$  and  $Cu_{1a}$  cells, the elongate stigma and the generally yellowish hyaline coloration of the tegmen.

### Genus *Bajauana* Distant

Species of moderate size (length to apex of folded tegmina, 5.5-8.0 mm). Body strongly laterally compressed. Length of head from base of frons to apex of anteclypeus greater than width of frons at widest part (2.0-2.3:1). Frons with disc more or less depressed, lateral margins distinctly produced anterolaterally, median carina simple, sometimes attaining basal margin, sometimes not quite doing so; antennae short, not sunk in a pit; no subantennal process present; rostrum moderately long, attaining level of middle of postfemora. Vertex much broader than long in middle, no median transverse carina present, anterior margin straight or weakly angulately produced. Mesoscutellum ascending from plane of mesoscutum. Post-tibia apically with teeth arranged in groups of 1, 2 and 3 teeth, basal metatarsal segment with apical teeth usually in a 1,3,1 arrangement. Tegmina steeply tectiform; Sc+R and M emerging from basal cell distinctly separately from  $Cu_1$ ; no supernumerary transverse veinlet from M to Cu near level of Cu fork; transverse veinlet  $M_{3+4}$ - $Cu_{1a}$  much shorter than transverse veinlet R-M and than vein  $M_{3+4}$  from M fork to  $M_{3+4}$ - $Cu_{1a}$ . Wing with R forked. Lateral margin of pygofer in side view strongly convex or subangulate, dorsolateral angles rarely produced. Pregenital sternite of ♀ in middle line usually shorter than wide at hind ventral margin (1:1.2-1.6), rarely equal.

Type-species: *Brixia rufula* Walker.

Species of *Bajauana* occur in Indonesia, New Guinea and northeastern Australia. The material available for study was not rich enough to throw much light on the distribution of species within New Guinea.

### KEY TO THE SPECIES OF *Bajauana* IN NEW GUINEA

- |  |                            |
|--|----------------------------|
| 1. Tegmen and body more or less uniformly dark brown .....   | 2                          |
| Tegmen and body not as above .....   | 6                          |
| 2. Frons strongly recurving basally to vertex; vertex wider at anterior margin than long in middle line (2.8:1) .....  | <b>campylops, n. sp.</b>   |
| Frons not recurving basally to vertex; vertex relatively less wide (1.8-2.6:1) .....   | 3                          |
| 3. Vertex wider at anterior margin than long in middle line (1.8-1.9:1) .....  | 4                          |
| Vertex relatively wider (2.3-2.6:1) .....  | 5                          |
| 4. Vertex in side view strongly declivous; frons medially almost ecarinate .....   | <b>declivis, n. sp.</b>    |
| Vertex in side view not declivous; frons medially carinate throughout .....  | <b>rufula</b>              |
| 5. Frons in profile subangulately bent at middle; vertex with disc medially carinate; stigma with 4-5 rows of granules in a subtriangular cluster; 1st valvula of ovipositor with ventral surface horizontal basally ..... | <b>combe, n. sp.</b>       |
| Frons in profile evenly convex; vertex with disc medially ecarinate; stigma with about 4 rows of granules; 1st valvula of ovipositor with ventral surface sloping to middle line ...                                       | <b>longurio, n. sp.</b>    |
| 6. Vertex anteriorly angulate or convex .....  | 7                          |
| Vertex anteriorly straight or concave .....  | 16                         |
| 7. Vertex narrower at anterior margin than long in middle line .....   | <b>angusticeps, n. sp.</b> |
| Vertex not narrower at anterior margin than long in middle line .....  | 8                          |

8. Tegmina grayish white, with an elongate-ovate fuscous band extending along costal cell, over middle of membrane, touching margin at apex and  $Cu_1$  near level of claval apex . . . . **liriope, n. sp.**  
Tegmina not so marked . . . . . 9
9. Tegmina with apical margin pale, interrupted with fuscous at least at apex of veins  $R_1$ ,  $R_3$  and  $M_{1a}$  . . . . . 10  
Tegmina with apical margin not pale, or if so, not interrupted with fuscous at apex of veins . . 11
10. Vertex wider at anterior margin than long in middle line (1.5:1), cell  $Cu_{1a}$  in tegmen not closed at level of veinlet  $M_{3+4}-Cu_{1a}$ ; basal metatarsal segment with 7 teeth apically . . . . **smaragus, n. sp.**  
Vertex wider at anterior margin than long in middle line (1.5:1), cell  $Cu_{1a}$  in tegmen closed at level of veinlet  $M_{3+4}-Cu_{1a}$ ; basal metatarsal segment with 5 teeth apically . . . . . **demetrius, n. sp.**
11. Frons in middle line longer than broad at widest part; basal metatarsal segment with 7 teeth; tegmen white, with entire margin dark fuscous . . . . . **lacteipennis, n. sp.**  
Frons in middle line not longer than broad; basal metatarsal segment with 5 teeth; tegmen not as above . . . . . 12
12. Vertex broader than long in middle (about 1.6:1); stigma longer than broad (3.4:1) . . . . . **lysimache, n. sp.**  
Vertex broader than long (1.9–2.8:1); stigma longer than broad (2.2–3.2:1) . . . . . 13
13. Vertex broader than long in middle (2.8:1); stigma longer than broad (about 2.2:1); tegmen yellowish, with all apical cells fuscous in distal  $\frac{1}{2}$  . . . . . **pitho, n. sp.**  
Vertex broader than long in middle (1.9–2.1:1); stigma longer than broad (2.7–3.2:1); tegmen with all apical cells not infuscate in distal  $\frac{1}{2}$  . . . . . 14
14. Anterior margin of vertex only slightly projecting distad at middle; tegmen with apical veins overlaid with fuscous suffusion at junction with margin . . . . . **mestra, n. sp.**  
Anterior margin of vertex angulate, progressively advancing to middle; tegmen with apical veins not overlaid with fuscous at junction with margin . . . . . 15
15. Frons distally strongly deflexed to frontoclypeal suture, devoid of fenestrae; antenna yellow, not darker than gena; mesonotal carinae not paler than yellow ground color; tegmen yellow, hyaline, veins concolorous . . . . . **manto, n. sp.**  
Frons not or very weakly deflexed to fronto-clypeal suture, with small fenestrae in front of ocelli; antenna brown, darker than gena; mesonotal carinae paler than brown ground color; tegmen pale gray, subhyaline, with all veins and apical margin fuscous . . . . . **varro, n. sp.**
16. Tegmen with corium and clavus subhyaline, with 4 fuscous spots, membrane wholly brown except along apical margin; vertex broader anteriorly than long in middle (3:1) . . . . . **semibrunnea, n. sp.**  
Tegmen not so marked; vertex relatively longer medially . . . . . 17
17. Vertex less than  $2\times$  as broad at anterior margin as long in middle line . . . . . 18  
Vertex  $2\times$  as broad anteriorly as long in middle, or broader . . . . . 25
18. Vertex about as long in middle line as broad at anterior margin; frons longer in middle line than wide at base (2.4:1) . . . . . **lucumo, n. sp.**  
Vertex relatively shorter in middle line; frons medially not more than  $2\times$  as long as broad at base . . . . . 19
19. Frons medially  $2\times$  as long as broad at base . . . . . **tithonus, n. sp.**  
Frons medially less than  $2\times$  as long as broad at base . . . . . 20
20. Vertex medially carinate, if only weakly . . . . . 21  
Vertex not medially carinate . . . . . 23
21. Tegminal cell  $Cu_{1a}$  traversed by a  $Cu_{1a}-Cu_{1b}$  veinlet at nodal line; basal metatarsal segment with 5 teeth . . . . . 22  
Cell  $Cu_{1a}$  open as far as apical margin, not crossed by a transverse veinlet at level of nodal line; basal metatarsal segment with 6 teeth . . . . . **mermerus, n. sp.**
22. Tegmen with stigma longer than broad (about 2.1:1); corium with about 5 bold fuscous markings; frons dark fuscous . . . . . **nigrifrons, n. sp.**  
Tegmen with stigma longer than broad (about 2.9:1); corium devoid of markings; frons light brownish yellow . . . . . **sharuhen, n. sp.**

23. Width of vertex between lateral angles greater than at anterior margin (1.2:1), length of lateral margin greater than length in middle line (1.8:1); frons creamy or pallid stramineous, basally darkening to brown ..... **bicolor**  
 Width of vertex between lateral angles greater than at anterior margin (1.3:1), length of lateral margin greater than length in middle line (1.3-1.6:1); frons stramineous or light brown, not darkening basally ..... 24
24. Anterior margin of vertex slightly angulate, posterior margin deeply so; vein Sc<sub>2</sub> below stigma weakly bent at level of 1st transverse vein; veins of tegmen uniformly brown ..... **manto, n. sp.**  
 Anterior margin of vertex transverse, not angulate, posterior margin broadly concave; vein Sc<sub>2</sub> below stigma strongly bent at level of 1st transverse vein; veins of tegmen light brown in basal ½ of corium, dark fuscous in membrane ..... **galanthis, n. sp.**
25. Basal metatarsal segment with 6 or 7 teeth apically ..... 26  
 Basal metatarsal segment with 5 teeth apically ..... 29
26. Vertex wider at anterior margin than long in middle line (2.4-2.5:1) ..... 27  
 Vertex wider at anterior margin than long in middle line (2.0-2.2:1) ..... 28
27. Frons longer in middle line than broad at base (1.9:1); tegmen with apical veins with a fuscous suffusion at margin ..... **castalius, n. sp.**  
 Frons longer in middle line than broad at base (nearly 1.7:1); tegmen with apical veins not overlaid with a fuscous suffusion at margin ..... **iridipennis, n. sp.**
28. Frons wider at apex than at base (nearly 1.2:1); tegmen with only a fuscous spot in clavus and on base of stigma ..... **timoleon, n. sp.**  
 Frons wider at apex than at base (nearly 1.5:1); tegmen with much fuscous marking ..... **marica, n. sp.**
29. Vertex wider at anterior margin than long in middle (2.4-2.5:1) ..... 30  
 Vertex wider at anterior margin than long in middle (2.0-2.3:1) ..... 32
30. Tegmen with stigma longer than broad (2.4:1); all apical cells suffused dark fuscous in distal ½; median ocellus present ..... **marginata**  
 Tegmen with stigma longer than broad (3.2-3.3:1); apical cells not at all infuscate; median ocellus absent ..... 31
31. Mesonotum dilute fuscous, with lateral fields pale ochraceous in outer ½; tegmen with apical margin light yellowish brown ..... **chloris, n. sp.**  
 Mesonotum, including lateral fields, orange-brown; tegmen with apical margin fuscous ..... **lutea, n. sp.**
32. Tegmen without fuscous markings (except possibly a spot at union of claval veins) ..... 33  
 Tegmen with fuscous markings other than a spot at union of claval veins ..... 36
33. Vertex medially carinate; tegmen with costa strongly produced basally; a small spot at union of claval veins ..... **nicander, n. sp.**  
 Vertex not carinate medially; tegmen with costa weakly produced basally; no fuscous markings on tegmen ..... 34
34. Vertex broader anteriorly than long in middle line (2.3:1) ..... **fulvia, n. sp.**  
 Vertex broader anteriorly than long in middle line (1.9-2.0:1) ..... 35
35. Vertex in profile meeting frons angulately, wider between basal angles than at anterior margin (about 1.2:1); frons in middle line longer than wide at base (1.8-1.9:1); tegmen with veins light yellowish brown ..... **trambelus, n. sp.**  
 Vertex in profile not meeting frons angulately; wider between basal angles than at anterior margin (about 1.4:1); frons in middle line longer than wide at base (1.7-1.8:1); tegmen with veins of membrane fuscous ..... **mithras, n. sp.**
36. Tegmen with stigma entirely dark yellowish brown; apical cells dark yellowish brown in distal ½; subapical cells concolorous with ground color, very dilute yellowish brown ..... **mnesarchus, n. sp.**  
 Tegmen not marked as above ..... 37
37. Vertex medially ecarinate; frons with lateral margins wide; tegmina yellowish hyaline, without a fuscous spot at union of claval veins ..... **latifrons, n. sp.**  
 Vertex medially carinate or with a pallid median line; frons with lateral margins not wide; tegmen with a fuscous spot at union of claval veins ..... 38

38. Tegmen with a fuscous suffusion overlying each of at least 3 apical veins at junction with margin, and a fuscous spot in M or Cu<sub>1</sub>, or both, in corium ..... 39  
 Tegmen without a fuscous spot over apical veins at apical margin; no fuscous spot on M or Cu<sub>1</sub> in corium; frons longer in middle line than wide at base (1.7:1) ..... **consobrina, n. sp.**
39. Frons longer in middle line than wide at basal margin (2.0:1); costal vein stramineous, and no fuscous spot in costal cell of tegmen ..... **sunias, n. sp.**  
 Frons less than 2× as long in middle line as wide at basal margin; tegmen with costa fuscous or with a fuscous spot in costal cell ..... 40
40. Veins of corium boldly studded with black granules ..... 41  
 Veins of corium not studded with black granules ..... 42
41. Frons longer in middle line than wide at basal margin (nearly 1.6:1); tegmen with an irregular fuscous suffusion overlying subapical cell M and apical cells of Cu<sub>1</sub> ..... **mestra, n. sp.**  
 Frons longer medially than wide basally (more than 1.6:1); tegmen with a fuscous suffusion in distal ½ of apical cell R ..... **sabazius, n. sp.**
42. Tegmen with costa and veins of corium dark fuscous; ground color pearly gray . . . **theanira, n. sp.**  
 Tegmen with costa and veins of corium dull yellowish brown; ground color dilute yellowish brown ..... **pinodes, n. sp.**

### ***Bajauana rufula* (Walker)**

FIG. 120–129

*Brixia rufula* Walker, 1870: 106.

Vertex wider at anterior margin than long in middle line (1.8:1), anterior margin straight, lateral margins rather weakly diverging caudad, width between basal angles greater than at anterior margin (1.4:1), length of lateral margin greater than length in middle line (1.6:1), posterior margin shallowly concave, disc moderately deeply depressed, medially ecarinate. Frons in middle line not longer than broad at widest part (1:1.1), wider at widest part than at base (2.0:1), wider at apex than at base (1.3:1), basal margin elevated, lateral margins moderately foliaceous, median carina distinct to basal margin; median ocellus present; post-clypeus not quite as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.2:1). Basal metatarsal segment with 5 teeth. Tegmen with costa weakly produced at base, stigma longer than broad (2.3:1), marginal area with 3–4 rows of granules, submarginal area weakly rugose, without granules, Sc<sub>2</sub> strongly bent at level of 1st transverse vein; vein M<sub>3+4</sub> from M fork to M-Cu<sub>1a</sub> longer than M-Cu<sub>1a</sub> (3.1:1), subapical cell M<sub>3+4</sub> longer than subapical cell Cu<sub>1a</sub> (1.3:1); apical margin of tegmen deeply and rather obliquely rounding.

Orange-brown; lateral margins of frons in distal ½ and lateral margins of clypeus narrowly reddish brown; legs pale orange-brown. Tegmina subhyaline, intervenal areas of corium grayish brown, veins of corium fuscous, membrane, except at apical margin, fuscous with concolorous veins, apical margin and distal portion of adjoining cells, grayish, subhyaline. Wings translucent, dilute fuscous, veins fuscous.

♂. Anal segment relatively long, moderately deflexed distad of anal foramen; lateral margins each produced ventrad in a short stout process obliquely truncate at its apex. Pygofer with dorsolateral angles rectangular, lateral margins distinctly convex at middle, medioventral process mitrate, longer in middle than broad at base. Aedeagus relatively long, a deep elongated flange ventrally on right side, narrowing distad, and a short triangular process on right at base, directed laterad; a convex lobe ventrolaterally on left near middle, tapering distad into a spinose process directed dorsocaudad; flagellum extending almost to base of aedeagus, with 3 spinose processes, 1, the longest, on left ⅓ from base, directed ventrocephalad, the 2nd dorsally at middle, directed cephalad, and the 3rd short and stout, at apex. Suspensorium about ¼ length of basal plate strut, which is stout. Genital style in side view shallowly curved upward and abruptly widening in distal ½, with dorsal margin deeply rounding and inner apical angle sinuate and acuminate; inner margin denticulate in basal ½ and excavate and angulate at base.

♂: length, 3.2 mm; tegmen, 4.9 mm.

♀. Unknown.

In the holotype, the only specimen known, the apex of the anal segment is missing, and the segment is twisted in its distal ½.

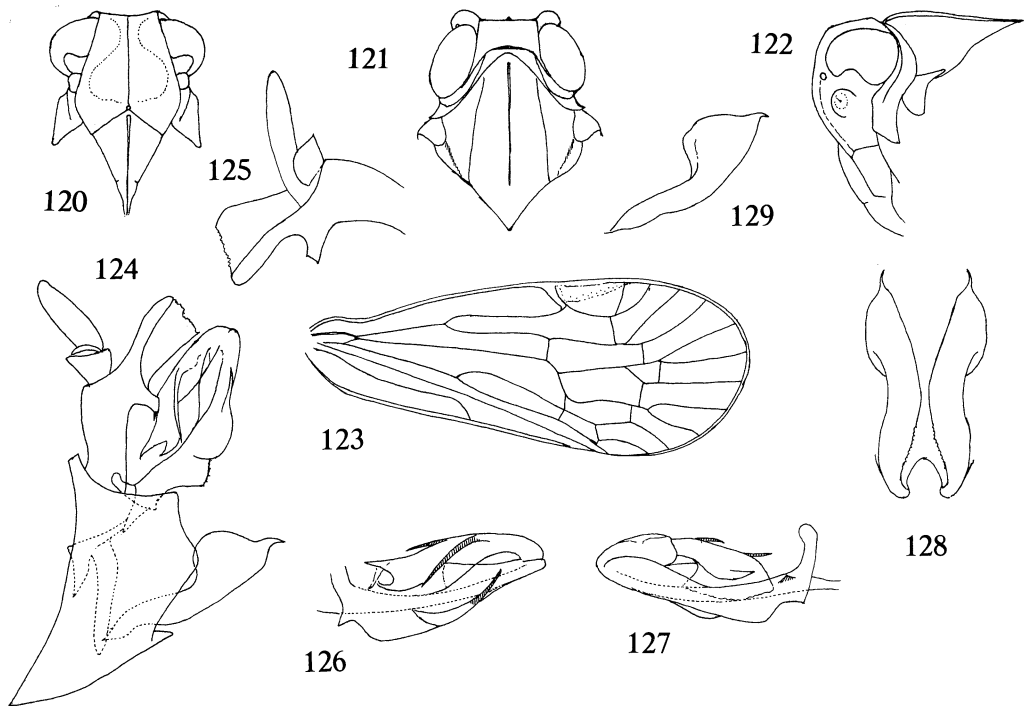


FIG. 120-129. *Bajauana rufula*: **120**, frons and clypeus; **121**, vertex, pronotum and mesonotum; **122**, head, pronotum and mesonotum, lateral view; **123**, tegmen; **124**, ♂ genitalia, left side; **125**, anal segment of ♂, right side; **126**, aedeagus, left side; **127**, aedeagus and suspensorium, right side; **128**, medioventral process of pygofer and genital styles, ventral view; **129**, genital style, left side.

Apart from its bodily proportions, *B. rufula* is distinguishable from other dark-hued members of the genus by the coloration of the frons in conjunction with the pallid apical margin of the tegmen. The male genitalia are characterized by the decumbent lateral lobes of the anal segment in combination with a pygofer with prominent dorsolateral angles and a relatively narrow medioventral process, and genital styles that are distinctly acuminate apically.

### ***Bajauana declivis* Fennah, new species**

FIG. 130-135

Vertex wider at anterior margin than long in middle line (1.9:1), anterior margin straight, lateral margins weakly diverging caudad, width between basal angles scarcely exceeding that at anterior margin, length of lateral margin greater than length in middle line (1.2:1), posterior margin shallowly concave, disc only shallowly depressed, medially ecarinate, strongly inclined anteroventrad. Frons in middle line not longer than broad at widest part (1:1.2), wider at widest part than at base (1.3:1), as wide at apex as at base, basal margin narrowly elevated, lateral margins strongly foliaceous, median carina not distinct to basal margin, median ocellus distinct; post-clypeus not as long as broad (1:1.2); antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.2:1). Basal metatarsal segment with 5, 6 or 7 teeth. Tegmen with costa not produced at base, stigma longer than broad (2.5:1), marginal area with 3 rows of granules, submarginal area distinct, with 3 or 4 granules,  $Sc_2$  moderately



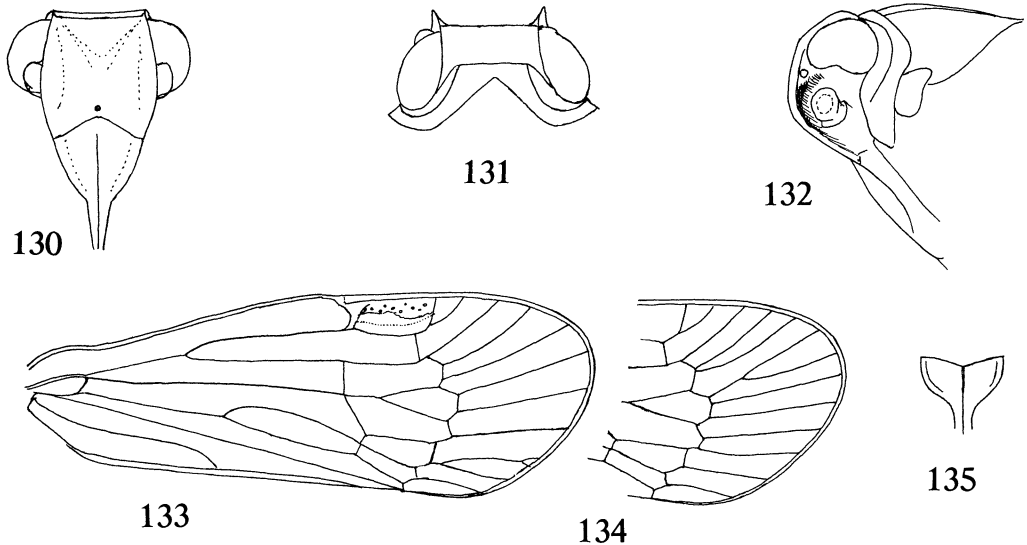


FIG. 130–135. *Bajauana declivis*: **130**, frons and clypeus; **131**, vertex and pronotum; **132**, head, pronotum and mesonotum, lateral view; **133**, tegmen (Sentani specimen); **134**, apical part of tegmen (Waris specimen); **135**, bases of 1st valvulae of ovipositor.

strongly bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (2.8:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.2:1), apical margin rather narrowly obliquely rounding.

Dark reddish brown; frons yellowish to golden yellow, vertex dilute fuscous, anteclypeus, genae, rostrum, metapleura and legs except tarsi apically, stramineous, abdominal sternites posteriorly reddish. Tegmina dark reddish brown; stigma anteriorly and anterior margin as far as  $R_s$  and apical margin in Cu sometimes pale brownish yellow. Wings dilute fuscous, with veins darker.

Pregenital sternite in middle line as long as broad at posterior margin and longer than greatest width of 1st valvifer (about 1.8:1); posterior margin straight, transverse, a shallow vertical ridge apparently arising from its inner surface. Ventral wall of atrium deeply and broadly exposed. First valvulae basally distinctly sloping to middle line.

♀: length, 3.3–4.5 mm; tegmen, 5.9–6.5 mm.

♂. Unknown.

Holotype ♀, IRIAN: NEW GUINEA (NW): Waris, S of Hollandia, 450–500 m, 1–18.VIII.1959, T.C. Maa (BISHOP 11,664). Paratypes: 2 ♀, NEW GUINEA (NW): Sentani, 90+ m, 16.VI.1959, T.C. Maa; PNG: NEW GUINEA (SE): Normanby I, Wakaiuna, Sewa Bay, 11–20.XII.1956, W.W. Brandt. Types in BISHOP.

This species is characterized by the strongly declivous vertex. The coloration of the head also is distinctive. Other unusual characters, though not exclusive to this species, are the relatively deeply hollowed basal  $\frac{1}{2}$  of the frons and the relatively wide separation of the lateral carinae of the pronotum from the hind margin throughout their length. The number of teeth on the hind margin of the basal metatarsal segment and the apical venation of the tegmina appear to be more variable than in most other species.

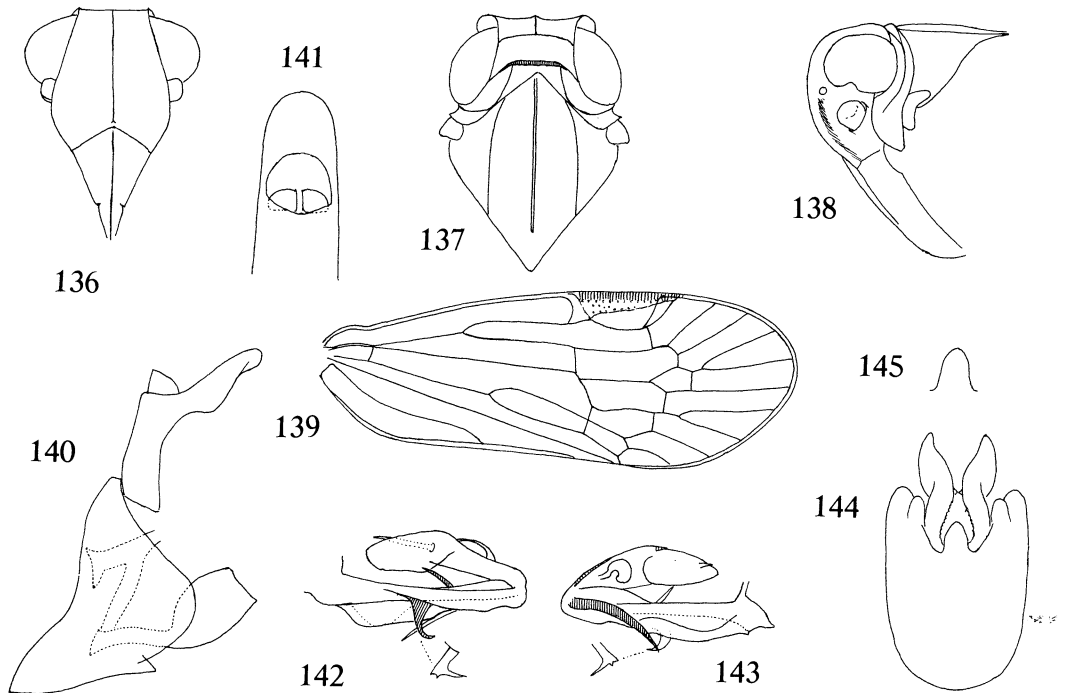


FIG. 136-145. *Bajauana campylops*: **136**, frons and clypeus; **137**, vertex, pronotum and mesonotum; **138**, head, pronotum and mesonotum, lateral view; **139**, tegmen; **140**, anal segment, pygofer and genital style, left side; **141**, anal segment of  $\delta$ , dorsal view; **142**, aedeagus, left side; **143**, aedeagus, right side; **144**, pygofer and genital styles, ventral view; **145**, medioventral process of pygofer.

### *Bajauana campylops* Fennah, new species

FIG. 136-145

Vertex wider at anterior margin than long in middle line (2.8:1), anterior margin straight or very weakly angulate, lateral margins weakly diverging caudad, width between basal angles greater than at anterior margin (nearly 1.3:1), length of lateral margin greater than length in middle line (1.8:1), posterior margin shallowly concave, disc shallowly depressed, faintly medially carinate. Frons in middle line as long as broad at widest part, wider at widest part than at base (1.7:1), wider at apex than at base (1.1:1), disc strongly curving backward to anterior margin of vertex, basal margin not elevated, lateral margins weakly foliaceous, median carina distinct to basal margin, median ocellus variable; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.5:1). Basal metatarsal segment with about 5 teeth. Tegmen with costa weakly produced at base, stigma longer than broad (2.0:1), marginal area with 3 rows of granules, submarginal area obscure, without granules,  $Sc_2$  weakly bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (3.5:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.3:1), apical margin of tegmen deeply obliquely rounding.

Dull yellow; frons in basal  $\frac{1}{3}$ , reddish brown; vertex, mesonotum, abdomen and genitalia, fuscous. Tegmina dilute fuscous, costa and veins of corium dark fuscous, apical margin and membrane fuscous, veins of membrane concolorous, stigma fuscous with a broad ochraceous band in anterior  $\frac{1}{2}$ . Wings brownish hyaline, with fuscous veins.

$\delta$ . Anal segment moderately long, bilaterally symmetrical, lateral margins produced ventrad at middle in a shallowly rounded lobe, apical margin convex, weakly excavate at middle. Pygofer bilaterally sym-

metrical, with dorsolateral angles not developed, lateral margins obtusely rounding at middle; medioventral process a little longer than broad at base, deeply rounded apically, in profile thickening basad. Aedeagus moderately long, with 2 processes ventrolaterally on left at middle, one flat, with its anterior apical angle acute, apical margin subdenticulate and posterior apical angle produced in a mesad-directed spine, the other spinose, directed ventrocephalad and curving mesad; a rather long slender spinose process arising dorsally on right near apex, curving ventrocephalad; a shorter and more slender spinose process dorsally on left at middle, directed dorsocephalad; flagellum with a small adpressed spine dorsally on right near base, a small adpressed spine dorsally at middle, directed cephalad, and a similar spine, directed cephalad, dorsally on left  $\frac{1}{4}$  from apex. Genital style in side view abruptly widening in distal  $\frac{1}{2}$ , with dorsal margin strongly convex, apical margin feebly concave, with upper and lower angles distinct; inner margin denticulate in basal  $\frac{1}{2}$ , excavate and angulate at base.

♀. Pregenital sternite shorter in middle line than broad at posterior margin (1:2.1) and shorter than greatest width of 1st valvifer (1:1.3), anterior margin narrowly slightly elevated, posterior margin shallowly convex. First valvifer with posteroventral angle obtusely rounding. First valvulae basally strongly sloping to middle line. Ventral wall of atrium deeply exposed.

♂: length, 3.1 mm; tegmen, 5.0 mm. ♀: length, 3.4 mm; tegmen, 5.0 mm.

Holotype ♂, PNG: BISMARCK ARCH.: NEW BRITAIN: Gazelle Penin., Bainings, St. Paul's, 350 m, 9.IX.1955, J.L. Gressitt (BISHOP 11,665). Paratypes: NEW BRITAIN: 2 ♀, same data as holotype; 1 ♂, 1 ♀, Keravat, 135 m, 20–25.IX.1959, T.C. Maa. Types in BISHOP.

This species is immediately recognizable by the strong curvature of the basal part of the frons, which in consequence is amply visible in dorsal view.

The specific name (a noun) refers to this feature.

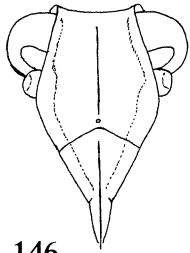
### ***Bajauana combe* Fennah, new species**

FIG. 146–149

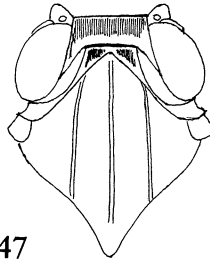
Vertex wider at anterior margin than long in middle line (2.5:1), anterior margin straight, lateral margins moderately diverging caudad, width between basal angles greater than at anterior margin (1.3:1), length of lateral margin greater than length in middle (2.0:1), posterior margin very broadly concave, disc moderately depressed, medially carinate. Frons in middle line not as long as broad at widest part (1:1.1), wider at widest part than at base (1.7:1), as wide at apex as at base, basal margin elevated, lateral margins strongly foliaceous, disc slightly tumid at level of antennae, median carina not attaining basal margin, median ocellus small; post-clypeus very slightly broader at base than long in middle; antennae with 2nd segment subglobose. Mesonotum longer in middle than broad between lateral margins at base (2.5:1). Basal metatarsal segment with 6 teeth. Tegmina with costa very weakly produced at base, stigma longer than broad (2.2:1) with basal cell longer than broad (1.7:1), marginal area with 4–5 rows of granules in an irregular cluster, submarginal area obscure, without granules,  $Sc_2$  deeply curved, only slightly bent at level of 1st transverse vein;  $M_{3+4}$  from M fork to M-Cu<sub>1a</sub> longer than M-Cu<sub>1a</sub> (2.4:1), subapical cell  $M_{3+4}$  longer than subapical cell Cu<sub>1a</sub> (1.3:1), apical margin of tegmen rather narrowly obliquely rounding.

Reddish brown; antennae, rostrum, legs and abdominal sternites at posterior margin, lighter yellowish brown, carinae of pronotum, median carina of mesonotum, a suffusion broadly overlaying lateral carinae of mesonotum and mesoscutellum, ochraceous, lateral fields of mesonotum dark reddish brown. Tegmina with corium subhyaline, dilute reddish brown with veins darker, membrane slightly darker, distinctly so near apical margin; clavus in posterior  $\frac{1}{2}$  dark fuscous; apical margin from M<sub>1a</sub> to Cu<sub>1a</sub> and at apex of commissural margin, pale ochraceous; commissural margin of clavus, light orange-brown. Wings dilute brownish hyaline, with veins fuscous.

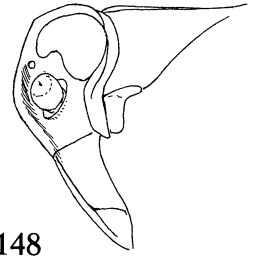
♀. Pregenital sternite shorter in middle line than broad at posterior margin (1:1.6), and as long as greatest width of 1st valvifer, basal margin weakly broadly elevated, posterior margin straight. First valvifer with posterior margin broadly rounded. First valvulae horizontal basally, not sloping to middle line. Ventral wall of atrium slightly exposed. Anal segment in side view longer than deep dorsoventrally (about 1.7:1), and longer than anal style (about 2.0:1).



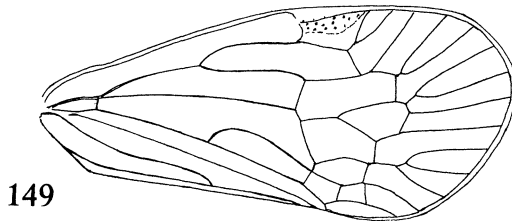
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FIG. 146-149. *Bajauana combe*: **146**, frons and clypeus; **147**, vertex, pronotum and mesonotum; **148**, head, pronotum and mesonotum, lateral view; **149**, tegmen.

♀: length, 3.8 mm; tegmen, 5.6 mm.

♂. Unknown.

Holotype ♀, PNG: NEW GUINEA (NE): Torricelli Mts, Mokai Vill, 750 m, 1-23.I.1959, W.W. Brandt (BISHOP 11,666). Type in BISHOP.

This species is recognizable by its pale markings (on the carinae of the pronotum and mesonotum and the apical margin of the tegmen) together with the orange-brown commissural margin. The granulate area of the stigma is relatively deeper than in any of the preceding species.

The specific epithet is a classical name of feminine gender.

### ***Bajauana longurio* Fennah, new species**

FIG. 150-159

Vertex wider at anterior margin than long in middle line (2.4:1), anterior margin straight, lateral margins moderately diverging caudad, width between basal angles greater than at anterior margin (1.3:1), length of lateral margin greater than length in middle line (1.7:1), posterior margin broadly concave, disc deeply depressed, medially ecarinate. Frons in middle line not as long as broad at widest part (1:1.1), wider at widest part than at base (1.8:1), wider at apex than at base (1.1:1), basal margin elevated, lateral margins strongly foliaceous, disc slightly tumid sublaterally at level of antennae, median carina not distinct in basal  $\frac{1}{4}$ , median carina very small or absent; post-clypeus as long as broad, antennae with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.6:1), lateral carinae almost parallel in posterior  $\frac{1}{2}$ . Basal metatarsal segment with 6 teeth. Tegmina with costa weakly produced at base, stigma longer than broad (nearly 2.2:1), marginal area with about 4 rows of granules, submarginal area moderately distinct, without granules,  $Sc_2$  moderately strongly bent at level of 1st transverse vein,  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (4.4:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.2:1), apical margin of tegmen broadly and moderately obliquely rounding.

Reddish brown; lateral margins of frons and post-clypeus broadly infuscate; genae, sides of post-clypeus,

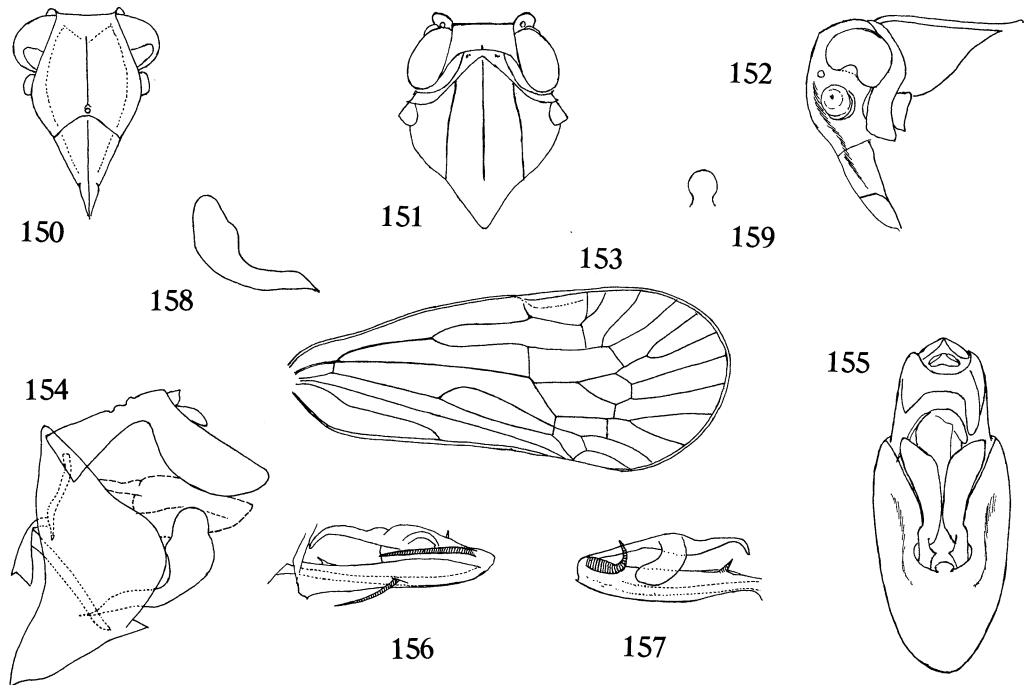


FIG. 150–159. *Bajauana longurio*: **150**, frons and clypeus; **151**, vertex, pronotum and mesonotum; **152**, head, pronotum and mesonotum, lateral view; **153**, tegmen; **154**, ♂ genitalia, left side; **155**, the same, posterior view; **156**, aedeagus, left side; **157**, aedeagus, right side; **158**, genital style, right side; **159**, medioventral process of pygofer.

pleura and legs, pale brownish yellow, abdominal sternites tinged with red. Tegmina hyaline, dark yellowish brown to castaneous, veins concolorous or in corium darker than ground color. Wings grayish, slightly infumed, with veins fuscous.

♂. Anal segment relatively long, strongly deflexed in distal  $\frac{1}{2}$ , lateral margins in distal  $\frac{1}{2}$  convex, broadly produced ventrad, that of right side slightly more strongly produced than that of left. Pygofer with dorsolateral angles not developed, lateral margins broadly convex, medioventral process subovate, about as long as broad at base. Aedeagus relatively long, a small vertical acuminate process dorsally on right at about  $\frac{1}{5}$  from base, a stout spinose process dorsally on right at apex, directed cephalad and curving dorsad, a rather long slender spinose process ventrolaterally on left at middle, directed ventrocephalad, a longer spinose process arising on left at base of flagellum, directed cephalad; flagellum extending to base of aedeagus, in distal  $\frac{1}{2}$  tapering to a point; suspensorium long, about  $\frac{3}{4}$  length of basal plate strut. Genital style in side view strongly widening in distal  $\frac{1}{2}$ , then slightly narrowed, with apical margin deeply rounded; inner margin not denticulate, but excavate and almost acuminately produced basally.

♀. Pregonital sternite shorter in middle line than broad at posterior margin (1:1.4), but longer than greatest width of 1st valvifer (1.2:1), apical margin curving abruptly dorsad into a short vertical lip. First valvifer with distal margin broadly obtusely rounding. First valvulae at base moderately sloping to middle line; ventral wall of atrium narrowly exposed.

♂: length, 3.0 mm; tegmen, 5.5 mm. ♀: length, 3.7 mm; tegmen, 5.7 mm.

Holotype ♀, PNG: NEW GUINEA (SE): Kiunga, Fly Riv, 15.VIII.1957, W.W.

Brandt (BISHOP 11,667). Paratype, 1 ♂, same locality as holotype, 4-8.VII.1957, W.W. Brandt. Types in BISHOP.

This species can be recognized by characters of the frons: the basally-depressed disc, with its weak or evanescent median carina, in conjunction with the sublateral tumescences at the level of the antennae and the boldly infuscate lateral margins. The lateral carinae of the pronotum approach the posterior margin closely but do not touch it, and the lateral carinae of the mesonotum at their anterior end are elevated on their outer side.

### **Bajauana angusticeps** Fennah, new species

FIG. 160-168

Vertex narrower at anterior margin than long in middle line (1:1.6), anterior margin angulate, lateral margins strongly diverging caudad, width between basal angles greater than at anterior margin (2.1:1), length of lateral margin greater than length in middle line (1.6:1), posterior margin deeply concave, disc deeply depressed, medially ecarinate. Frons in middle line as long as broad at widest part, wider at widest part than at base (3.2:1), wider at apex than at base (2.1:1), basal margin not elevated, lateral margins moderately foliaceous, median carina distinct to basal margin, median ocellus absent; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.4:1). Basal metatarsal segment with about 5 teeth. Tegmen with costa weakly produced at base, stigma longer than broad (3.3:1), marginal area with about 3 rows of obscure granules, submarginal area obscure, without granules,  $Sc_2$  rather strongly bent at level of 1st transverse vein,  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (2.6:1), subapical cell  $M_{3+4}$  longer than subapical  $Cu_{1a}$  (1.4:1), apical margin of tegmen broadly and slightly obliquely rounding.

Light yellowish brown; sides of head above eyes, antennae and a longitudinal fascia in each compartment of mesonotal disc, dilute reddish brown or fuscous; abdominal sternites of ♀ in anterior ½, dark fuscous, in posterior ½, pallid, almost creamy white; pro- and mesotarsi distally and ♀ genitalia, reddish brown. Tegmina yellowish hyaline, slightly suffused with brown, wholly or in membrane, especially over apical cells; a small spot near union of claval veins and transverse veinlets of nodal and subapical lines, fuscous. Wings hyaline, very weakly suffused fuscous, veins fuscous.

♂. Anal segment of ♂ long, bilaterally symmetrical, slightly deflexed distad of middle, lateral margins produced ventrad in distal ½, in side view shallowly concave, lateroapical angles rounded, apical margin short, transverse. Pygofer with dorsolateral angles not developed, lateral margins subacutely rounding at middle, medioventral process broader at base than long (about 2:1), with margin almost evenly convex. Aedeagus rather long, a large quadrate lobe ventrally at middle, its distal angles each produced in a slender spinose process, a short blunt spine on ventral surface about ¾ from base, a short stout spinose process on dorsal margin ½ from base, directed dorsad, a short spinose process on right dorsally near apex, curved cephalodorsad and a slightly shorter spinose process arising immediately distad of this, also directed cephalodorsad, a long spinose process on left side apically, directed cephalad; flagellum extending basad for ¾ length of aedeagus, a spinose process on left at its base, directed cephalad, 2 long slender unpigmented spinose processes arising at apex, 1 directed ventrad then recurving dorsad, the other directed ventromesad; suspensorium short, portion above upper margin of aedeagus about ⅓ length of basal plate strut. Genital style in side view strongly and abruptly widening in distal ⅓, apical margin weakly convex, almost straight, posterior apical angle subacute, inner margin in basal ½ not or very obscurely denticulate, excavate and angulate basally.

♀. Pregenital sternite shorter than wide at hind margin (about 1:1.7) and longer than greatest width of 1st valvifer (about 1.1:1); basal margin weakly broadly elevated, posterior margin transverse, vertical exposed area above margin broad, not deep. First valvulae shallowly depressed near sides, otherwise almost horizontal, not sloping to middle line. First valvifer with margin obtusely curving at level of widest part.

♀: length, 3.2 mm; tegmen, 4.5 mm.

Holotype ♀, PNG: NEW GUINEA (NE): Torricelli Mts, Sugotei Vill, 900 m, 1-24.II.1959, W.W. Brandt (BISHOP 11,668). Paratype, 1 mutilated ♂, same data as holotype. Types in BISHOP.

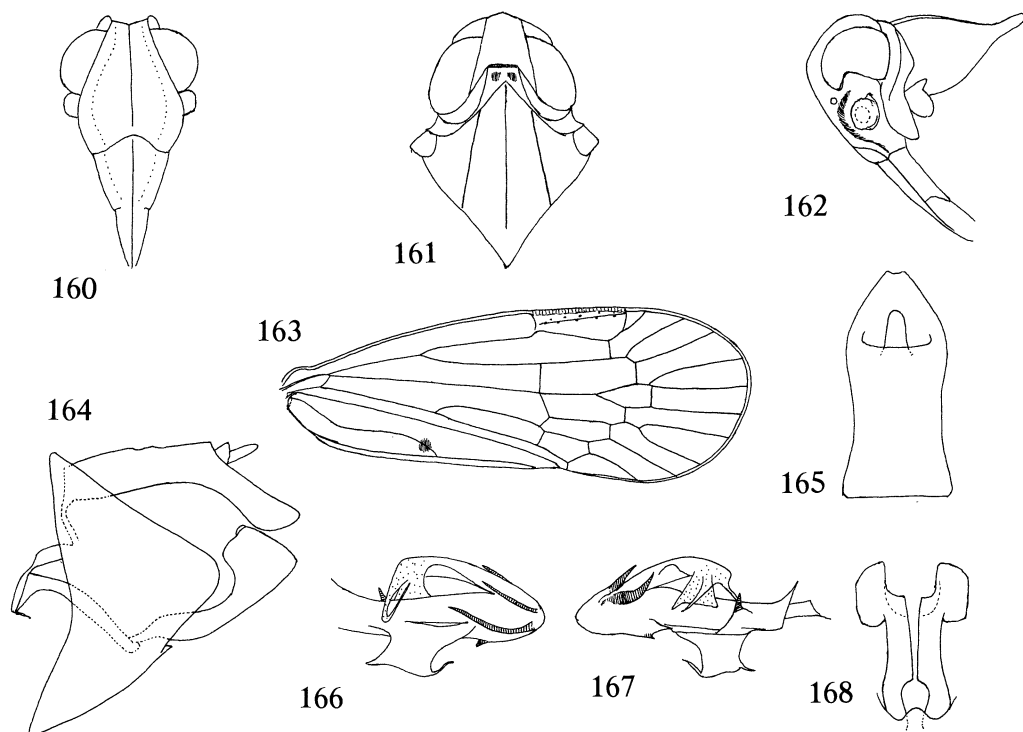


FIG. 160–168. *Bajauana angusticeps*: **160**, frons and clypeus; **161**, vertex, pronotum and mesonotum; **162**, head, pronotum and mesonotum, lateral view; **163**, tegmen; **164**, anal segment, pygofer and genital style, left side; **165**, anal segment of ♂, dorsal view; **166**, aedeagus, left side; **167**, aedeagus, right side; **168**, medioventral process of pygofer and genital styles, ventral view.

This species is characterized by the proportions of the head. The space between the posterior margin of the pregenital sternite and the base of the 1st valvulae is almost wholly filled by a vertical broad thin plate that is shallowly convex distally; very little of the ventral surface of the atrium is exposed. This structure is very different from that found in other species.

### ***Bajauana liriopae* Fennah, new species**

FIG. 169–177

Vertex wider at anterior margin than long in middle line (about 2.9:1), anterior margin shallowly convex, lateral margins moderately diverging caudad, width between basal angles greater than at anterior margin (1.3:1), length of lateral margin greater than length in middle line (2.0:1), posterior margin shallowly concave, disc shallowly depressed, ecarinate. Frons in middle line as long as broad at widest part, wider at widest part than at base (nearly 1.7:1), normally broader at apex than at base (1.1:1), disc slightly recurving to basal margin, and partly visible in dorsal view, basal margin not elevated, lateral margins slightly foliaceous, produced sublaterad, median carina distinctly attaining base, median ocellus absent; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (about 2.5:1). Basal metatarsal segment with 5 teeth. Tegmina with costa weakly produced at base, stigma longer than broad (nearly 2.4:1), marginal area with 3 rows of inconspicuous granules, submarginal area obscure, without granules,  $Sc_2$  rather strongly bent at level of 1st transverse vein;  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (1.9:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.5:1), apical margin of tegmen deeply rounded.

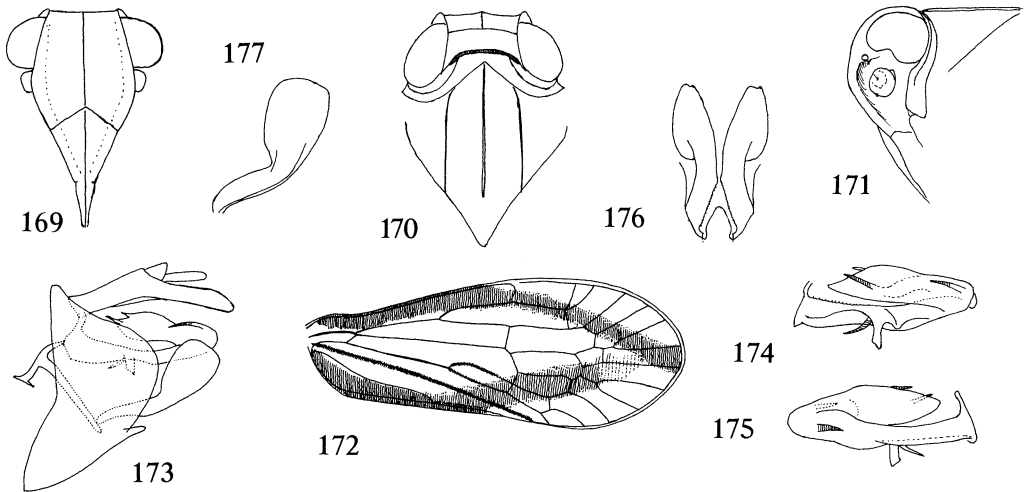


FIG. 169-177. *Bajauna liriopae*: 169, frons and clypeus; 170, vertex, pronotum and mesonotum; 171, head, pronotum and mesonotum, lateral view; 172, tegmen; 173, ♂ genitalia, left side; 174, aedeagus, left side; 175, aedeagus, right side; 176, medioventral process of pygofer and genital styles, ventral view; 177, genital style, left side.

Stramineous; frons near base, vertex, pronotum except laterally, sometimes pale orange-brown, mesonotum and tegulae, light brown to castaneous, 1st valvulae and 2nd valvifers, dark castaneous or fuscous. Tegmina grayish hyaline; a fascia extending over costa and costal cell, across membrane to apex of tegmen, then to apex of clavus and along posterior  $\frac{1}{2}$  of clavus, and sometimes also narrowly along  $Cu_2$ , dark fuscous, veins concolorous with ground. Wings hyaline, powdered sordid white, becoming slightly more brown distally, Sc+R pallid, remaining veins fuscous.

♂. Anal segment moderately long, bilaterally symmetrical, in side view slightly deflexed in distal  $\frac{1}{2}$ , lateroapical angles not produced, apical margin rounded. Pygofer with dorsolateral angles not developed, lateral margins broadly rounded, medioventral process rather narrow, slightly longer than broad at base. Aedeagus with a small lobe on right ventrally at base, a horizontal flange extending from this ventrolaterally to middle of aedeagus, a short stout spinose process on right apically, directed cephalad and slightly decurved at tip, 2 processes on left side at middle, one broad and obliquely truncate apically, directed ventrad, the other spiniform, directed ventrocephalad; flagellum with a spinose process near base, directed cephalad, and 2 spinose processes dorsally in apical  $\frac{1}{3}$ , arising rather close together and directed dorsocephalad. Genital style in side view widening in distal  $\frac{1}{2}$ , apical margin weakly convex, inner and outer apical angles rounded; inner margin of style denticulate basally, only slightly excavate at base.

♀. Pregenital sternite shorter in middle line than broad at posterior margin (1:1.6) and about as long as greatest width of 1st valvifer; basal margin of sternite not elevated, posterior margin transverse, a narrow vertical transverse band above it; ventral wall of atrium deeply exposed. First valvifer with margin broadly rounding, distinctly inflected against 3rd valvula. First valvulae basally strongly sloping to middle line.

♂: length, 3.2 mm; tegmen, 5.0 mm. ♀: length 3.5 mm; tegmen, 5.6 mm.

Holotype ♂, PNG: BISMARCK ARCH: NEW BRITAIN: Gazelle Penin., Warongoi Val, 100 m, 24.V.1956, J.L. Gressitt (BISHOP 11,669). Paratypes: NEW BRITAIN: 4♂, 4♀, Gazelle Penin., Bainings, St. Paul's, 350 m, 4,5,8.IX, 20-25.XI.1959, J.L. Gressitt; Gazelle Penin., Vunabakan, 180 m, 10 km E of Keravat, 16-20.XI.1959, T.C. Maa. Types in BISHOP.



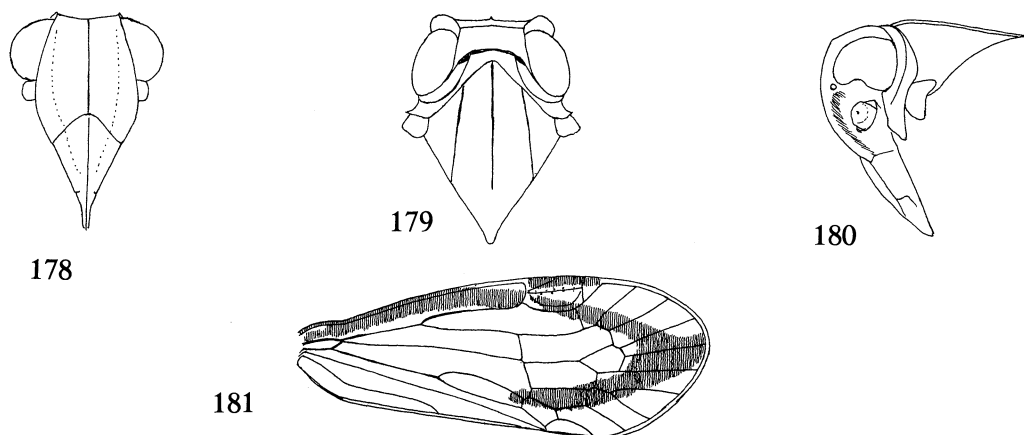


FIG. 178–181. *Bajauana liriopae melanuris*: **178**, frons and clypeus; **179**, vertex, pronotum and mesonotum; **180**, head, pronotum and mesonotum, lateral view; **181**, tegmen.

This species is distinguishable by the slight curvature of the base of the frons in conjunction with the elongate-oval fuscous marking on the tegmen.

***Bajauana liriopae melanuris* Fennah, new subspecies**

FIG. 178–181

Structural characters generally similar to those of typical subspecies, but basal curvature of frons less pronounced.

Coloration similar to that of typical subspecies, except as follows: abdomen and genitalia in both sexes dark fuscous; tegmen in ♂ with  $Cu_2$  and posterior claval cell concolorous with pale areas of corium and clavus; in ♀, this vein and cell reddish brown.

♂: length, 3.7 mm; tegmen, 6.0 mm. ♀: length, 3.6 mm; tegmen, 6.5 mm.

Holotype ♂, PNG: BISMARCK ARCH: NEW IRELAND (SW): ridge above “Camp Bishop,” 15 km up Kait Riv, 250–750 m, 13.VII.1956, J.L. Gressitt (BISHOP 11,670). Paratypes: 1 ♂, 1 ♀, same locality as holotype, 125 m, 250–750 m, 8, 14.VII.1956, J.L. Gressitt. Types in BISHOP.

This subspecies is distinguishable by the weaker basal curvature of the frons, the coloration of the abdomen and genitalia and the clavus of the tegmen.

The subspecific epithet refers to the dark genitalia, and is the transliterated feminine form of a Greek adjective. Following common Latin usage of Greek adjectives, it is here regarded as a noun.

***Bajauana smaragus* Fennah, new species**

FIG. 182–190

Vertex wider at anterior margin than long in middle line (1.5:1), anterior margin angulate, lateral margins strongly diverging caudad, width between basal angles greater than at anterior margin (1.6:1), length of lateral margin greater than length in middle line (2.1:1), posterior margin deeply angulately excavate; disc deeply depressed, medially ecarinate. Frons in middle line as long as broad at widest part, wider at widest part than at base (2.2:1), wider at apex than at base (1.4:1), basal margin not elevated, lateral margins moderately foliaceous, median carina distinct to basal margin; median ocellus absent; post-clypeus not quite as long as broad (1:1.1); antenna with 2nd segment subglobose. Mesonotum longer in

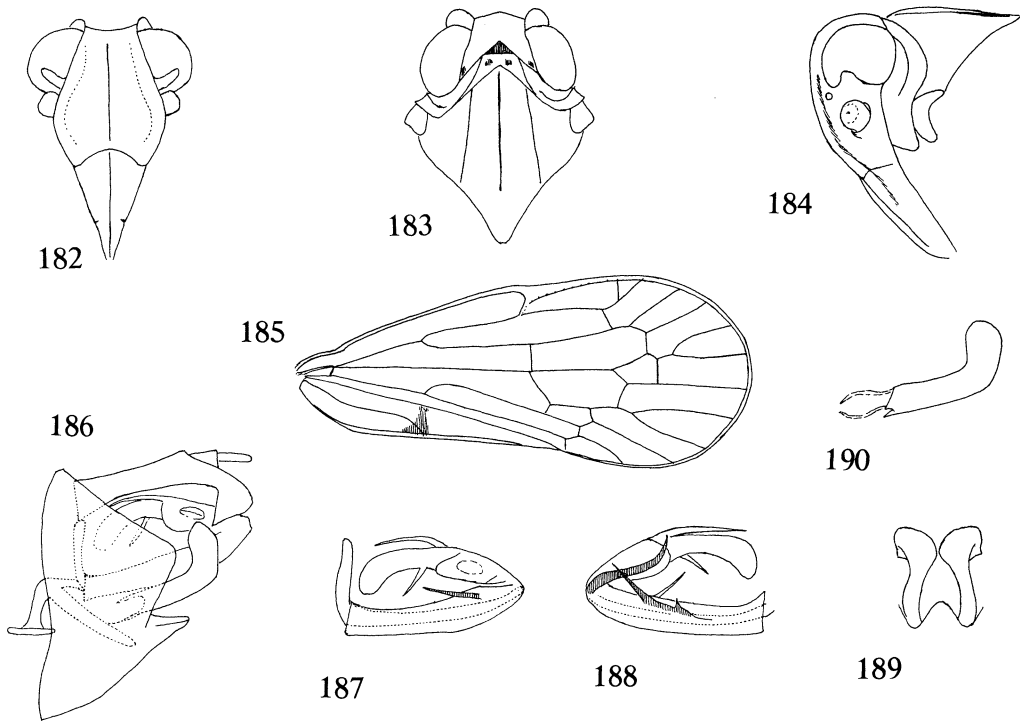


FIG. 182-190. *Bajauana smaragus*: **182**, frons and clypeus; **183**, vertex, pronotum and mesonotum; **184**, head, pronotum and mesonotum, lateral view; **185**, tegmen; **186**, ♂ genitalia, left side; **187**, aedeagus and suspensorium, left side; **188**, aedeagus, right side; **189**, medioventral process of pygofer and genital styles; **190**, genital style, left side.

middle line than broad between lateral carinae at base (2.4:1). Basal metatarsal segment with 7 teeth. Tegmen with costa weakly produced at base, stigma longer than broad (3.5:1), marginal area with 1 row of very obscure granules, submarginal area moderately distinct, without granules,  $Sc_2$  weakly bent at level of 1st transverse vein;  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (5.0:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.4:1), apical margin of tegmen evenly broadly rounding.

Pale yellowish brown; frons slightly darker, intercarinal areas of mesonotum light orange-brown, abdomen dorsally fuscous, ♀ genitalia orange-brown. Tegmina yellowish hyaline, a weak fascia from union of claval veins across to R just distad of  $Sc+R$  fork, all transverse veinlets and apical margin at point of entry of apical veins, dilute fuscous. Wings subhyaline, grayish, with veins light yellowish brown.

♂. Anal segment of ♂ rather elongate, lateral margins almost straight in basal  $\frac{3}{4}$ , distinctly deflexed in apical  $\frac{1}{4}$ , lateroapical angles more or less distinctly produced ventrad and acute apically, apical margin concave. Pygofer with dorsolateral angles not developed, lateral margin subrectangulately rounded at middle, medioventral process triangular, not quite as long as broad at base, with lateral margins slightly convex, dorsal surface flat. Aedeagus rather long, an acute triangular lobe and a spinose process on right at middle directed dorsocaudad, a stout and moderately long spinose process on right apically, directed dorsocephalad and laterad; a spinose process on left side in apical  $\frac{1}{4}$ , directed dorsolaterocephalad; flagellum extending as far as base of aedeagus, a long slender spinose process arising dorsally on right at middle, directed cephalad, and a shorter and more slender process arising on left near middle, directed ventrocephalad, flagellum tubular in distal  $\frac{1}{2}$ , slightly deflexed apically; suspensorium relatively long with portion above level of upper margin of aedeagus about  $\frac{3}{5}$  of length of basal plate strut. Genital style relatively short, in profile moderately expanded and curved dorsad in distal  $\frac{2}{5}$ , apical margin convex,

apical angles broadly rounding, inner margin in basal  $\frac{1}{2}$  concave, minutely crenulate, not abruptly excavate at base.

♀. Pregenital sternite as long in middle line as wide at posterior margin, and longer than greatest width of 1st valvifer (2:1), basal margin weakly and rather narrowly elevated, posterior margin transverse, with a very narrow vertical lenticular lip along its inner surface. First valvifer with margin broadly rounding at level of base of 3rd valvulae. First valvulae flat and horizontal at base, not sloping to middle line, outer margin strongly sinuate. Ventral wall of atrium not exposed.

♂: length, 2.8 mm; tegmen, 4.8 mm. ♀: length, 3.0 mm; tegmen, 5.0 mm.

Holotype ♂, IRIAN: NEW GUINEA (NW): Wisselmeren, Obano, 1770 m, 9.VIII.1955, J.L. Gressitt (BISHOP 11,671). Paratypes, 1♂, 2♀, Wisselmeren, Urapura, Kamo Val, 1530 m, 10.VIII.1955; Urapura-Itouda, Kamo Val, 1500 m, 15.VIII.1955, J.L. Gressitt. Types in BISHOP.

This species is characterized by its bodily proportions and the form of the male and female genitalia. The few tegminal markings are weak in both sexes, though a little more evident in the female.

The specific epithet is a transliterated Greek noun.

### ***Bajauana demetrius* Fennah, new species**

FIG. 191–202

Vertex wider at anterior margin than long in middle line (2.0:1), anterior margin weakly angulately convex, lateral margins weakly diverging caudad, width between basal angles greater than at anterior margin (1.2:1), length of lateral margin greater than length in middle line (1.8:1), posterior margin subangulately concave, disc deeply depressed, ecarinate. Frons in middle line about as long as broad at widest part, wider at widest part than at base (2.1:1), wider at apex than at base (1.5:1), basal margin slightly elevated, lateral margins moderately foliaceous, median carina not distinct to basal margin, median ocellus absent; post-clypeus as long as broad, with margins straight; antennae with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.3:1). Basal metatarsal segment with 7 teeth. Tegmen with costa weakly produced at base, stigma longer than broad (2.6:1), marginal area with 2 rows of obscure granules, submarginal area obscure, without granules, Sc<sub>2</sub> weakly bent at level of 1st transverse vein; M<sub>3+4</sub> from M fork to M-Cu<sub>1a</sub> longer than M-Cu<sub>1a</sub> (5.3:1), subapical cell M<sub>3+4</sub> longer than subapical cell Cu<sub>1a</sub> (1.8:1), apical margin of tegmen slightly obliquely rounding.

Pale brownish yellow; intercarinal areas of mesonotum darker yellowish brown, with carinae ochraceous, rostrum apically and apical segment of protarsi, fuscous. Tegmina hyaline, pale dull yellow, with membrane a little darker than corium, a spot at base of stigma, a small suffusion over apical veinlets of R and M<sub>1a</sub> at margin and subapical line of transverse veinlets, dark yellowish brown or fuscous. Wings hyaline, with faint brown suffusion, costa and Sc+R pale yellowish brown, remaining veins fuscous.

♂. Anal segment not quite bilaterally symmetrical, rather broad, apical margin broadly convex, slightly excavate medially. Pygofer bilaterally symmetrical, with dorsolateral angles subangulately produced caudad, lateral margin shallowly convex, medioventral process triangular, broader basally than long. Aedeagus with a rather long, broadly subtriangular lobe ventrally near base, directed ventrolaterad, a subtrapezoidal lobe dorsally on left near base, directed dorsocaudad, its upper margin with 2 minute teeth; a stout vertical bladellike process on right at middle, directed dorsad, a spinose process on right near apex, curving dorsocaudad, a similar process slightly distad of this, directed dorsocephalad, a stout spinose process on left side apically, directed cephalad; flagellum with 2 short spinose processes distally, with the narrow rounded apical lobe between them; suspensorium moderately long, portion above level of dorsal margin of aedeagus  $\frac{1}{3}$  length of basal plate strut. Genital style in side view curved upward in distal  $\frac{1}{2}$  and moderately widening to apical  $\frac{1}{4}$ , then slightly narrowing, inner and outer apical angles obtusely rounding, apical margin almost straight; inner margin in basal  $\frac{1}{2}$  not denticulate, but with fine oblique striae, only shallowly excavate basally.

♀. Pregenital sternite shorter in middle line than wide at posterior margin (1:1.4) and longer than greatest width of 1st valvifer (1.5:1), basal margin slightly elevated, posterior margin transverse, vertical

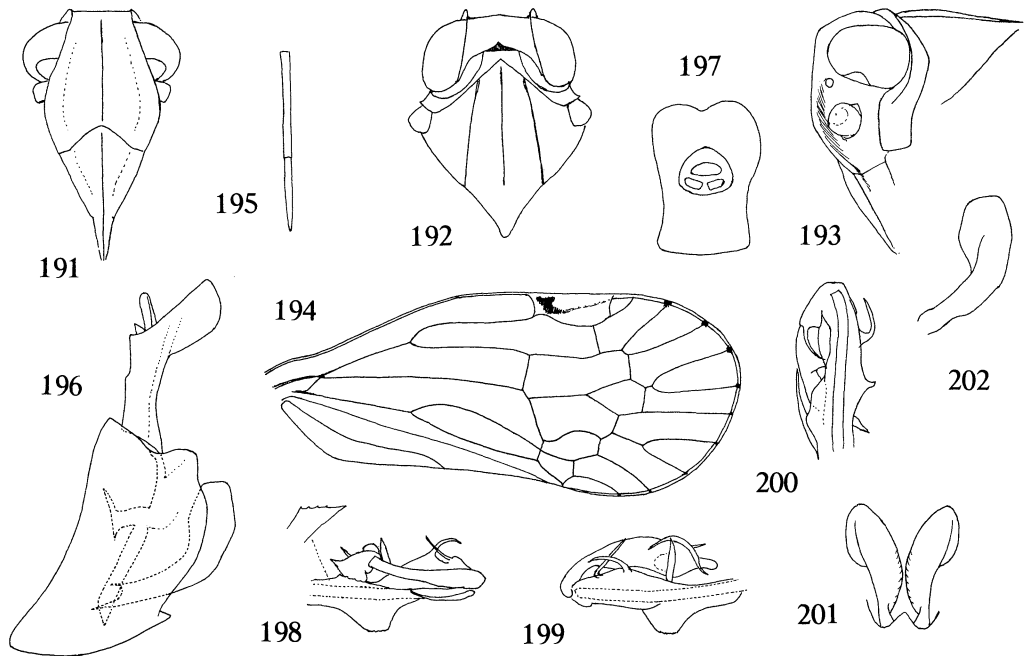


FIG. 191-202. *Bajaуana demetrius*: **191**, frons and clypeus; **192**, vertex, pronotum and mesonotum; **193**, head, pronotum and mesonotum, lateral view; **194**, tegmen; **195**, rostrum, anterior view; **196**, anal segment, pygofer and genital style, left side; **197**, anal segment of ♂, dorsal view; **198**, aedeagus, left side; **199**, aedeagus, right side; **200**, aedeagus, ventral view; **201**, medioventral process of pygofer and genital styles, ventral view; **202**, genital style, left side.

transverse ridge moderately deep. Ventral wall of atrium rather deeply exposed. First valvifer with distal margin broadly rounding at level of base of 3rd valvulae. First valvulae abruptly widening to base, with lateral margins strongly convex, ventral surface horizontal in its outer  $\frac{1}{2}$ , but sloping to middle line in basal  $\frac{1}{2}$ .

♂: length, 3.6 mm; tegmen, 4.9 mm. ♀: length, 3.3 mm; tegmen, 5.7 mm.

Holotype ♂, IRIAN: NEW GUINEA (NW): Swart Val, Karubaka, 1500 m, 11.XI.1958, J.L. Gressitt (BISHOP 11,672). Paratype, 1♀, same locality as holotype except 1450 m, 12.XI.1958, J.L. Gressitt. Types in BISHOP.

This species is distinguishable by the proportions of the head, the tegminal venation, the structure and coloration of the stigma, and the male genitalia. The female specimen assigned to this species agrees in bodily characters, though the anterior margin of the head is not angulate, but feebly convex. The ground color of the body and the veins of both tegmina and wings are darker than in the male, and the hyaline intervenal areas of the tegmen lack the yellowish tinge.

The specific epithet is a classical name.

### ***Bajaуana lacteipennis* Fennah, new species**

FIG. 203-214

Vertex wider at anterior margin than long in middle line (1.6:1), anterior margin very obtusely angulate, lateral margins strongly diverging caudad, width between basal angles greater than at anterior margin

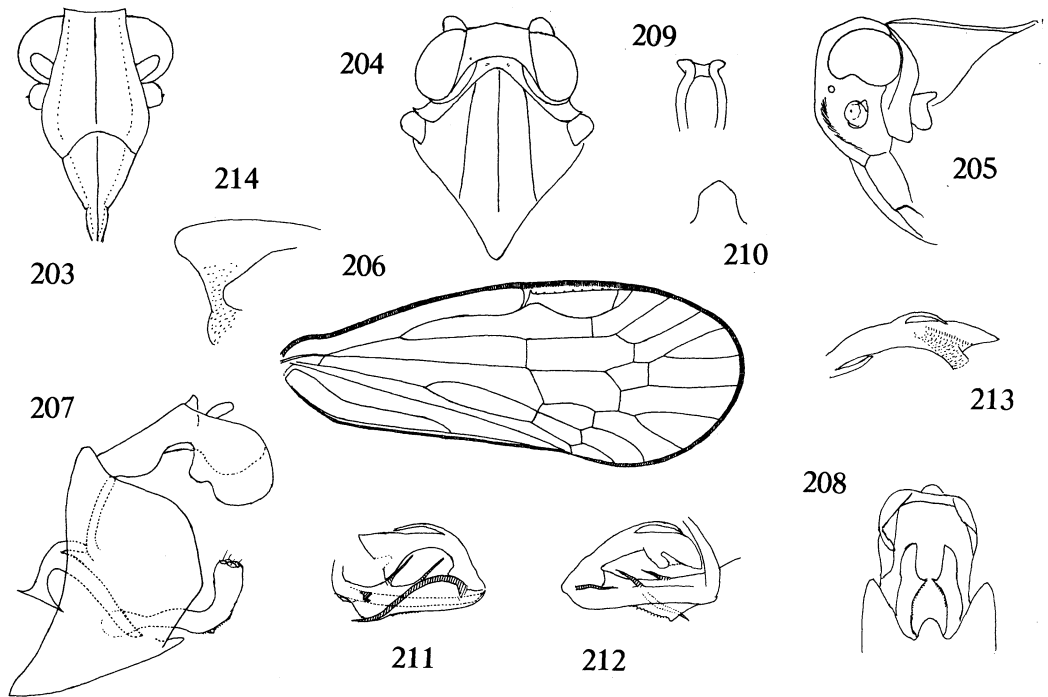


FIG. 203–214. *Bajauana lacteipennis*: **203**, frons and clypeus; **204**, vertex, pronotum and mesonotum; **205**, head, pronotum and mesonotum, lateral view; **206**, tegmen; **207**, anal segment, pygofer and genital style, left side; **208**, the same, ventral view; **209**, suspensorium; **210**, medioventral process of pygofer, ventral view; **211**, aedeagus, left side; **212**, aedeagus, right side; **213**, flagellum, right side; **214**, apex of flagellum, viewed from left side.

(1.5:1), length of lateral margin greater than length in middle line (1.5:1), posterior margin deeply concave, disc deeply depressed, medially ecarinate. Frons in middle line longer than broad at widest part (1.1:1), wider at widest part than at base (1.9:1), wider at apex than at base (1.3:1), basal margin elevated, lateral margins strongly foliaceous, median carina not distinct to basal margin; median ocellus absent; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.3:1). Basal metatarsal segment with about 7 teeth. Tegmen with costa strongly produced at base, stigma longer than broad (2.8:1), marginal area with 1–2 rows of obscure granules, submarginal area obscure, without granules,  $Sc_2$  weakly bent at level of 1st transverse vein;  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (4.2:1), subapical cell  $M_{3+4}$  longer than subapical  $Cu_{1a}$  (1.3:1), apical margin of tegmen evenly broadly rounding.

Pale ochraceous; pro- and mesofemora and tibiae and all tarsi, fuliginous. Tegmina milky subhyaline; margin fuliginous except at extreme base, veins concolorous. Wings milky hyaline, with veins dilute fuscous.

♂. Anal segment relatively large, asymmetrical, deflexed through  $45^\circ$  in distal  $\frac{1}{2}$ , ventral margin on both sides strongly produced ventrad in basal  $\frac{1}{2}$  in a convex lobe, apical angles each produced ventrad in a relatively broad lobe, that on left side longer than that on right. Pygofer with lateral margins produced caudad, almost vertical in their middle  $\frac{2}{5}$ ; medioventral process about as long as broad at base, with apical margin broadly convex. Aedeagus moderately long, a rather slender spinose process on right dorsally just distad of middle, directed dorsocaudad, a slender sinuate spine on right at apex, directed cephalad, a small horizontal triangular lobe on left side  $\frac{1}{3}$  from base, a slender spinose process on dorsal margin slightly basad of middle, directed caudodorsomesad, surface of aedeagus from base of this process to ventral margin minutely papillate, a broad triangular lobe on left side basad of middle, extending ventrad

and curving to right below aedeagus, narrowing to a blunt apex, a long spinose process arising dorsally on left at apex, directed dorsad then sinuately cephalad; flagellum with a slender spinose process dorsally at middle directed distad; suspensorium relatively long, portion above level of dorsal margin of aedeagus  $\frac{3}{5}$  length of basal plate strut. Genital style in side view bent upward in distal  $\frac{1}{2}$ , a slight eminence on lower margin at point of flexure, style only moderately widening in distal  $\frac{1}{2}$ , apical margin broadly rounding, beset with a few long setae; inner margin rectangulately produced mesad at middle, with margin in basal  $\frac{1}{2}$  minutely denticulate, not angulate or excavate at base.

♂: length, 2.9 mm; tegmen, 5.2 mm.

♀. Unknown.

Holotype ♂, PNG: NEW GUINEA (NE): Huon Penin., Finisterre Range, Saidor, Kiambavi Vill, 22-29.VII.1958, W.W. Brandt (BISHOP 11,673). Type in BISHOP.

This species is distinguishable by bodily proportions and genitalic structure, but is most easily identifiable by the unusual coloration of the tegmina and legs. The anterior  $\frac{1}{3}$  of the mesonotum of the type is ochraceous, whereas the remainder of the disc is distinctly darker. It is possible that this has been caused by post-mortem displacement of underlying tissue, and that in life the mesonotum is ochraceous throughout. The lateral carinae of the pronotum approach the hind margin very closely at their nearest point.

The specific name is an adjective and refers to the ground color of the tegmina.

### **Bajauana lysimache** Fennah, new species

FIG. 215-224

Vertex wider at anterior margin than long in middle line (1.6:1), anterior margin angulately convex, lateral margins moderately diverging caudad, width between basal angles greater than at anterior margin (1.3:1), length of lateral margin greater than length in middle line (1.4:1), posterior margin broadly angulately excavate; disc deeply depressed, medially ecarinate. Frons in middle line as long as broad at widest part, wider at widest part than at base (1.9:1), wider at apex than at base (1.3:1), basal margin scarcely elevated, lateral margins moderately foliaceous, median carina distinct to basal margin; median ocellus absent; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.3:1). Basal metatarsal segment with 5 teeth. Tegmen with costa strongly produced at base, stigma longer than broad (3.4:1), marginal area with 2 rows of fine granules, submarginal area obscure, without granules,  $Sc_2$  weakly bent at level of 1st transverse vein;  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (4.3:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.8:1), apical margin of tegmen broadly rounding.

Pale yellowish brown; frons and intercarinal areas of mesonotum darker yellowish brown, distal 2 segments of pro- and mesotarsus, post-tibia apically, and apex of rostrum, fuscous. Tegmina pearly gray, subhyaline, veins of corium and clavus dull yellow with fuscous granules, veins of membrane, and a small spot at union of claval veins, fuscous. Wings hyaline, with fuscous veins.

♂. Anal segment relatively broad, almost ovate in dorsal view, with lateral margins convex, evenly converging to meet at apex, lateral margins in side view shallowly convex. Pygofer with dorsolateral angles slightly angulately produced, lateral margins shallowly convex, medioventral process as long as broad, with sides parallel and apical margin broadly rounded, in side view exceptionally thick. Aedeagus with a triangular lobe, terminating in a short blunt toothlike process, on right upper margin basally, and a similar but longer lobe, with 2 blunt toothlike processes at margin, on right lower margin basally, extending laterad; a slender, moderately long spinose process apically on right directed cephalad and curving ventrad; a longer and stouter spinose process apically on left curved dorsocephalad then ventrocephalad and extending to middle of aedeagus; flagellum curving to right distally, with a long stout spinose process on left side at middle, directed ventrad, and a smaller spinose process subdorsally on left directed cephalad; suspensorium shorter than basal plate strut (1:2.0). Genital style in side view curving upward at middle and moderately widening to apex, apical margin broadly rounding.

♀. Pregenital sternite shorter in middle line than broad at posterior margin (1:1.3) and slightly longer

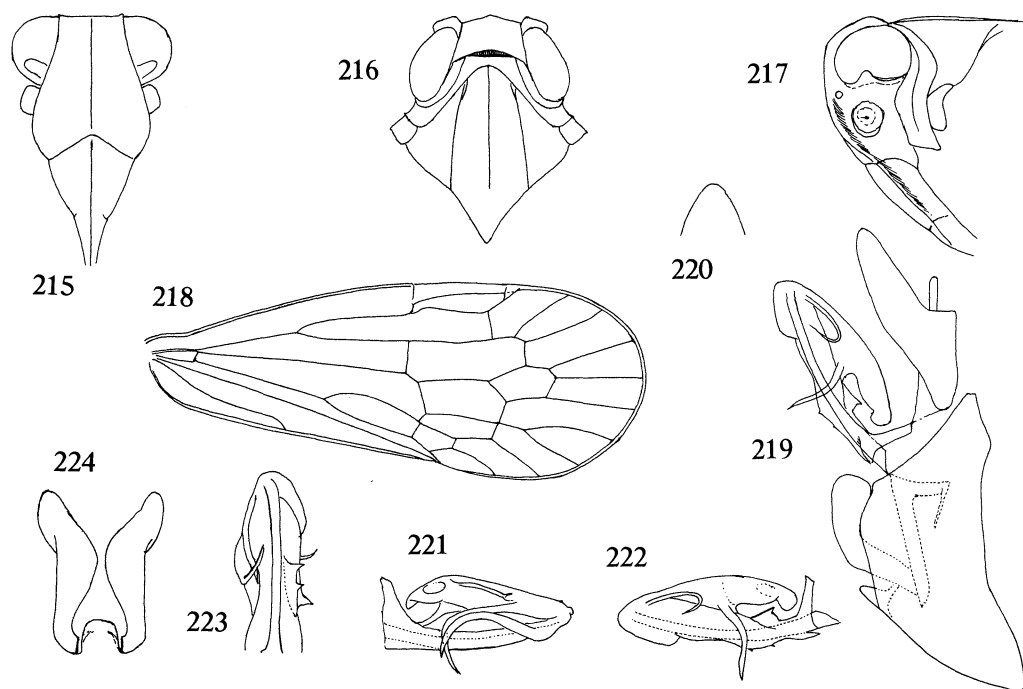


FIG. 215–224. *Bajauana lysimache*: **215**, frons and clypeus; **216**, vertex, pronotum and mesonotum; **217**, head, pronotum and mesonotum; **218**, tegmen; **219**, ♂ genitalia, right side; **220**, apical margin of anal segment, dorsal view; **221**, aedeagus, left side; **222**, aedeagus, right side; **223**, aedeagus, ventral view; **224**, medioventral process of pygofer and genital styles, ventral view.

than greatest width of 1st valvifer (1.1:1), basal margin not or only weakly elevated, a distinct shallow sulcus along middle line, posterior margin very shallowly convex, vertical lip on its inner margin very narrow, deepest at middle. First valvifer with posterior margin obtusely rounding and inflected at level of base of 3rd valvula. First valvulae rather gradually widening to base, strongly sloping to middle line; ventral wall of atrium deeply exposed. Anal segment as long as deep dorsoventrally; anal style as long as anal segment, inner margin denticulate and basally angulate.

♂: length, 3.3 mm; tegmen, 5.0 mm. ♀: length, 3.1 mm; tegmen, 5.5 mm.

Holotype ♂, IRIAN: NEW GUINEA (NW): Swart Val, Karubaka, 1400 m, 21.XI.1958, J.L. Gressitt (BISHOP 11,674). Paratypes, 6♀ and 1 mutilated specimen, Swart Val, Karubaka, 1300 m, 1350 m, 1400 m, 1450 m, 1500 m, 7,11,12, 18,21.XI.1958, J.L. Gressitt. Types in BISHOP.

This species is characterized by the proportions of the head, the tegminal venation, the form of the stigma and the shape of the genitalia in both sexes. Males can readily be identified by the combination of an angulate anterior margin of the vertex and a large, broadly rounded and exceptionally thick medioventral process on the pygofer; females can be distinguished by a similar vertex together with a medially sulcate pregenital sternite and first valvulae that widen towards the base only gradually.

The specific epithet is a classical name.

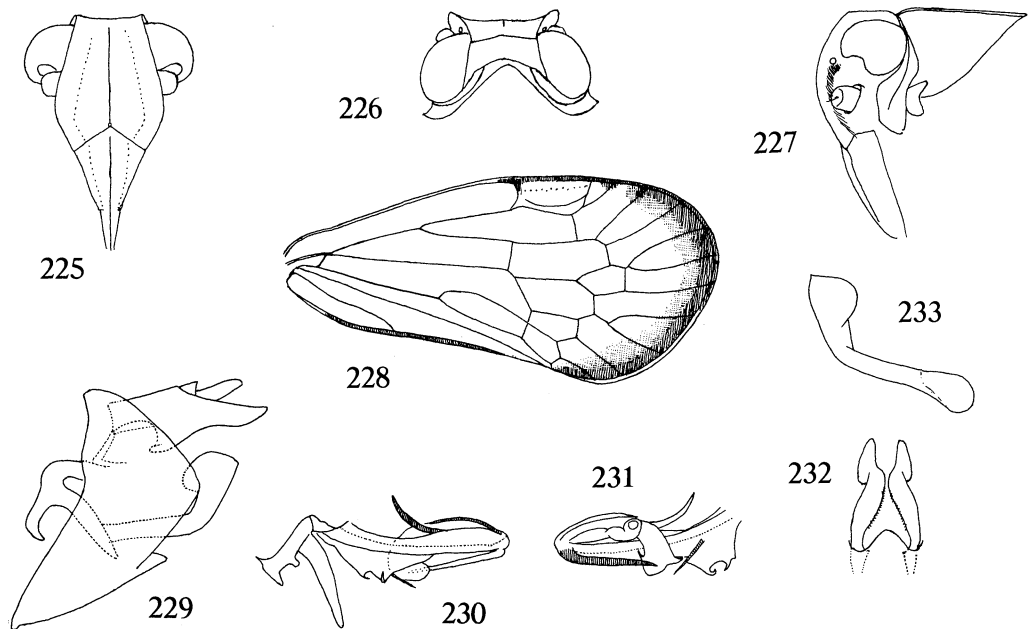


FIG. 225-233. *Bajauna pitho*: **225**, frons and clypeus; **226**, vertex and pronotum; **227**, head, pronotum and mesonotum; **228**, tegmen; **229**, anal segment, pygofer and genital style, left side; **230**, aedeagus and basal plate strut, left side; **231**, aedeagus, right side; **232**, medioventral process and genital styles, posteroventral view; **233**, genital style, right side.

### *Bajauna pitho* Fennah, new species

FIG. 225-233

Vertex wider at anterior margin than long in middle line (2.8:1), anterior margin straight or very weakly angulate, lateral margins weakly diverging caudad, width between basal angles greater than at anterior margin (1.2:1), length of lateral margin greater than length in middle line (1.8:1), posterior margin broadly angulately excavate, disc deeply excavate, medially ecarinate. Frons in middle line as long as broad at widest part, wider at widest part than at base (1.7:1), as wide at apex as at base, basal margin not elevated, lateral margins moderately foliaceous, median carina distinct to basal margin, median ocellus absent; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.4:1). Basal metatarsal segment with 5 teeth. Tegmen with costa very feebly produced at base, stigma longer than broad (2.2:1), marginal area with 2 rows of granules, submarginal area distinct, without granules,  $Sc_2$  moderately bent at level of 1st transverse vein;  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (2.7:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.5:1), apical margin of tegmen obliquely rounding.

Light yellowish brown; mesonotum and pygofer ventrally light reddish brown. Tegmina dull yellowish, hyaline; apical margin between apex of costa and  $M_{1b}$  and a submarginal suffusion in membrane and along commissural margin, dark fuscous; veins dull yellow. Wings grayish hyaline, with concolorous or pale yellowish veins.

♂. Anal segment of ♂ rather short, bilaterally symmetrical, lateral margins produced lateroventrad, strongly excavate basally, apical margin deeply rounded, lateroapical angles not produced. Pygofer with dorsolateral angles only weakly indicated, lateral margins subrectangulately convex, medioventral process triangular, about  $2\times$  as broad at base as long in middle, moderately thick, with dorsal surface convex. Aedeagus with ventral margin produced ventrad at base on right, a moderately long slender spinose process, directed laterocaudad, arising at its middle, and 2 small slender spinose processes, both curving



ventromesad, on lower margin of lobe; a moderately long stout spinose process arising on right at apex, directed cephalad, a stout spinose process arising dorsally at middle, directed cephalad and slightly curving dorsad; flagellum extending basad for  $\frac{2}{3}$  of length of aedeagus, curving across to right side and deflexed apically, a slender spinose process arising apically on left, directed cephalad and lying closely against flagellum; suspensorium extremely short, portion above level of dorsal margin of aedeagus only  $\frac{1}{7}$  length of basal plate strut. Genital style in side view rather slender in basal  $\frac{1}{2}$ , widening in distal  $\frac{1}{2}$  into a broadly rounded lobe with its apical angle acute; inner margin of style minutely denticulate, with denticles blunt, margin excavate basally, but not abruptly.

♂: length, 3.0 mm; tegmen, 5.4 mm.

♀. Unknown.

Holotype ♂, IRIAN: NEW GUINEA (SW): S of Vogelkop, Fak Fak, S coast of Bomberai, 10–100 m, 11.VI.1959, J.L. Gressitt (BISHOP 11,675). Type in BISHOP.

This species is most readily recognizable by the unusual coloration and marking of the tegmina, and in the male genitalia the structure of the anal segment is distinctive. Superficially, this species is not unlike *B. marginata*, but the 2 differ in the proportions of the frons, in details of its carination, and in tegminal venation.

The specific epithet is a classical name.

### ***Bajauana mestra* Fennah, new species**

FIG. 234–241

Vertex wider at anterior margin than long in middle line (2.1:1), anterior margin straight or very weakly angulate, lateral margins rather weakly diverging caudad, width between basal angles greater than at anterior margin (1.3:1), length of lateral margin greater than length in middle line (1.5:1), posterior margin shallowly concave; disc rather deeply depressed, weakly carinate medially. Frons in middle line as long as broad at widest part, wider at apex than at base (1.6:1), wider at apex than at base (1.1:1), basal margin elevated, lateral margins rather strongly foliaceous, median carina not distinct to basal margin, though closely approaching it, median ocellus absent; post-clypeus not as long as broad (1:1.1); antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.2:1). Basal metatarsal segment with about 5 teeth. Tegmen with costa strongly produced at base, stigma longer than broad (2.7:1), marginal area with 2 rows of granules, submarginal area distinct, with 1 row of granules,  $Sc_2$  moderately bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to M-Cu $_{1a}$  longer than M-Cu $_{1a}$  (2.9:1), subapical cell  $M_{3+4}$  longer than subapical cell Cu $_{1a}$  (1.8:1), apical margin of tegmen rather obliquely rounding.

Rather dark yellowish brown; carinae of head and thorax, lateral lobes of pronotum, posterolateral portions of lateral fields of mesonotum and mesoscutellum, tegulae and rostrum, ochraceous, legs pale yellowish brown. Tegmina grayish hyaline, 3 spots in costal cell, a spot on M at middle of corium, a spot near fork of Cu $_1$  and one in clavus at union of claval veins, stigma, an irregular spot across apical cells of R, a suffusion over each apical vein distally, and a spot across subapical cells of M and apical cells of Cu, dark fuscous; veins of corium and clavus light yellowish brown with fuscous granules, veins of membrane dark fuscous or brown, margin pale brown. Wings grayish hyaline, with fuscous veins, margin pale.

♂. Anal segment rather long, moderately deflexed in distal  $\frac{1}{2}$ , lateral margins shallowly concave, lateroapical angles not developed, sides rounding into apical margin, which is transverse. Pygofer with dorsolateral angles not developed, lateral margin broadly rounding, medioventral process as long as broad at base, with lateral margins weakly converging distad and apical margin almost semicircularly rounded. Aedeagus relatively long, lower lateral margin of right side produced ventrad for about  $\frac{2}{3}$  length of aedeagus, a rather long spinose process arising dorsally at middle, directed dorsocaudad, a short stout spinose process arising ventrally at apex, directed cephalad and curving to right, a long stout spinose process arising ventrally on left  $\frac{2}{3}$  from base, directed ventrad then cephalad and extending almost to base; flagellum with distal margin produced in 2 unequal spinose processes, that on right about  $\frac{1}{2}$  as long as that on left, directed cephalad and curving slightly ventrad, that on left directed ventrocephalad; suspensorium short, length of portion above level of upper margin of aedeagus scarcely  $\frac{1}{4}$  length of basal

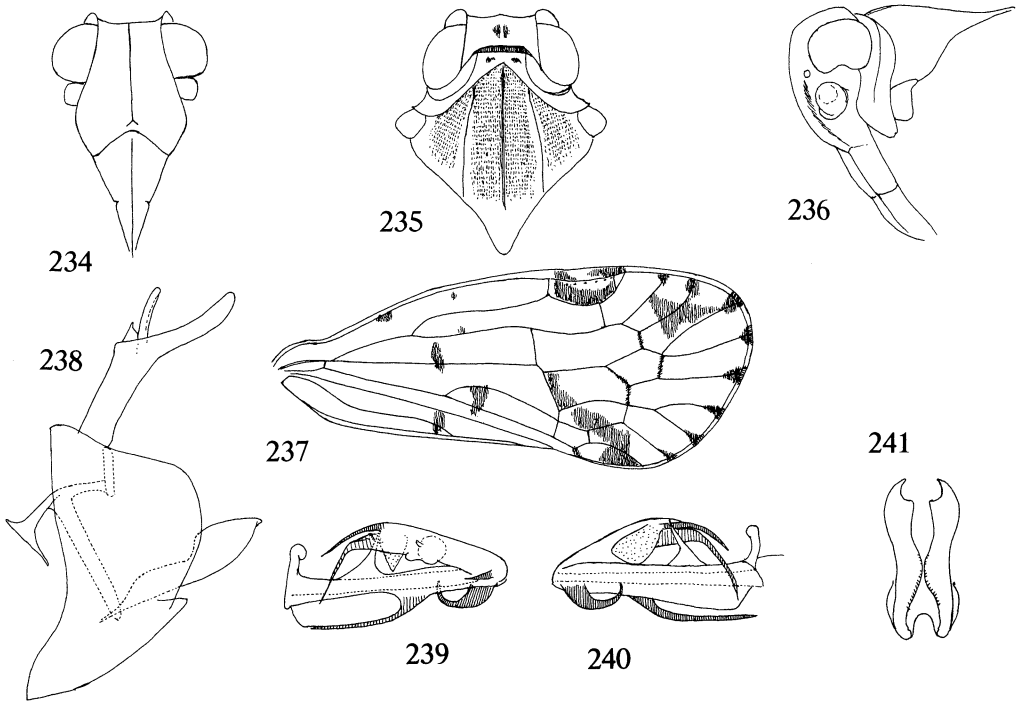


FIG. 234-241. *Bajauana mestra*: **234**, frons and clypeus; **235**, vertex, pronotum and mesonotum; **236**, head, pronotum and mesonotum, lateral view; **237**, tegmen; **238**, anal segment, pygofer and genital style, left side; **239**, aedeagus, left side; **240**, aedeagus, right side; **241**, medioventral process of pygofer and genital styles, ventral view.

plate strut. Genital style in side view weakly expanding in distal  $\frac{1}{3}$ , and with lower margin weakly curving upward; apical margin in posterolateral view concave, with inner and outer angles acute; inner margin of styles obliquely striate, minutely and weakly excavate and angulate at base.

♀. Pregenital sternite in middle line as long as wide at hind margin, and longer than greatest width of 1st valvifer (1.6:1), basal margin acutangulately convex, slightly elevated, more so at middle, hind margin transverse, inner vertical ridge above hind margin moderately narrow, shallowly convex. First valvifer broadly rounding at level of base of 3rd valvulae. First valvulae rapidly widening basad, with lateral margins markedly convex, ventral surface rather steeply sloping to middle line, and in anterior  $\frac{1}{2}$  also sloping cephalad. Ventral wall of atrium rather deeply exposed.

♂: length, 3.5 mm; tegmen, 5.5 mm. ♀, length, 3.0 mm; tegmen, 4.0 mm.

Holotype ♂, IRIAN: NEW GUINEA (NW): Swart Val, Karubaka, 1300 m, 7.XI.1958, J.L. Gressitt (BISHOP 11,676). Paratype ♀, same locality as holotype except 1350 m, 18.XI.1958, J.L. Gressitt. Types in BISHOP.

This species is distinguishable by its bodily proportions, tegminal venation and coloration. The combination of a vertex with its anterior margin very slightly angulate at middle and its disc traversed medially by a tawny yellow line, a mesonotum with its posterolateral margins paler than the disc and tegmina marked as shown in FIG.

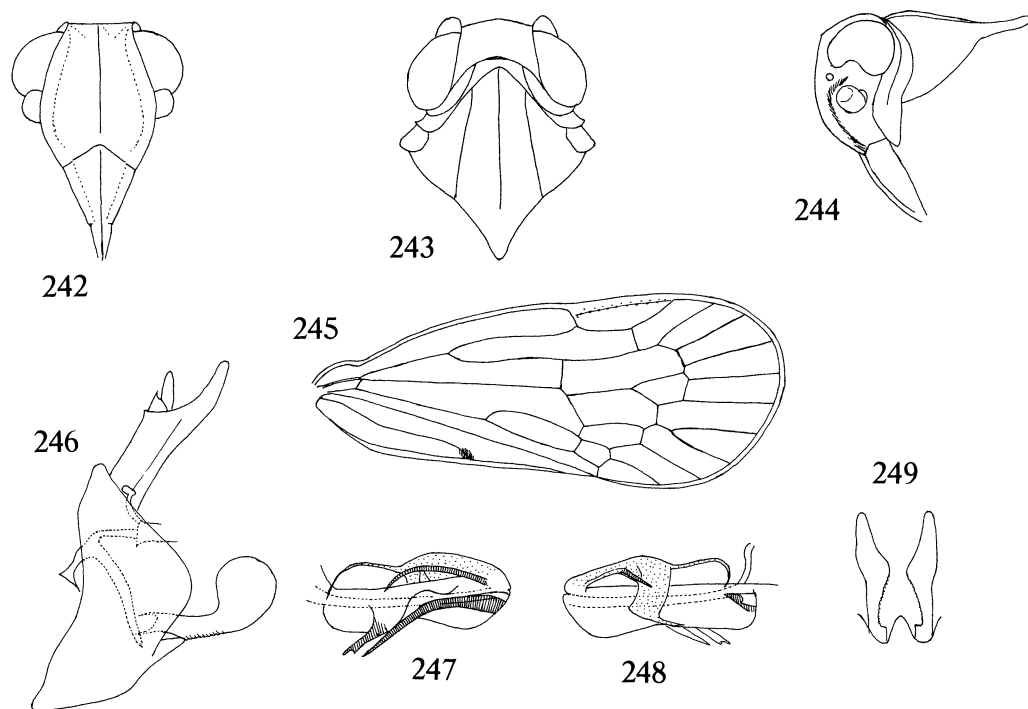


FIG. 242–249. *Bajauana manto*: **242**, frons and clypeus; **243**, vertex, pronotum and mesonotum; **244**, head, pronotum and mesonotum, lateral view; **245**, tegmen; **246**, anal segment, pygofer and genital style, left side; **247**, aedeagus, left side; **248**, aedeagus and suspensorium, right side; **249**, medioventral process of pygofer and genital styles, ventral view.

237 (or even more heavily in the same pattern), and a stigma of the form described is characteristic.

The specific epithet is a name from classical mythology.

### ***Bajauana manto* Fennah, new species**

FIG. 242–249

Vertex wider at anterior margin than long in middle line (1.9:1), anterior margin angulately convex, lateral margins weakly diverging caudad, width between basal angles greater than at anterior margin (1.3:1), length of lateral margin greater than length in middle line (1.6:1), posterior margin shallowly concave, disc deeply depressed, medially ecarinate. Frons in middle line slightly longer than broad at widest part (1.1:1), wider at widest part than at base (1.8:1), wider at apex than at base (1.2:1), basal margin slightly elevated, lateral margins moderately foliaceous, median carina distinct to basal margin; median ocellus absent; post-clypeus not quite as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.3:1). Basal metatarsal segment with 5 teeth. Tegmen with costa strongly produced at base, stigma longer than broad (3.2:1), marginal area with 3 rows of fine granules, submarginal area obscure, without granules,  $Sc_2$  weakly bent at level of 1st transverse vein;  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (4.0:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.6:1), apical margin of tegmen broadly and slightly obliquely rounding.

Stramineous; mesonotum and abdominal tergites golden yellow ( $\delta$ ) or dilute fuscous ( $\varphi$ ). Tegmina subhyaline, tinged with yellow, a small spot at union of claval veins and apical veins of R and M at junction

with margin, fuscous, veins concolorous ( $\delta$ ) or dilute fuscous ( $\varnothing$ ). Wings subhyaline, pale gray, Sc+R pale stramineous, remaining veins dilute fuscous.

$\delta$ . Anal segment moderately long, bilaterally symmetrical, lateral margin in side view shallowly sinuate, apical margin deeply rounded. Pygofer with lateral margin obtusely rounding, medioventral process triangular, longer than broad at base (1.5:1), apically acute. Aedeagus with a subvertical angulately bent ridge on right at base, a moderately long stout process ventrally near middle, unequally bicuspidate at its apex and directed ventrocephalad; a stout spinose process on left near apex, directed cephalad and slightly decurved, extending cephalad as far as middle of aedeagus; flagellum with a slender spine on left near base, almost adpressed, directed cephalad, a short and more slender spine on right side at about  $\frac{2}{5}$  from base, directed lateroventrocephalad, a long sinuate spinose process dorsally at  $\frac{1}{3}$  from apex, directed cephalad, and a shorter spinose process arising from apical edge of flagellum, directed cephalad. Genital style in side view strongly expanding in distal  $\frac{1}{2}$  into a broadly rounded lobe; inner margin in ventral view rather coarsely denticulate, excavate and angulate basally.

$\varnothing$ . Pregenital sternite shorter in middle line than wide at posterior margin (1:1.3) and longer than greatest width of 1st valvifer (1.6:1), basal margin slightly tumid, remainder of surface flat; apical margin transverse, straight; vertical ridge on its inner edge very narrow. First valvifer with distal margin shallowly rounding, markedly inflected at level of base of 3rd valvulae. First valvulae strongly widening to base, lateral margins weakly sinuate, ventral surface shallowly curving down to middle line. Ventral wall of atrium deeply exposed. Anal segment as long as deep; anal style shorter than anal segment.

$\delta$ : length, 3.5 mm; tegmen, 5.3 mm.  $\varnothing$ : length, 3.5 mm; tegmen, 5.7 mm.

Holotype  $\delta$ , IRIAN: NEW GUINEA (SW): Vogelkop, Bomberi, 700-900 m, nr Fak Fak, 6.VI.1959, T.C. Maa (BISHOP 11,677). Paratypes, 6 $\delta$ , 1 $\varnothing$ , same locality, 4,6.VI.1959. Types in BISHOP.

This species is distinguishable by the proportions of the head, the tegminal venation, and the genitalia in both sexes. The most distinctive superficial feature in the male is the narrow and acuminate medioventral process of the pygofer. The shape of the anterior margin of the vertex is variable, and is usually so shallowly convex as to appear almost straight.

The specific epithet is a classical name.

### **Bajauana varro** Fennah, new species

FIG. 250-258

Vertex wider at anterior margin than long in middle line (2.0:1), anterior margin weakly angulate, lateral margins strongly diverging caudad, width between basal angles greater than at anterior margin (1.5:1), length of lateral margin greater than length in middle line (1.6:1), posterior margin shallowly angulately excavate; disc moderately deeply depressed, medially ecarinate. Frons in middle line not longer than broad at widest part, wider at widest part than at base (1.9:1), wider at apex than at base (1.4:1), basal margin not at all elevated, lateral margins moderately foliaceous, median carina distinct to basal margin, median ocellus absent; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.0:1). Basal metatarsal segment with 5 teeth. Tegmen with costa moderately produced at base, stigma longer than broad (3.0:1), marginal area with 1-2 rows of granules, submarginal area obscure, without granules,  $Sc_2$  weakly bent at level of 1st transverse vein,  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (4.2:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.7:1), apical margin of tegmen broadly and slightly obliquely rounding.

Light yellowish brown; intercarinal areas of mesonotum darker reddish brown. Tegmina subhyaline, lightly powdered gray, sometimes faintly yellowish, costal and claval margins and veins of corium, reddish brown, veins of membrane and apical margin fuscous; a spot at union of claval veins and a very small and faint suffusion at apex of each apical vein, fuscous. Wings hyaline, with fuscous veins.

$\delta$ . Anal segment moderately long, directed caudad, in dorsal view with sides parallel in basal  $\frac{1}{2}$ , narrowing distad of middle, apical margin convex, slightly indented medially, lateroapical angles not produced. Pygofer with lateral margins produced caudad, obtusely rounding at middle, medioventral process slightly longer than broad, with apical margin acutely rounding and dorsal surface flat. Aedeagus

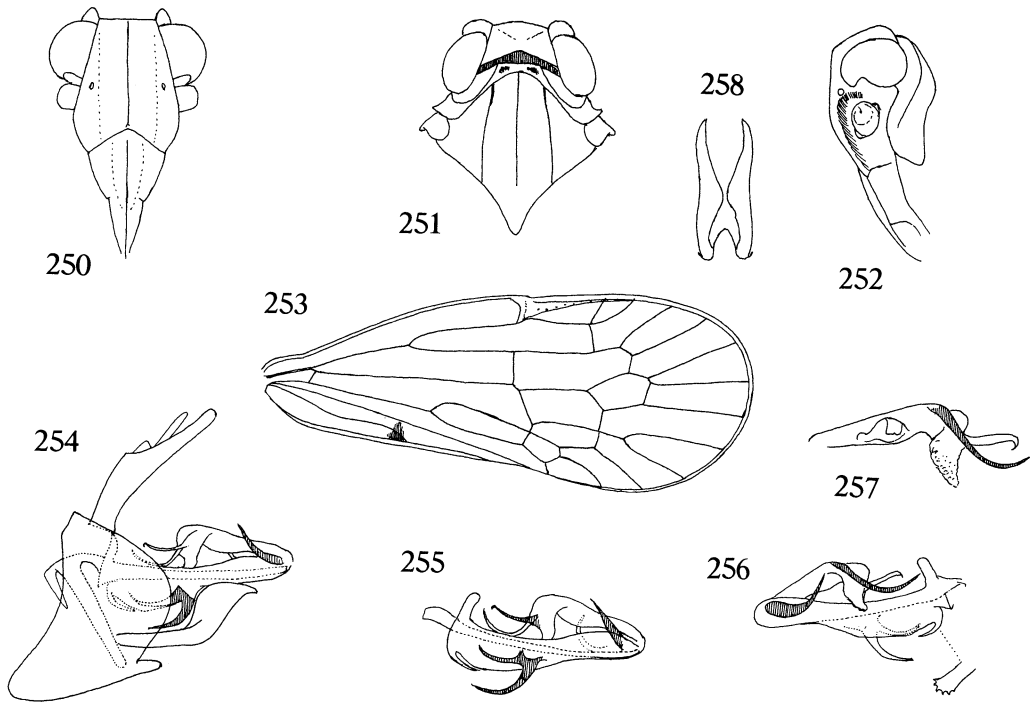


FIG. 250–258. *Bajauana varro*: **250**, frons and clypeus; **251**, vertex, pronotum and mesonotum; **252**, head and pronotum, lateral view; **253**, tegmen; **254**, ♂ genitalia, left side; **255**, aedeagus, left side; **256**, aedeagus, right side; **257**, flagellum, dorsolateral view from right; **258**, genital styles and medioventral process of pygofer, ventral view.

with a rather short slender spinose process arising ventrally at base, directed ventrad then caudad, a longer stout spinose process arising ventrolaterally on left at middle directed lateroventrocephalad, a 2nd and similar process arising ventrally at same level, directed ventrad then curving cephalad, a stout spinose process arising apically on right, directed dorsocephalad; flagellum only weakly expanding distad and curving to right, furnished with a spinose process on left at base, directed cephalad, and 2 slender spinose processes distally, one on right, curving cephalad, the other on left curving strongly to left then slightly caudad; suspensorium short, shorter than basal plate strut (1:3.7). Genital style in side view widening distad in apical  $\frac{1}{2}$ , apical margin straight, inner apical angle broadly rounding, outer apical angle acute; inner margin of style denticulate in basal  $\frac{1}{3}$ , only very obtusely angulately produced mesad basally.

♂: length, 3.5 mm; tegmen, 5.0 mm.

♀. Unknown.

Holotype ♂, IRIAN: NEW GUINEA (NW): Swart Val, Karubaka, 1450 m, 12.XI.1958, J.L. Gressitt (BISHOP 11,678). Type in BISHOP.

This species is distinguishable by the proportions of the head and mesonotum and by the shapes of the cells of the tegmina. It is not unlike the sympatric *B. lysimache*, but differs in the less distinctly angulate anterior margin of the vertex, the larger fuscous spot in the clavus of the tegmina and, in the male genitalia, in the long narrow medioventral process of the pygofer.

The specific epithet is a classical name.

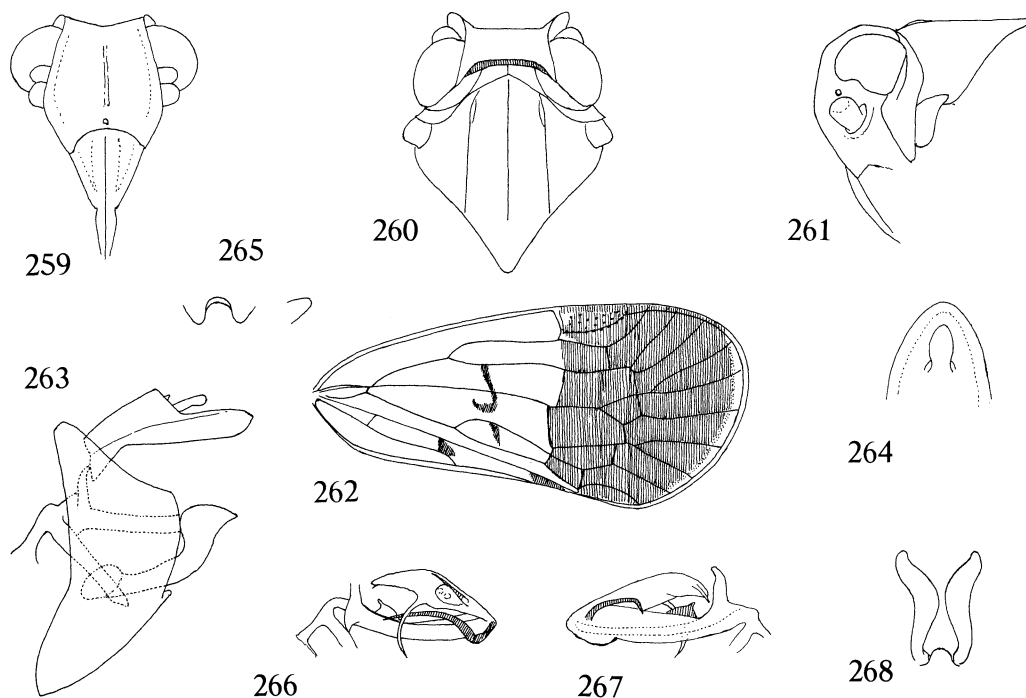


FIG. 259-268. *Bajauana semibrunnea*: 259, frons and clypeus; 260, vertex, pronotum and mesonotum; 261, head, pronotum and mesonotum, lateral view; 262, tegmen; 263,  $\delta$  genitalia, left side; 264, apex of anal segment, dorsal view; 265, medioventral process of pygofer, ventral and (right) lateral view; 266, aedeagus, left side; 267, aedeagus, right side; 268, genital styles and medioventral process of pygofer, posteroventral view.

### *Bajauana semibrunnea* Fennah, new species

FIG. 259-268

Vertex wider at anterior margin than long in middle line (about 3.0:1), anterior margin straight, lateral margins weakly diverging caudad, width between basal angles greater than at anterior margin (1.2:1), length of lateral margin greater than length in middle line (1.8:1), posterior margin shallowly concave; disc deeply depressed, medially ecarinate. Frons in middle line shorter than broad at widest part (1:1.2), wider at widest part than at base (1.6:1), as wide at apex as at base, basal margin slightly elevated, lateral margins strongly foliaceous, median carina not distinct to basal margin, median ocellus absent; post-clypeus not as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.2:1). Basal metatarsal segment with 5-6 teeth. Tegmen with costa not produced at base, stigma longer than broad (1.9:1), marginal area with 5 rows of granules, submarginal area obscure, without granules,  $Sc_2$  weakly bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (4.5:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.4:1), apical margin of tegmen obliquely rounding.

Light yellowish brown; intercarinal areas of frons, vertex and lateral fields of mesonotum, reddish brown; disc of mesonotum sometimes pale ochraceous. Tegmina with corium subhyaline, dilute brownish gray, sometimes gray in a transverse band medially, membrane darker, dilute fuscous, costal margin and veins reddish brown, apical margin and distal portion of apical cells ochraceous; a spot on corium just distad of Cu, fork, a spot on M at middle, a spot overlying junction of claval veins, sometimes extending along cell PCu, posterior claval cell and both transverse lines of veinlets, fuscous. Wings grayish hyaline, with veins pale basally, fuscous distally.

♂. Anal segment in dorsal view with lateral margins shallowly convex, converging distad of middle to meet at apex; in side view, concave in basal  $\frac{1}{2}$ , straight in distal  $\frac{1}{2}$ , lateroapical angles not evident. Pygofer bilaterally symmetrical, with lateral margin in side view convex, but subangulately rounding above level of aedeagus; medioventral process thick, as long as broad at base, with lateral margins convex, rounding into apical margin, dorsal surface flat. Aedeagus with right side produced laterad in a horizontal lobe in basal  $\frac{1}{2}$ , margin of this lobe slightly irregular, with 1–2 small processes, a moderately long spinose process apically on right, directed cephalad and decurved ventrad; a longer spinose process apically on left, shallowly curved and directed cephalad; flagellum widening distad, an adpressed spinose process arising dorsally at  $\frac{2}{5}$  from base directed distad, a longer spinose process arising ventrally at middle, curving to right, orifice of flagellum oval, with a small acuminate process on anterior margin; suspensorium shorter than basal plate strut (1:2.7). Genital style in side view curving dorsad and widening in distal  $\frac{1}{2}$ , apical margin straight, apical angle acute; inner margin of styles thickened in basal  $\frac{1}{2}$ , not denticulate.

♀. Pregenital sternite in middle line shorter than width at hind margin (1:1.5) and equal to greatest width of 1st valvifer, basal margin slightly elevated, hind margin very shallowly convex, inner vertical ridge above hind margin relatively deep. First valvifer obtusely rounding at level of base of 3rd valvulae. First valvulae rapidly widening to base, with outer margins convex, ventral surface not sloping to middle line, slightly elevated at laterobasal angles. Ventral wall of atrium not exposed.

♂: length, 3.6 mm; tegmen, 5.2 mm. ♀: length, 3.6 mm; tegmen, 5.2 mm.

Holotype ♂, IRIAN: NEW GUINEA (NW): Waris, S of Hollandia, 450–500 m, 1–17.VIII.1959, T.C. Maa (BISHOP 11,679). Paratypes, a long series of ♂, ♀, same locality as holotype, 1–17, 1–18, 16–23, 24–31.VIII.1959, T.C. Maa. Types in BISHOP.

This species is distinguishable by the color pattern of the tegmina. An unusual feature in the female is the comparatively deep vertical ridge above the hind margin of the pregenital sternite.

### ***Bajauana lucumo* Fennah, new species**

FIG. 269–278

Vertex as wide at anterior margin as long in middle line, anterior margin straight, lateral margins moderately diverging caudad, width between basal angles greater than at anterior margin (1.5:1), length of lateral margin greater than length in middle line (1.5:1), posterior margin transverse in its median  $\frac{3}{5}$ , disc deeply depressed, weakly medially carinate. Frons in middle line as long as broad at widest part, wider at widest part than at base (2.4:1), wider at apex than at base (1.6:1), basal margin moderately elevated, lateral margins moderately foliaceous, median carina not distinct near basal margin, though well developed a little further away from it, and weakening again at about  $\frac{1}{4}$  from base, then strong to apex, median ocellus absent; post-clypeus slightly wider at base than long (1.1:1); antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.3:1). Basal metatarsal segment with 6–7 teeth. Tegmen with costa weakly produced at base, stigma longer than broad (2.1:1), marginal area with 2 rows of granules, submarginal area obscure, without granules,  $Sc_2$  rather strongly bent at level of 1st transverse vein;  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (4.0:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.3:1), apical margin of tegmen broadly rounding.

Light yellowish brown; carinae of frons, vertex, pronotum and mesonotum ochraceous, disc of frons narrowly infuscate on each side of middle line between eyes, intercarinal areas of mesonotum reddish brown, lateral fields dull yellowish brown except at lateral angles; abdomen reddish brown, genitalia a little lighter. Tegmina grayish hyaline, veins and all margins light yellowish brown. Wings grayish hyaline with fuscous veins.

♂. Anal segment relatively large, with sides deep, apical margin very narrow, angulate, lateroapical angles each produced in a small rounded lobe; anal style long and narrow. Pygofer with dorsolateral angles each indicated by a slight convexity, lateral margins strongly convex, medioventral process minute, ventral margin abruptly excavate medially. Aedeagus with a long spinose process arising apically on right, directed cephalad above aedeagus; a long spinose process arising on left at apex, directed cephalad; flagellum extending almost to base of aedeagus, with 3 subequal spinose processes on upper margin, directed cephalad; suspensorium short, portion above level of dorsal margin of aedeagus about  $\frac{1}{3}$  length

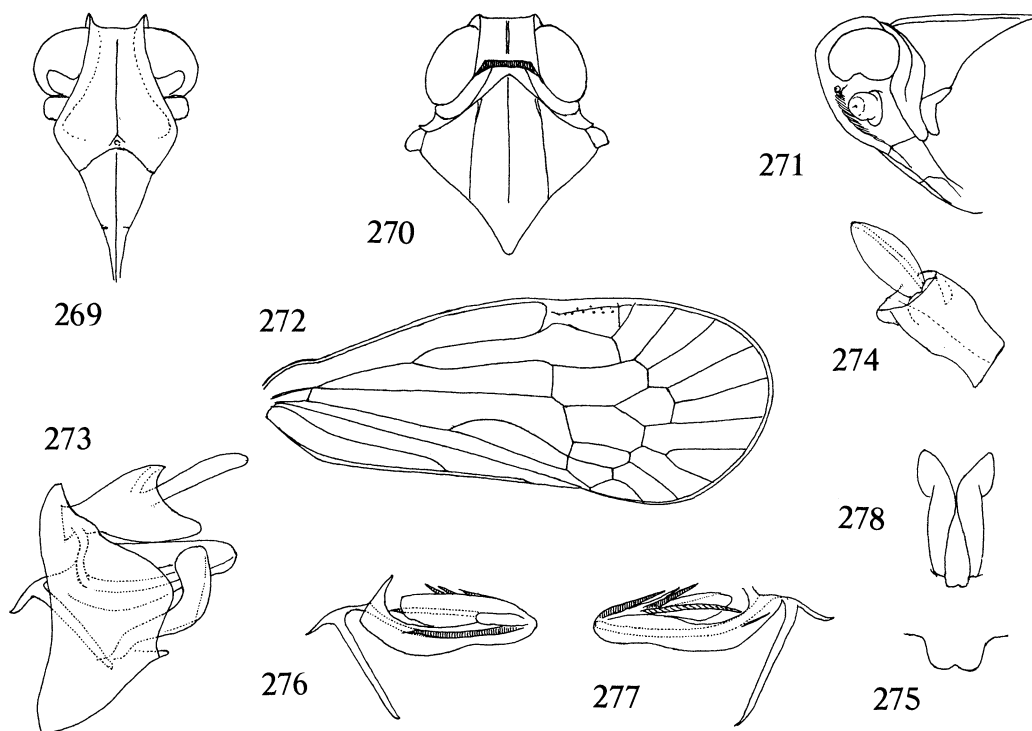


FIG. 269-278. *Bajauana lucumo*: 269, frons and clypeus; 270, head, pronotum and mesonotum; 271, head, pronotum and mesonotum, lateral view; 272, tegmen; 273, ♂ genitalia, left side; 274, anal segment of ♂, right side; 275, medioventral excavation of pygofer; 276, aedeagus, left side; 277, aedeagus, right side; 278, genital styles and medioventral excavation of pygofer, ventral view.

of basal plate strut. Genital style in side view gradually widening distad from base, curving upward in distal  $\frac{1}{2}$ , apical margin shallowly convex, angles rounding; inner margin finely denticulate, not excavate basally.

♀. Anal segment as long as deep dorsoventrally, anal style longer than anal segment (2:1) and longer than broad (2.6:1). Pregenital sternite shorter in middle line than wide at posterior margin (1:1.6), and as long as greatest width of 1st valvifer; inner vertical ridge above posterior margin very narrow. First valvulae strongly widening towards base, with lateral margins convex, mesal margins weakly produced to meet at base, lower surface of style horizontal, but close to base rather abruptly sloping anterodorsad. Ventral wall of atrium moderately exposed.

♂: length, 3.3 mm; tegmen, 5.3 mm. ♀: length, 3.2 mm; tegmen, 5.0 mm.

Holotype ♂, PNG: NEW GUINEA (SE): Normanby I, Wakaiuna, Sewa Bay, 1-10.XI.1956, W.W. Brandt (BISHOP 11,680). Paratypes, 3♀, same data as holotype. Types in BISHOP.

This species is strongly characterized by the shape of the head, and both sexes can be identified from the genitalia without dissection: in the male, by the virtual absence of a medioventral process on the ventral margin of the pygofer and by the deep-sided anal segment; in the female, by the unusual shape of the basal part of the 1st



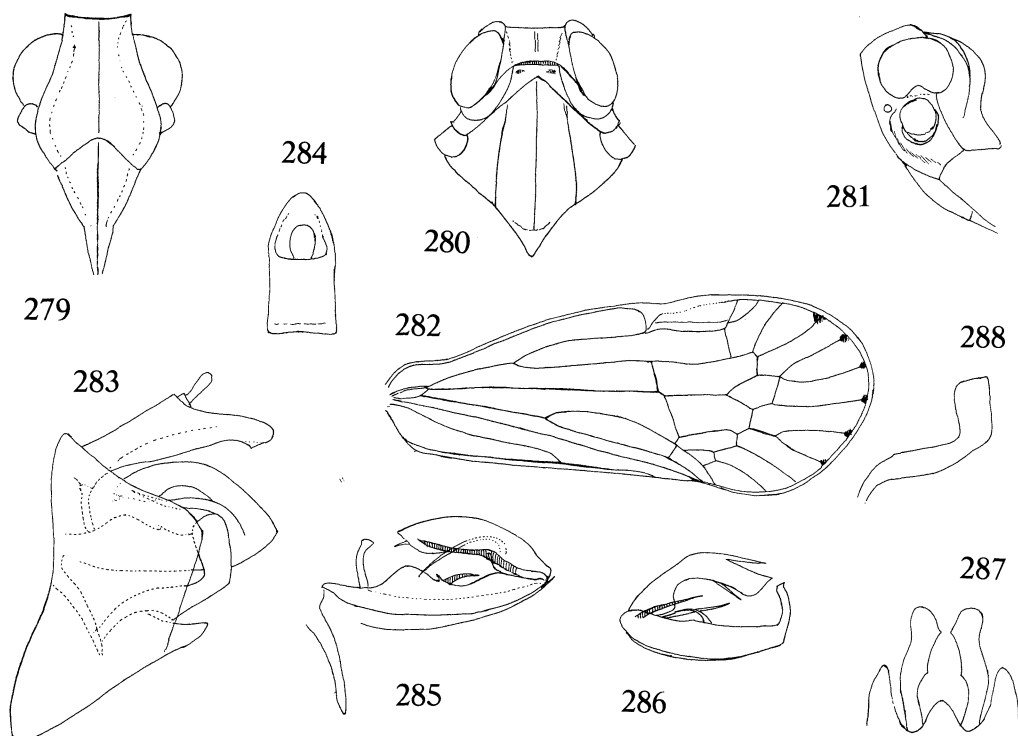


FIG. 279–288. *Bajauana mermerus*: 279, frons and clypeus; 280, head, pronotum and mesonotum; 281, head and pronotum, lateral view; 282, tegmen; 283, ♂ genitalia, left side; 284, anal segment, dorsal view; 285, aedeagus, left side; 286, aedeagus, right side; 287, genital styles and medioventral process of pygofer, ventral view; 288, left genital style, side view.

valvula, with its minute blunt eminence at the base of the mesal margin meeting its counterpart from the opposite valvula, and by the cephalad, not mesad, inclination of the surface of the valvula at its extreme base; and in both sexes, by the abnormally long anal segment.

The specific epithet is a classical name.

### ***Bajauana mermerus* Fennah, new species**

FIG. 279–288

Vertex wider at anterior margin than long in middle line (1.7:1), anterior margin straight, lateral margins strongly diverging caudad, width between basal angles greater than at anterior margin (1.4:1), length of lateral margin greater than length in middle line (1.9:1), posterior margin rather deeply concave, disc deeply depressed, medially carinate. Frons in middle line as long as broad at widest part, wider at widest part than at base (2:1), wider at apex than at base (1.3:1), basal margin slightly elevated, lateral margins rather strongly foliaceous, median carina distinct to basal margin, median ocellus absent; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.3:1). Basal metatarsal segment with 6 teeth. Tegmina with costa strongly produced at base, stigma longer than broad (3.7:1), marginal area with 1–2 rows of granules, submarginal area obscure, without granules,  $Sc_2$  weakly bent at level of 1st transverse vein  $M_{3+4}$  usually extending to

$Cu_1$ , if not, then the part of this vein from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (3.8:1), subapical cell  $M_{3+4}$  usually subequal to subapical cell  $Cu_{1a}$ , apical margin of tegmen broadly slightly obliquely rounding.

Golden brown; median carina of vertex, lateral carinae of pronotum and lateral carinae of mesonotum paler. Tegmina pale yellowish gray, subhyaline, veins yellow, apical veins from  $R_s$  to  $Cu_{1b}$  overlaid with fuscous at junction with margin, which is dark at these points. Wings pale gray, subhyaline, with veins pale brown distally, a little lighter basally.

♂. Anal segment bilaterally symmetrical, in dorsal view with lateral margins almost straight, converging distad of middle, lateroapical angles shortly spinose, apical margin concave. Pygofer bilaterally symmetrical, with dorsolateral angles not at all developed, in side view with lateral margin produced caudad, obtusely angulately bent at middle; medioventral process shorter than broad at base, with lateral margins converging distad, apical margin narrowly rounded. Aedeagus with a shallow convex vertical lobe dorsally near base, a shallow curved spinose process dorsally on left at middle, directed to right, a slender spine ventrally on left at apex, directed caudad, a long stout sinuate spine on left at apex, directed cephalad, a rather shorter spine dorsally on right at apex, directed cephalad; flagellum with a slender spinose process ventrally near middle, directed ventrocephalad, a smaller spinose process dorsally near apex, directed cephalad. Genital styles rather narrow, in side view angulately bent upward slightly distad of middle and slightly widening to apex, apical margin almost straight, inner and outer angles rounded; inner margin in basal  $\frac{1}{2}$  not denticulate and not angulate or excavate basally.

♂: length, 3.0 mm; tegmen, 5.0 mm.

♀. Unknown.

Holotype ♂, PNG: NEW GUINEA (NE): Kassam, 1350 m, 48 km E of Kainantu, 30.X.1959, T.C. Maa (BISHOP 11,681). Paratype, 1♂, with same data as holotype. Types in BISHOP.

This species is distinguished by the proportions of the head and thorax and by coloration. The absence of infuscation on the subapical transverse veinlets of the tegmen and on the margin of the wing at the points of entry of the veins and pale straw yellow posterior cell of the clavus serve to separate this species from other pale-colored species that have pallid mesothoracic carinae.

### ***Bajauana nigrifrons* Fennah, new species**

FIG. 289-296

Vertex wider at anterior margin than long in middle line (1.8:1), anterior margin straight, lateral margins weakly diverging caudad, width between basal angles greater than at anterior margin (1.3:1), length of lateral margin greater than length in middle line (1.9:1), posterior margin shallowly concave, disc deeply depressed, medially carinate. Frons in middle line scarcely as long as broad at widest part, wider at widest part than at base (1.9:1), wider at apex than at base (1.3:1), basal margin only very slightly elevated, lateral margins rather strongly foliaceous, median carina distinct to basal margin, median ocellus absent; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.2:1). Basal metatarsal segment with about 5 teeth. Tegmen with costa weakly produced at base, stigma longer than broad (2.1:1), marginal area with 2-3 rows of granules, submarginal area obscure, without granules,  $Sc_2$  strongly bent at level of 1st transverse vein;  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (6.4:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.7:1), apical margin of tegmen obliquely rounding.

Ochraceous; intercarinal areas of head, pronotum, mesopleura except at edges, abdomen and valvifers of ♀, dark fuscous; intercarinal areas of mesonotum, yellowish brown. Tegmina subhyaline, grayish; granules on veins of corium, stigma, transverse veinlets and veins of membrane, a rather large suffusion in apical cells near apical angle, and another near anal angle, 3 large areas in corium and clavus (1 at base, 1 broadly overlaying  $Sc+R$  fork and 1, with a paler center, broadly covering union of claval veins and  $Cu_1$  fork) and apical margin at point of junction with each apical vein, fuscous; apical margin otherwise ochraceous to reddish brown. Wings hyaline, with veins fuscous.

♂. Anal segment moderately long, in dorsal view with lateral margins weakly converging distad, apical

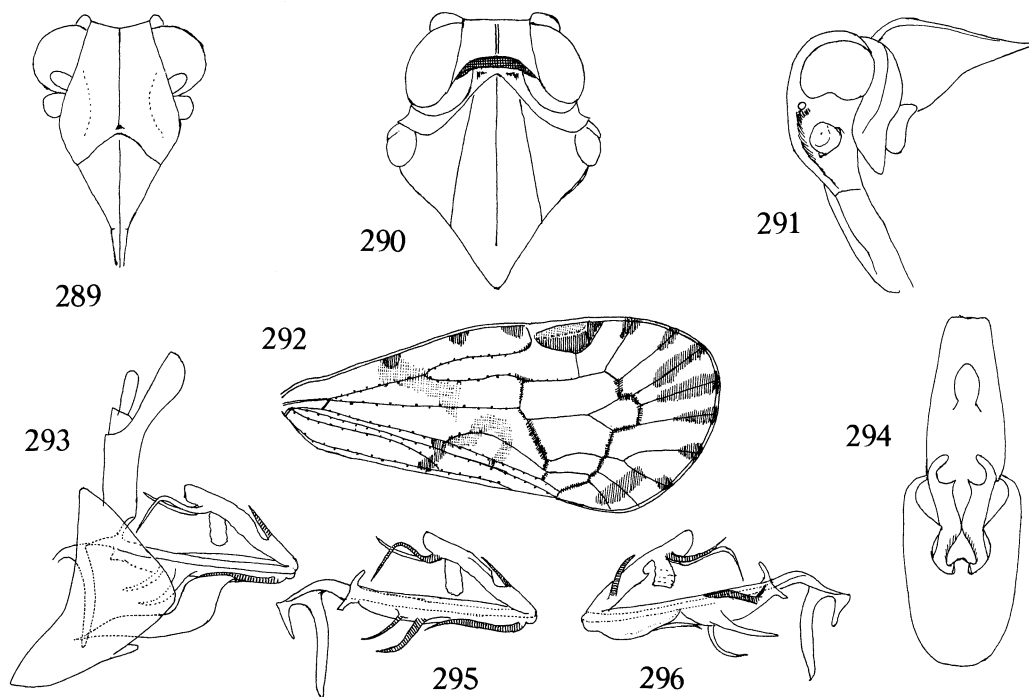


FIG. 289–296. *Bajauana nigrifrons*: 289, frons and clypeus; 290, vertex, pronotum and mesonotum; 291, head, pronotum and mesonotum; 292, tegmen; 293, ♂ genitalia, left side; 294, anal segment, pygofer and genital styles, ventral view; 295, aedeagus, left side; 296, aedeagus, right side.

margin transverse, weakly indented medially, in side view with lateral margins shallowly concave, latero-apical angles not produced. Pygofer bilaterally symmetrical, dorsolateral angles not developed, lateral margins produced caudad, subrectangulately convex at middle, medioventral process not or scarcely longer than broad at base, apical margin convex, dorsal surface shallowly convex. Aedeagus produced laterally on right in a subhorizontal lobe that extends sinuately caudad and emits a delicate spinose process directed caudad at about  $\frac{1}{4}$  from base; a moderately long spinose process ventrally near apex, directed cephalad and distally curving slightly to left, 2 curved spinose processes arising ventrolaterally at middle, directed ventrad and cephalad; flagellum of approximately same width throughout, a spinose process arising dorsally in basal  $\frac{1}{4}$ , directed towards apex, 2 unequal long slender processes arising subapically, the shorter directed cephalad, the longer curving mesad then ventrad, a small membranous lobe extending latero-ventrad on right just basad of these processes; suspensorium short, portion above level of dorsal margin of aedeagus shorter than basal plate strut (1:3.7). Genital style in side view abruptly widening distad of middle and curving dorsad, apical margin straight, apical angle narrowly produced and inflected, acuminate; inner margin of style in basal  $\frac{1}{2}$  distinctly denticulate, excavate and slightly angulately produced mesad at base.

♀. Pregenital sternite in middle line shorter than width at hind margin (1:1.5) and than greatest width of 1st valvifer (1:1.1), basal margin slightly elevated, hind margin transverse, inner vertical ridge above hind margin very narrow. First valvifer obtusely rounding at level of base of 3rd valvulae. First valvulae moderately rapidly widening to base, with outer margins slightly concave, ventral surface rather steeply sloping to middle line. Ventral wall of atrium rather deeply exposed.

♂: length, 2.9 mm; tegmen, 4.5 mm. ♀: length, 3.3 mm; tegmen, 5.0 mm.

Holotype ♂, IRIAN: NEW GUINEA (NW): Waris, S of Hollandia [Jayapura], 450–

500 m, 1-18.VIII.1959, T.C. Maa (BISHOP 11,682). Paratypes, 38♂♀, Waris, S of Hollandia, 450-500 m, 1-18,16-23.VIII.1959, T.C. Maa; Hollandia-Binnen, 100 m, 2.XI.1958, J.L. Gressitt; PNG: NEW GUINEA (NE): Amok, 6.I.1960, T.C. Maa. Types in BISHOP.

This species is recognizable by the pattern of infuscation of the tegmina and, in most instances, by the deep infuscation of the intercarinal areas of the frons, as well as by genitalic structure.

### **Bajauana sharuhen** Fennah, new species

FIG. 297-304

Vertex wider at anterior margin than long in middle line (1.7:1), anterior margin straight, lateral margins moderately diverging caudad, width between basal angles greater than at anterior margin (1.4:1), length of lateral margin greater than length in middle line (1.5:1), posterior margin broadly concave, disc rather deeply depressed, weakly carinate medially. Frons in middle line as long as broad at widest part, wider at widest part than at base (2:1), wider at apex than at base (1.4:1), basal margin slightly elevated, lateral margins moderately foliaceous, median carina distinct at basal margin, median ocellus absent; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.5:1). Basal metatarsal segment with about 5 teeth. Tegmen with costa moderately strongly produced at base, stigma longer than broad (2.9:1), marginal area with 1.5-2 rows of granules, submarginal area rather distinct, without granules, Sc<sub>2</sub> weakly bent at level of 1st transverse vein, vein M<sub>3+4</sub> from M fork to M-Cu<sub>1a</sub> longer than M-Cu<sub>1a</sub> (4.4:1), subapical cell M<sub>3+4</sub> longer than subapical cell Cu<sub>1a</sub> (1.5:1), apical margin of tegmen evenly broadly rounding.

♂. Light brownish yellow; carinae of pronotum and mesonotum, and sometimes posterior margin of mesonotum near lateral angles, ochraceous, intercarinal areas of mesonotum yellowish brown, pro- and mesotarsi apically fuscous. Tegmina grayish, hyaline, a spot in clavus at union of claval veins and a small suffusion overlying each apical vein at margin, fuscous, veins of corium concolorous, veins of membrane and apical margin brown. Wings grayish hyaline, veins fuscous.

♀. Orange-brown; intercarinal areas of mesonotum castaneous, pro- and mesotarsi apically, abdomen and 2nd valvifers, dark fuscous. Tegmina gray, subhyaline, with diffuse spots in corium on M at middle, over Cu<sub>1</sub> near fork, and in clavus at union of veins, reddish brown; stigma, a suffusion over transverse veinlets and sometimes over apical cells in their basal ½, and veins, dark fuscous.

♂. Anal segment bilaterally asymmetrical, lateral margins produced ventrad in a deeply rounded lobe, the lobes differing slightly in shape and distance from base, that on right being nearer base, apical margin deeply rounded, lateral margin basad of lobe in side view shallowly concave. Pygofer with dorsolateral angles not developed, lateral margin in side view obtusely angulately bent at middle, weakly sinuate in upper ½, medioventral process broader at base than long, apically evenly rounded, in profile thickening basad. Aedeagus relatively long, a small subvertical lobe, with margin irregular, ventrally at base, extending ventrad and terminating in a small fingerlike process, a small triangular lobe dorsally on right near base, directed dorsolaterad and acuminate apically, a long stout spinose process arising ventrally on right at apex, directed obliquely cephalad below aedeagus and crossing to left of middle line, 2 unequal curved spinose processes arising ventrally on left near middle, directed ventrad, distal process about 2× as long as basal; flagellum strongly decurved, scarcely surpassing middle of aedeagus, a slender spinose process dorsally on left near base, directed cephalad, a shorter and stouter spinose process dorsally distad of this, and a short sinuate lobe at same level, membranous apical portion of flagellum decurved to right; suspensorium moderately long, portion above level of upper margin of aedeagus about ½ as long as basal plate strut. Genital style broad distally, with margin rounded, inner margin toothless.

♀. Pregenital sternite in middle line shorter than wide at hind margin (1:1.4) and slightly longer than greatest width of 1st valvifer (1.1:1), basal margin distinctly and broadly elevated, obtusely angulate medially, hind margin transverse, inner vertical ridge above hind margin extremely narrow. First valvifer obtusely rounding at level of base of 3rd valvulae. First valvulae rather abruptly widening basad, with outer margins convex, ventral surface markedly sloping to middle line. Ventral wall of atrium deeply exposed.

♂: length, 3.2 mm; tegmen, 5.0 mm. ♀: length, 3.8 mm; tegmen, 5.2 mm.

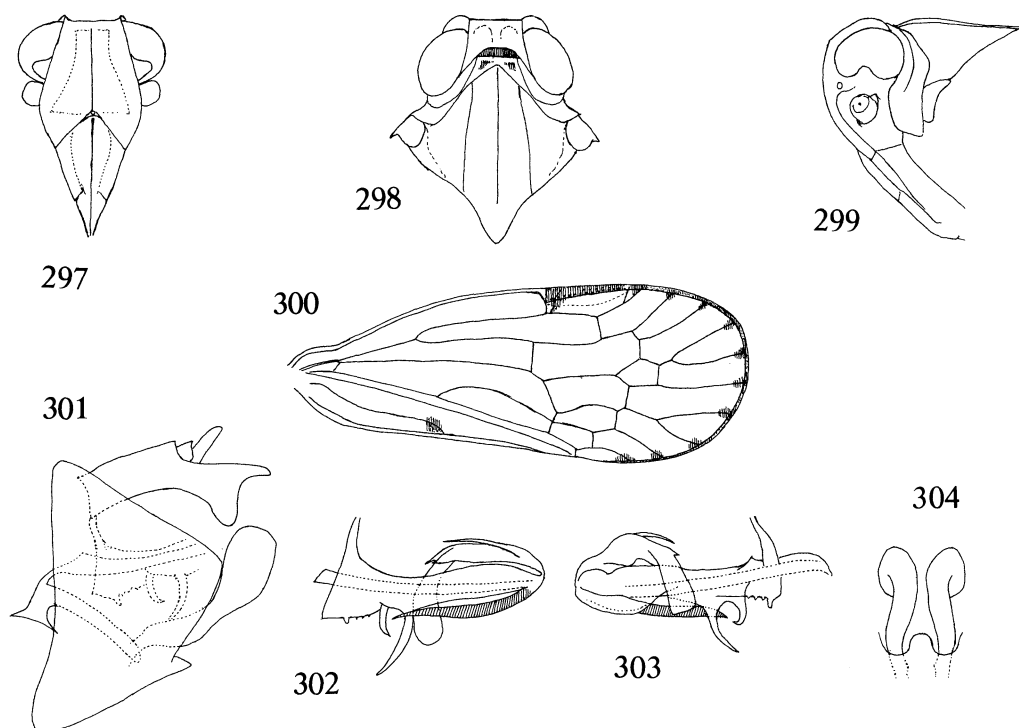


FIG. 297–304. *Bajauana sharuhen*: **297**, frons and clypeus; **298**, head, pronotum and mesonotum; **299**, head, pronotum and mesonotum; **300**, tegmen; **301**, ♂ genitalia, left side; **302**, aedeagus, left side; **303**, aedeagus, right side; **304**, genital styles and medioventral process of pygofer, ventral view.

Holotype ♂, IRIAN: NEW GUINEA (NW): Wisselmeren, Enarotadi, 1900 m, 21.VIII.1955, J.L. Gressitt (BISHOP 11,683). Paratypes, 9♂, 9♀, NEW GUINEA (NW): Wisselmeren, Enarotadi, 1800–2000 m, 5,6,9,20.VIII.1955; Itouda, Kamo Val, 14.VIII.1955; Okaitadi, 1800 m, 8.VIII.1955, J.L. Gressitt. All from Wissel Lakes area. Types in BISHOP.

This species is recognizable by the proportions of the head, features of tegminal venation and coloration of the tegmina. In both sexes there is some variation in the clarity with which the submarginal area of the stigma is displayed, but it is always discernible.

The specific epithet is a noun.

### ***Bajauana bicolor*** (Walker)

FIG. 305–313

*Brixia bicolor* Walker, 1870: 109.

Vertex wider at anterior margin than long in middle line (1.8:1), anterior margin straight, lateral margins weakly diverging caudad, width between basal angles greater than at anterior margin (1.2:1), length of lateral margin greater than length in middle line (1.8:1), posterior margin shallowly concave, disc deeply depressed, medially ecarinate. Frons in middle line slightly longer than broad at widest part, wider at widest part than at base (1.9:1), wider at apex than at base (1.1:1), basal margin elevated, lateral margins

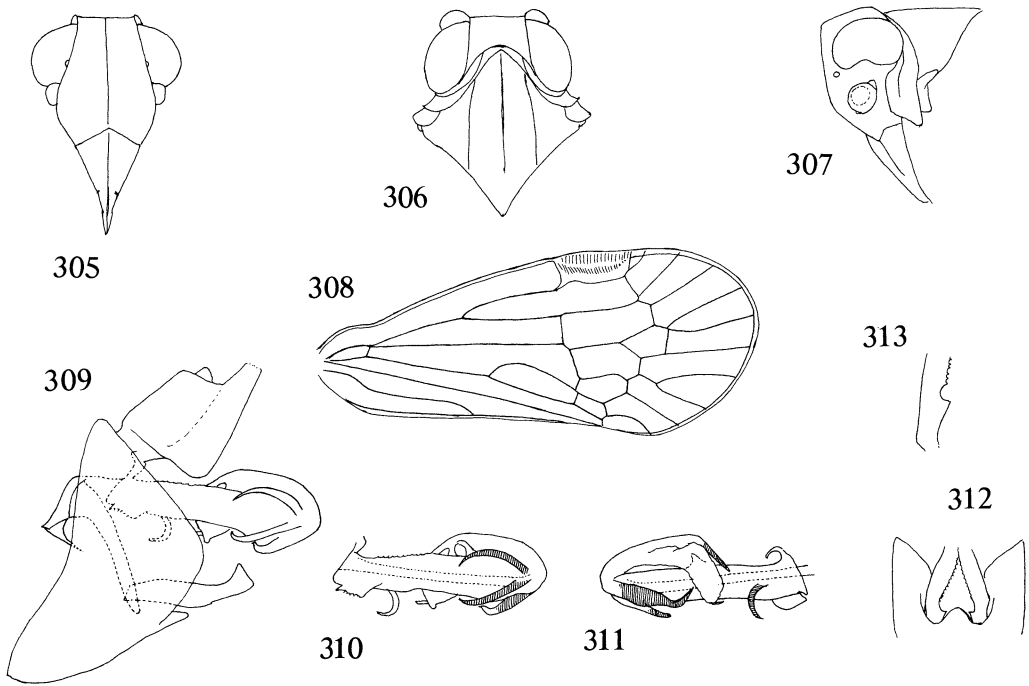


FIG. 305-313. *Bajauana bicolor*: **305**, frons and clypeus; **306**, head, pronotum and mesonotum; **307**, head, pronotum and mesonotum; **308**, tegmen; **309**, ♂ genitalia, left side (apex of anal segment missing); **310**, aedeagus, left side; **311**, aedeagus, right side; **312**, basal part of genital styles and ventral margin of pygofer, ventral view; **313**, basal part of left genital style, ventral view.

rather strongly foliaceous, median carina distinct to basal margin, median ocellus absent; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.4:1). Basal metatarsal segment with 5 teeth. Tegmina with costa rather weakly produced at base, stigma longer than broad (2.6:1), marginal area with 2 rows of granules, submarginal area moderately distinct, without granules,  $Sc_2$  rather strongly bent at level of 1st transverse vein,  $M_{3+4}$  from M fork to M-Cu longer than M-Cu (2.5:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.7:1), apical margin of tegmen broadly obliquely rounding.

Pallid stramineous; frons basally, sides of head at same level, pronotum behind eyes, tegulae, pro- and mesotarsi and post-tibiae apically, fuscous, mesonotum reddish brown. Tegmina subhyaline, grayish, a narrow line bordering inner edge of costal vein, a spot at base and apex of stigma, a suffusion overlying apical veins of R and M, all transverse veinlets and a spot in clavus at union of claval veins, fuscous, veins of corium almost concolorous, veins of membrane brown. Wings hyaline, with veins dilute brown.

♂. Anal segment moderately long, with sides deep, lateral margin rectangulately rounding at base, then straight. Pygofer with dorsolateral angles not developed, lateral margins obtusely rounding at middle, medioventral process triangular, broader basally than long in middle, with sides slightly convex and apex angulate. Aedeagus relatively long, dorsal surface in basal  $\frac{1}{2}$  minutely denticulate, a small horizontal lobe on left at base, with margins subfimbriate; a pair of subequal stout spinose processes arising apically on left of aedeagus, the upper one curved, directed cephalad, the lower slightly less curved, directed ventrocephalad, a curved spinose process on right side about  $\frac{1}{4}$  from base, directed ventrocaudad and curving ventrocephalad, a stout spinose process on right at apex, directed ventrocephalad and slightly upcurved at apex; flagellum reaching to middle of aedeagus, curving to right and deflexed apically, a slender straight

spinose process dorsally at about  $\frac{2}{3}$  from base, directed apicad, a small slender submembranous spinose process extending cephalad from apical margin of flagellum; suspensorium very short, portion above level of upper surface of aedeagus about  $\frac{1}{7}$  length of basal plate strut. Genital style in side view weakly curved upward in distal  $\frac{1}{2}$  and slightly widening near apex; inner margin in basal  $\frac{1}{2}$  minutely denticulate, slightly excavate and angulate at base.

♂: length, 3.0 mm; tegmen, 5.4 mm.

♀. Unknown.

In Walker's type, the apex of the anal segment is missing, and the apex of the genital styles may be so, but the genitalia are nevertheless quite distinctive. The fuscous line that extends from the base of the frons across the sides of the head and pronotum, tegulae and the anterior edge of the costal cell is an unusual element in the range of color patterns found in the genus.

The exact type-locality of this species in New Guinea is unknown, but is presumably in one of the areas where Wallace collected. No examples of this species were found in the present collection.

### ***Bajauana galanthis* Fennah, new species**

FIG. 314-322

Vertex wider at anterior margin than long in middle line (1.5:1), anterior margin straight, lateral margins weakly diverging caudad, width between basal angles greater than at anterior margin (1.3:1), length of lateral margin greater than length in middle line (1.3:1), posterior margin shallowly concave, disc shallowly depressed, medially ecarinate. Frons in middle line longer than broad at widest part (1.1:1), wider at widest part than at base (1.8:1), wider at apex than at base (1.2:1), basal margin very slightly elevated, lateral margins rather strongly foliaceous, median carina distinct to basal margin, median ocellus absent; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.3:1). Basal metatarsal segment with about 5 teeth. Tegmen with costa rather weakly produced at base, stigma longer than broad (2.5:1), marginal area with 1-2 rows of granules, submarginal area rather obscure, without granules,  $Sc_2$  moderately strongly bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (2.5:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.8:1), apical margin of tegmen broadly and slightly obliquely rounding.

Light yellowish brown; mesonotal disc reddish brown in posterior  $\frac{3}{4}$ , lateral fields reddish brown near discal carinae. Tegmina grayish, subhyaline, veins in basal  $\frac{1}{2}$  of corium orange-brown, elsewhere fuscous, anterior margin of corium and posterior margin of clavus, yellowish or orange-brown, anterior margin between apex of C and apex of R infuscate on outer side and ochraceous interiorly, margin of membrane elsewhere uniformly brown. Wings hyaline, with veins fuscous.

♂. Anal segment moderately long, not quite bilaterally symmetrical, lateral margins in dorsal view weakly converging distad, in side view shallowly concave, left lateroapical angle distinctly produced ventrad in a rounded lobe, right lateroapical angle rounded, apical margin concave. Pygofer with dorsolateral angles not developed, lateral margins rather deeply convex, medioventral process triangular, slightly broader basally than long, with sides straight, converging to meet at apex. Aedeagus moderately long, a long stout spinose process arising dorsally on left near base, directed dorsocaudad, a minute spicule on left at middle, a short, very stout process arising ventrally at apex, constricted into a spine distally curving mesad, a spinose process arising on left at base of flagellum, directed dorsocephalad, flagellum with a rather long spinose process arising dorsally near apex, directed dorsomesocephalad, membranous portion narrow, extending ventrocephalad on right. Genital style in side view strongly expanding in distal  $\frac{3}{7}$  in a semicircularly rounded lobe, with apical margin smoothly confluent with lateral margins; inner margin of style denticulate in basal  $\frac{1}{2}$ , strongly excavate and angulate basally.

♀. Pregonital sternite in middle shorter than width at hind margin (1:1.6), and as long as greatest width of 1st valvifer, basal margin not elevated, hind margin transverse, inner vertical ridge above hind margin moderately deep, broadly convex. First valvifer obtusely rounding at level of base of 3rd valvulae.

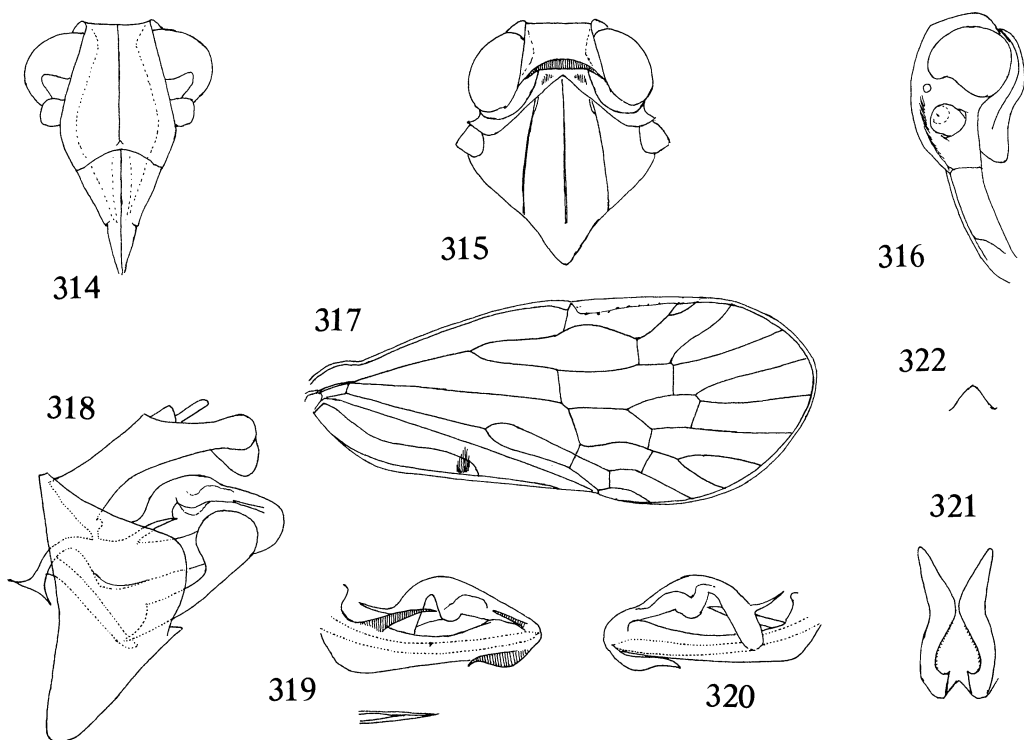


FIG. 314-322. *Bajauana galanthis*: **314**, frons and clypeus; **315**, head, pronotum and mesonotum; **316**, head and pronotum, lateral view; **317**, tegmen; **318**, ♂ genitalia, left side; **319**, aedeagus, left side, with (below) dorsal view of basal spinose process of left side; **320**, aedeagus, right side; **321**, genital styles and medioventral process of pygofer, ventral view; **322**, medioventral process of pygofer, ventral view.

First valvulae moderately rapidly widening to base, with outer margins sinuate, almost straight, ventral surface moderately sloping to middle line. Ventral wall of atrium only slightly exposed.

♂: length, 3.8 mm; tegmen, 5.0 mm. ♀: length, 3.6 mm; tegmen, 6.0 mm.

Holotype ♂, PNG: NEW GUINEA (NE): Maprik, 160 m, 15.X.1957, J.L. Gressitt (BISHOP 11,684). Paratypes, 1♀, same data as holotype; 1♂, Maprik, 150 m, 29.XII.1959-17.I.1960, T.C. Maa. Types in BISHOP.

This species is distinguished by bodily proportions and features of the tegminal venation. The paler color of the anterior part of the mesonotal disc together with the shape of the vertex and the tegminal venation and stigma are characteristic.

The specific epithet is a classical name.

### ***Bajauana castalius* Fennah, new species**

FIG. 323-332

Vertex wider at anterior margin than long in middle line (2.4:1), anterior margin transverse, lateral margins moderately diverging caudad, width between basal angles greater than at anterior margin (1.3:1), length of lateral margin greater than length in middle line (2.2:1), posterior margin shallowly concave,



disc deeply depressed, an indication of a median carina in anterior  $\frac{1}{2}$ . Frons in middle line slightly longer than broad at widest part (scarcely 1.1:1), wider at widest part than at base (1.8:1), wider at apex than at base (1.1:1), basal margin elevated, lateral margins markedly foliaceous, median carina not distinct to basal margin, median ocellus absent; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.3:1). Basal metatarsal segment with 6–7 teeth. Tegmen with costa weakly produced at base, stigma longer than broad (2.5:1), marginal area with 3 rows of obscure granules, submarginal area weakly evident, without granules,  $Sc_2$  moderately strongly bent at level of 1st transverse vein;  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (5.9:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.6:1), apical margin of tegmen broadly rounding.

Stramineous; pro- and mesotibiae and tarsi lightly suffused fuscous; apex of rostrum dark fuscous. Tegmina hyaline, weakly iridescent, veins of corium and clavus stramineous, veins of membrane slightly darker, subapical transverse veins, a small suffusion over each apical vein at margin and apical margin itself, dark fuscous. Wings hyaline, C and  $Sc+R$  pale sordid yellow, remaining veins fuscous.

♂. Anal segment bilaterally symmetrical, relatively narrow, with anal foramen situated slightly distad of middle, lateroapical angles produced ventrad as triangular lobes. Pygofer slightly asymmetrical, dorso-lateral angles unequally and weakly produced caudad, lateral margin convex, medioventral process triangular, not quite as long as broad at base. Aedeagus with a small triangular lobe dorsally at base, directed dorsad, and a small triangular lobe on right side at same level, directed laterad, 2 straight vertical spinose processes on right in distal  $\frac{1}{2}$ , directed dorsad, a short spinose process dorsally on right at base of flagellum, directed caudad, a long sinuate spinose process on left near apex, directed cephalad; flagellum with a triangular process on right near base, directed cephalad, a rather short stout spinose process dorsally near middle, directed cephalad, a pair of strongly decurved submembranous spinose processes apically, flagellum curving to right distally. Suspensorium  $\frac{2}{3}$  as long as basal plate strut.

♂: length, 3.6 mm; tegmen, 5.1 mm.

♀. Unknown.

Holotype ♂, IRIAN: NEW GUINEA (NW): Swart Val, Karubaka, 14–1600 m, 9.XI.1958, J.L. Gressitt (BISHOP 11,685). Type in BISHOP.

This species is distinguished by the proportions of the head and mesonotum, the tegminal venation and the male genitalia. The lateral carinae of the frons, although extending more laterally than anteriorly, are very markedly higher than the median carina. The more basad of the 2 branches of  $Sc_2$  in the stigma is infusate, like the transverse veinlets. In the genitalia, the suspensorium is unusually long.

The specific epithet is a classical name.

### ***Bajauana iridipennis* Fennah, new species**

FIG. 333–346

Vertex wider at anterior margin than long in middle line (2.5:1), anterior margin straight, lateral margins weakly diverging caudad, width between basal angles greater than at anterior margin (1.2:1), length of lateral margin greater than length in middle line (2.0:1), posterior margin shallowly angulately excavate; disc rather deeply depressed, medially ecarinate. Frons in middle line not longer than broad at widest part (1:1.1), wider at widest part than at base (1.8:1), wider at apex than at base (1.2:1), basal margin slightly elevated, lateral margins strongly foliaceous, median carina distinct to basal margin, median ocellus absent; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.2:1). Basal metatarsal segment with 6–7 teeth. Tegmina with costa not produced at base, stigma longer than broad (2.4:1), marginal area with 2 rows of granules, submarginal area obscure, without granules,  $Sc_2$  weakly bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $M-Cu$  longer than  $M-Cu$  (6.6:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.4:1), apical margin of tegmen broadly and slightly obliquely rounding.

Light yellowish brown; mesonotum reddish brown, median carina of frons and carinae of mesonotum dull yellow. Tibiae and tarsi of fore- and middle legs suffused fuscous except at apex of each segment.

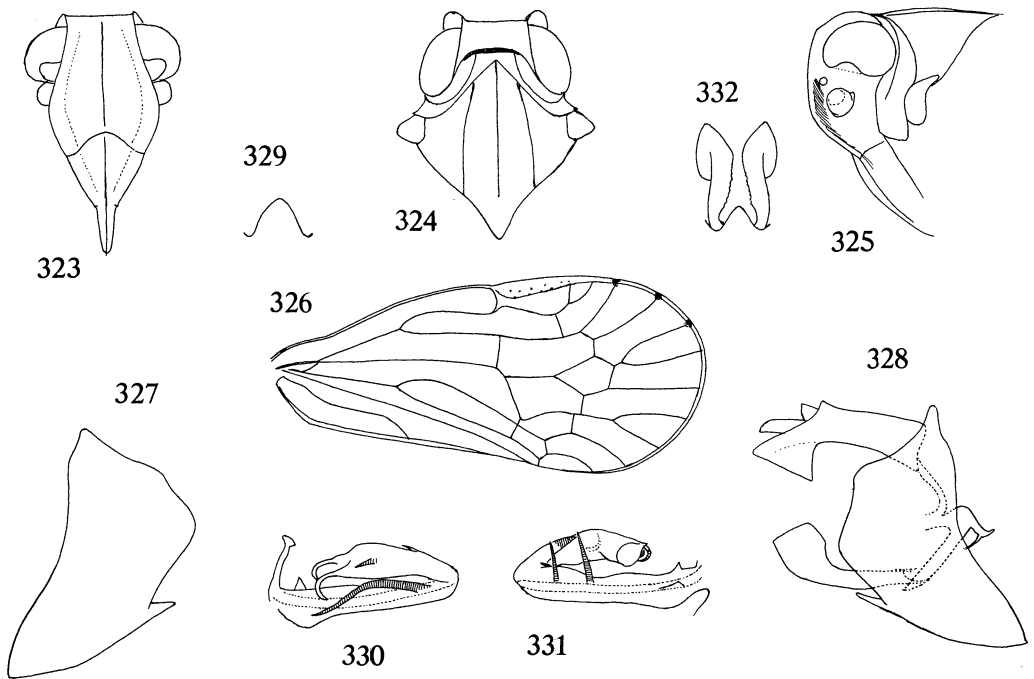


FIG. 323-332. *Bajauana castalius*: **323**, frons and clypeus; **324**, head, pronotum and mesonotum; **325**, head, pronotum and mesonotum, lateral view; **326**, tegmen; **327**, pygofer, left side; **328**, anal segment, pygofer and genital style, right side; **329**, medioventral process of pygofer, ventral view; **330**, aedeagus, left side; **331**, aedeagus, right side; **332**, genital styles and medioventral process of pygofer, ventral view.

Tegmina yellowish hyaline, 3 faint transverse linear marks in corium near middle of M, on  $Cu_{1b}$  and in clavus at union of claval veins, fuscous; veins yellowish brown, slightly darker in membrane, margin yellowish brown, no suffusion overlying apical veins distally. Wings hyaline, iridescent, with veins fuscous.

♂. Anal segment slightly asymmetrical bilaterally, decurved distad of middle, lateral margins in dorsal view convex basally, then parallel, in lateral view strongly concave, lateroapical angles shortly and narrowly produced, acuminate, apical margin shallowly convex. Pygofer with dorsolateral angles produced caudad, rounded, lateral margins oblique and convex; medioventral process triangular, broader at base than long, dorsal surface flat. Aedeagus with a subhorizontal lobe on left in basal  $\frac{1}{2}$  and a minute upcurved spine distad of it near base of flagellum, a long spinose process arising at base of flagellum, directed cephalad and decurving, a minute spine, directed laterad, on right side of aedeagus  $\frac{2}{3}$  from base, a sinuate spinose process arising dorsally at apex, directed cephalad, a short stout spine dorsally immediately before base of flagellum; flagellum extending to base of aedeagus, decurved distally, a narrow spinose process dorsally in apical  $\frac{1}{3}$ , directed cephalad and 2 short spinose processes at apex of membranous portion, 1 at each apical angle; suspensorium rather short, portion above level of apex of upper margin of aedeagus  $\frac{1}{2}$  as long as basal plate strut. Genital style in side view strongly expanded in distal  $\frac{1}{2}$ , apical margin unevenly rounded; inner margin distinctly denticulate, excavate and subangulate basally.

♂: length, 3.5 mm; tegmen, 5.9 mm.

♀. Unknown.

Holotype ♂, IRIAN: NEW GUINEA (NW): Kutsime, W of Swart Val, 1500 m, 14.XI.1958, J.L. Gressitt (BISHOP 11,686). Type in BISHOP.

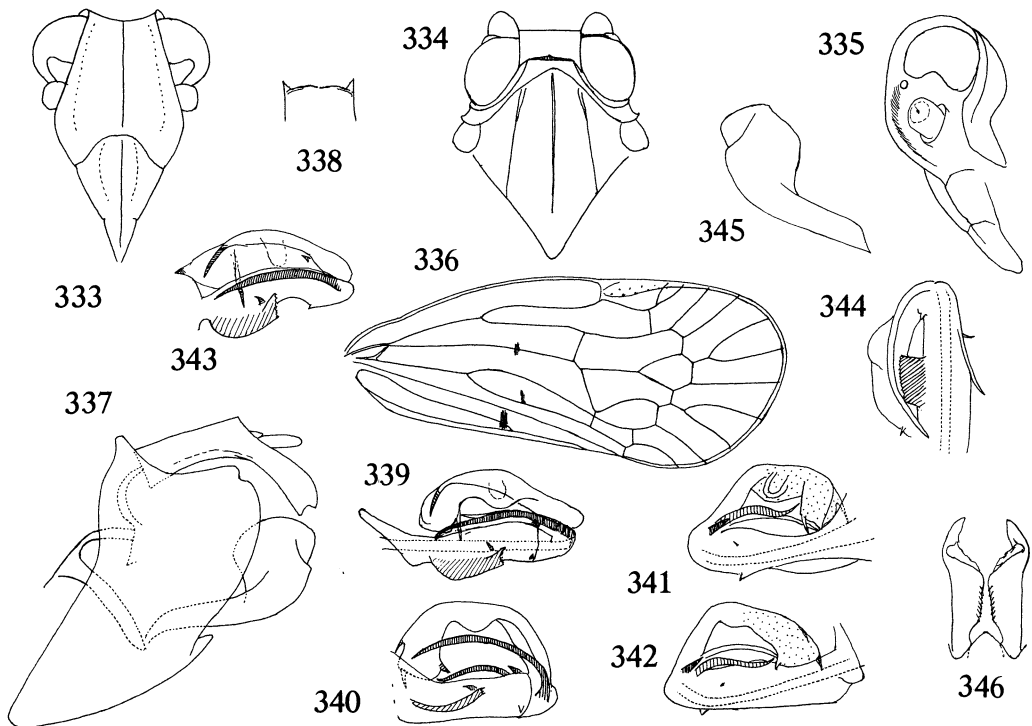


FIG. 333–346. *Bajauana iridipennis*: 333, frons and clypeus; 334, head, pronotum and mesonotum; 335, head and pronotum, lateral view; 336, tegmen; 337, ♂ genitalia, left side; 338, apical margin of anal segment, dorsal view; 339, aedeagus, left side, dorsolateral view; 340, the same, lateral view; 341, aedeagus, right side, ventrolateral view; 342, the same, dorsolateral view; 343, aedeagus, left side, dorsolateral view; 344, aedeagus, ventral view; 345, right genital style, side view; 346, genital styles and medioventral process of pygofer, ventral view.

This species is characterized by bodily proportions and tegminal venation, and by the iridescent sheen on the tegmina.

### *Bajauana marica* Fennah, new species

FIG. 347–354

Vertex wider at anterior margin than long in middle line (1.7:1), anterior margin straight, lateral margins strongly diverging caudad, width between basal angles greater than at anterior margin (1.5:1), length of lateral margin greater than length in middle line (1.9:1), posterior margin shallowly concave, disc moderately depressed, medially carinate. Frons in middle line a little shorter than broad at widest part (1:1.1), wider at widest part than at base (2.1:1), wider at apex than at base (1.5:1), basal margin not elevated, lateral margins strongly foliaceous, median carina distinct to basal margin, median ocellus small or absent; post-clypeus not as long as broad (1:1.2); antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.4:1). Basal metatarsal segment with about 7 teeth. Tegmina with costa weakly produced at base, stigma longer than broad (2.4:1), marginal area with 3 rows of granules, submarginal area obscure, without granules,  $Sc_2$  weakly bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (4.2:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.4:1), apical margin of tegmen broadly obliquely rounding.

Fuscous; rostrum, carinae of mesonotum and margins of tegula and a carina across it at middle, a ridge

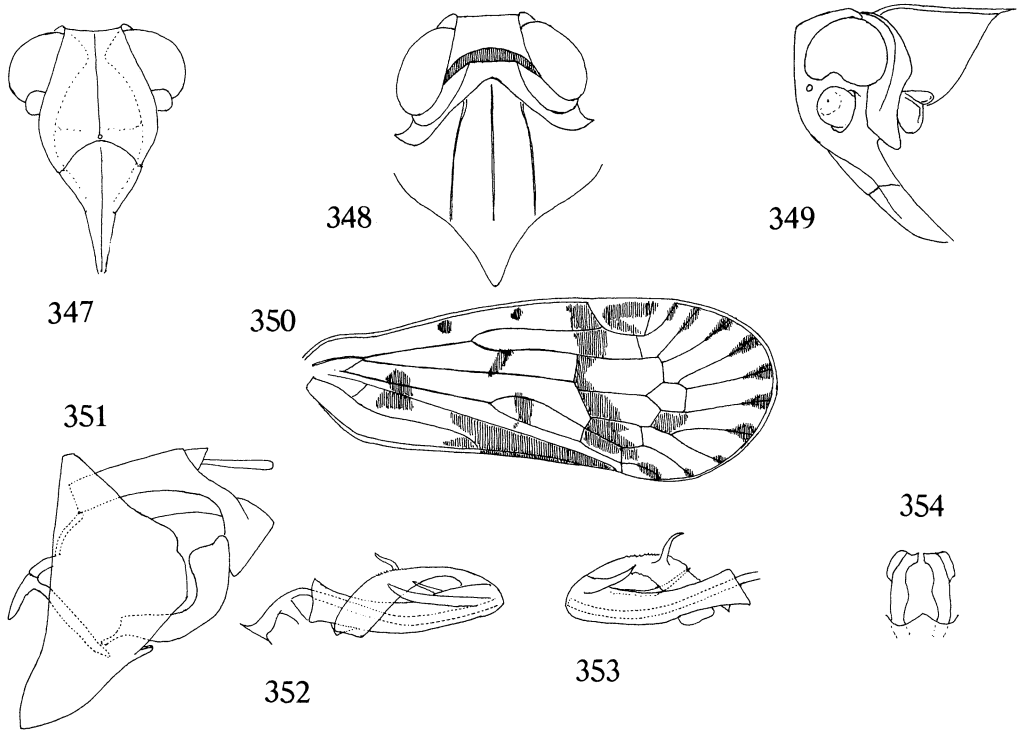


FIG. 347-354. *Bajauana marica*: **347**, frons and clypeus; **348**, head, pronotum and mesonotum; **349**, head, pronotum and mesonotum, lateral view; **350**, tegmen; **351**, ♂ genitalia, left side; **352**, aedeagus, left side; **353**, aedeagus, right side; **354**, genital styles and medioventral process of pygofer, ventral view.

on mesopleuron, forelegs, middle legs, post-coxae, post-femora at base and apex and post-tibiae at apex, light yellowish brown or ochraceous. Tegmina grayish hyaline, 2 spots in costal cell, a spot in M at middle of corium, a spot in Cu near fork, distal  $\frac{1}{2}$  of clavus, a suffusion overlying nodal line and basal  $\frac{2}{3}$  of stigma, a suffusion in basal  $\frac{1}{2}$  of apical cells of M and Cu, and a suffusion overlying each apical vein at junction with margin, fuscous. Wings hyaline, infuscate distally.

♂. Anal segment relatively long, markedly deflexed in distal  $\frac{1}{2}$ , lateral margin in side view deeply concave, apical angles asymmetrically produced, that on left side in a triangular lobe, that on right in a smaller deeply rounded lobe, apical margin short, transverse. Pygofer with dorsolateral angle present as a weakly convex lobe, lateral margin in side view subangulately convex at middle; medioventral process broad, short triangular, about  $\frac{1}{2}$  as long as broad at base, sides straight, apex angulate. Aedeagus with a small triangular horizontal process on left at base, a pair of weak microdenticulate ridges ventrolaterally on each side in basal  $\frac{1}{2}$ , and dorsal surface even more obscurely denticulate in basal  $\frac{1}{2}$ ; a sinuate spinose process on right at apex, directed cephalad and a similar but longer process on left at apex directed cephalad; flagellum with upper surface minutely denticulate at middle, a moderately long spinose process arising dorsally at middle, directed to right and slightly cephalad; suspensorium moderately long, portion above level of dorsal margin of aedeagus about  $\frac{1}{3}$  length of basal plate strut. Genital style in side view curved upward and moderately expanded in distal  $\frac{1}{2}$ , apical margin straight or slightly sinuate, apical angle deeply rounded; inner margin in basal  $\frac{1}{2}$  minutely obliquely striate or subdenticulate, broadly and weakly concave basally, not abruptly excavate or angulate.

♀. Pregenital sternite in middle line as long as wide at hind margin and longer than greatest width of 1st valvifer (1.6:1), basal margin rather deeply convex, not elevated, hind margin transverse, inner vertical

ridge above hind margin shallowly convex, moderately deep at middle. First valvifer obtusely rounding at level of base of 3rd valvulae. First valvulae rather rapidly widening to base, with outer margins convex, ventral surface strongly sloping to middle line. Ventral wall of atrium deeply exposed.

♂: length, 3.0 mm; tegmen, 4.5 mm. ♀: length, 3.2 mm; tegmen 4.9 mm.

Holotype ♂, PNG: NEW GUINEA (SE): Brown Riv, 20.VIII.1959, T.C. Maa (BISHOP 11,687). Paratypes, 2 ♀, NEW GUINEA (SE): Catalina Estate, 48 km N of Port Moresby, 500 m, 1–3.IX.1959, T.C. Maa; Bisianumu, NE of Port Moresby, 500 m, in primary forest, 8.VI.1955, J.L. Gressitt. Types in BISHOP.

This species is characterized by the bold pattern of tegminal markings, the structure of the stigma and proportions of the subapical tegminal cells, the flaring frontal margins, and the number of teeth on the basal metatarsal segment. Although apparently nonfunctional, the median ocellus is distinctly visible on 2 of the 3 specimens examined.

The specific epithet is a classical name.

### ***Bajauana timoleon* Fennah, new species**

FIG. 355–364

Vertex wider at anterior than long in middle line (nearly 2.2:1), anterior margin straight, lateral margins rather strongly diverging caudad, width between basal angles greater than at anterior margin (nearly 1.5:1), length of lateral margin greater than length in middle line (1.8:1), posterior margin shallowly concave, disc moderately deeply depressed, medially ecarinate. Frons in middle line longer than broad at widest part (1.2:1), wider at widest part than at base (1.7:1), wider at apex than at base (1.1:1), basal margin elevated, lateral margins strongly foliaceous, median carina not distinct to basal margin, median ocellus absent; post-clypeus not as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.4:1). Basal metatarsal segment with about 6 teeth. Tegmen with costa very weakly or not produced at base, stigma longer than broad (2.3:1), marginal area with 1 row of obscure granules, submarginal area obscure, without granules, Sc<sub>2</sub> weakly bent at level of 1st transverse vein; vein M<sub>3+4</sub> from M fork to M-Cu<sub>1a</sub> longer than M-Cu<sub>1a</sub> (5.1:1), subapical cell M<sub>3+4</sub> longer than subapical cell Cu<sub>1a</sub> (2:1), apical margin of tegmen broadly obliquely rounding.

Stramineous, powdered lightly with white; post-tibial spines and all tarsal spines black. Tegmina mealy-hyaline, dilute yellow, a spot at union of claval veins, a minute line on transverse vein Cu<sub>1b</sub>-margin and a spot at base of stigma, piceous; veins yellow. Wings hyaline, lightly powdered white, veins light yellowish brown.

♂. Anal segment moderately long, apical margin transverse, apical angles unequally produced ventrad, acute. Pygofer with dorsolateral angles scarcely produced, obtusely rounding, lateral margin moderately convex; medioventral process short. Aedeagus moderately long, a lobe on right side in basal ½ produced dorsally in 2 unequal subspinose curved processes, directed dorsocephalad; a spinose process dorsally on right at ⅓ from base, directed dorsocephalad; a curved spinose process on left ventrally near base, directed dorsocaudad, a long sinuate spinose process on left at apex directed cephalad; flagellum with an abruptly deflexed spinose process on left at apex directed ventrad, a spinose process above this apically, directed cephalad, and a decurved spinose process apically on right directed cephalad and curving ventrad at apex; suspensorium about ⅓ as long as basal plate strut. Genital style in side view gradually widening distad, more abruptly widened at apex, with apical margin shallowly rounding; inner margin finely denticulate in basal ½, rectangulately excavate and slightly produced mesad at base.

♂: length, 3.5 mm; tegmen, 5.4 mm.

♀. Unknown.

Holotype ♂, PNG: NEW GUINEA (NE): Torricelli Mts, Sugoitai Vill, 900 m, 10–28.II.1959, W.W. Brandt (BISHOP 11,688). Type in BISHOP.

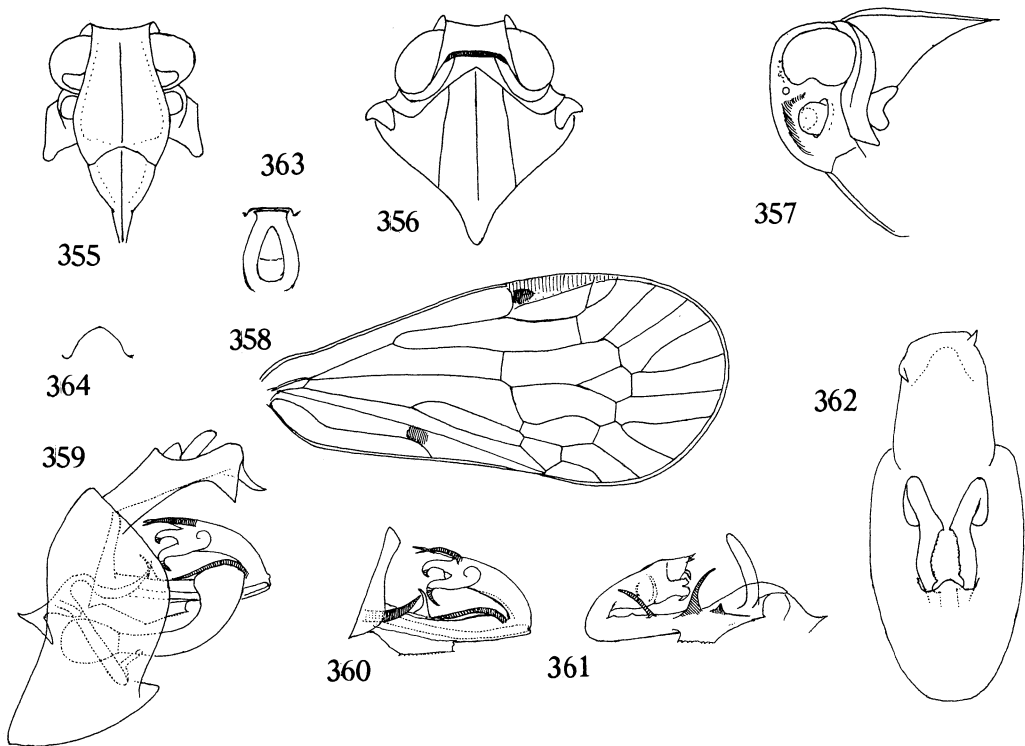


FIG. 355-364. *Bajauana timoleon*: 355, frons and clypeus; 356, vertex, pronotum and mesonotum; 357, head, pronotum and mesonotum, lateral view; 358, tegmen; 359, ♂ genitalia, left side; 360, aedeagus, left side; 361, aedeagus, right side; 362, anal segment, genital styles and ventral posterior margin of pygofer, posteroventral view; 363, suspensorium, posterior view; 364, medioventral process of pygofer, ventral view.

This species is characterized by bodily proportions and features of tegminal venation, as well as by the structure of the male genitalia.

The specific epithet is a classical name.

### ***Bajauana marginata* (Walker)**

FIG. 365-369

*Brixia marginata* Walker, 1870: 107.

Vertex wider at anterior margin than long in middle line (2.4:1), anterior margin straight, lateral margins weakly diverging caudad, width between basal angles greater than at anterior margin (1.3:1), length of lateral margin greater than length in middle line (2.0:1), posterior margin shallowly concave or very obtusely angulately excavate, disc deeply depressed, medially ecarinate. Frons in middle line as long as broad at widest part, wider at widest part than at base (1.8:1), as wide at apex as at base, basal margin elevated, lateral margins strongly foliaceous, median carina not distinct to basal margin, median ocellus present, apparently nonfunctional; post-clypeus slightly shorter than broad (1:1.1); antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.1:1). Basal metatarsal segment with about 5 teeth. Tegmen with costa weakly produced at base, stigma longer than broad (2.4:1), marginal area with 2-3 rows of granules, submarginal area distinct, without granules,

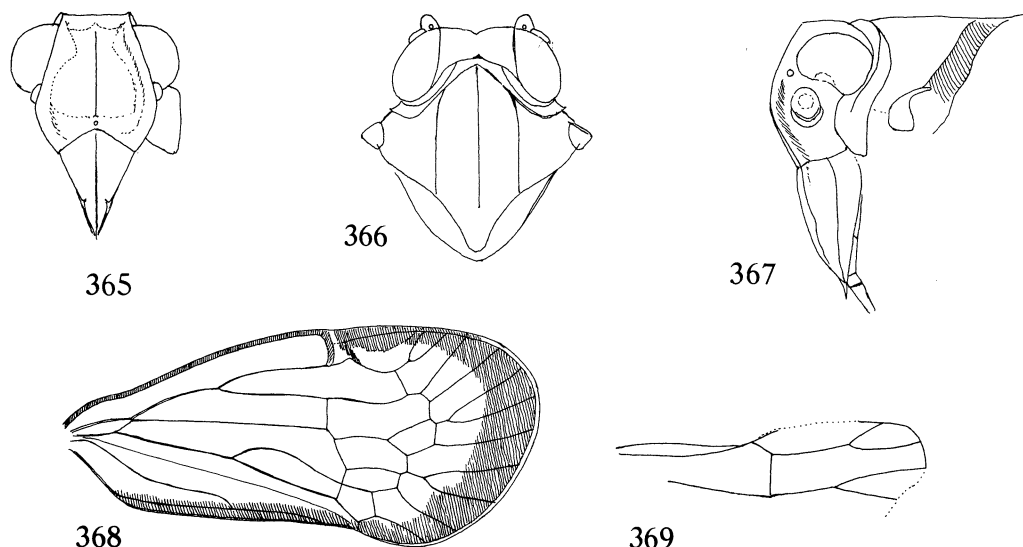


FIG. 365–369. *Bajauana marginata*: **365**, frons and clypeus; **366**, vertex, pronotum and mesonotum; **367**, head, pronotum and mesonotum, lateral view; **368**, tegmen; **369**, anterior portion of wing.

$Sc_2$  strongly bent at level of 1st transverse vein, vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (1.7:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.4:1), apical margin of tegmen broadly obliquely rounding.

Yellowish brown; lateral carinae of clypeus and carinae of mesonotum light yellowish brown, intercarinal areas of mesonotum reddish brown. Tegmina brownish yellow, costa, marginal area of stigma, a submarginal band in apical cells (not including margin itself) and posterior claval cell, chestnut brown; veins a little darker than ground color. Wings hyaline, iridescent, veins fuscous.

This species is still known only from the type specimen. Although this lacks the abdomen, it is easily recognizable by the distinctive coloration of the tegmen (which is approached only by that in *pitho*) in combination with a vertex with a straight anterior margin.

### *Bajauana chloris* Fennah, new species

FIG. 370–378

Vertex wider at anterior margin than long in middle line (2.4:1), anterior margin straight, lateral margins weakly diverging caudad, width between basal angles scarcely more than at anterior margin, length of lateral margin greater than length in middle line (1.4:1), posterior margin rather shallowly concave, disc deeply depressed, medially ecarinate. Frons in middle line longer than broad at widest part (1.1:1), wider at widest part than at base (1.6:1), wider at apex than at base (1.3:1), basal margin elevated, lateral margins strongly foliaceous, median carina not distinct to basal margin, median ocellus absent; post-clypeus not as long as broad (1:1.3); antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.3:1). Basal metatarsal segment with about 5 teeth. Tegmen with costa strongly produced at base, stigma longer than broad (3.2:1), marginal area with 2–3 rows of inconspicuous granules, submarginal area moderately distinct, without granules,  $Sc_2$  weakly bent at level of 1st transverse vein;  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (4.0:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.5:1), apical margin of tegmen evenly broadly rounding.

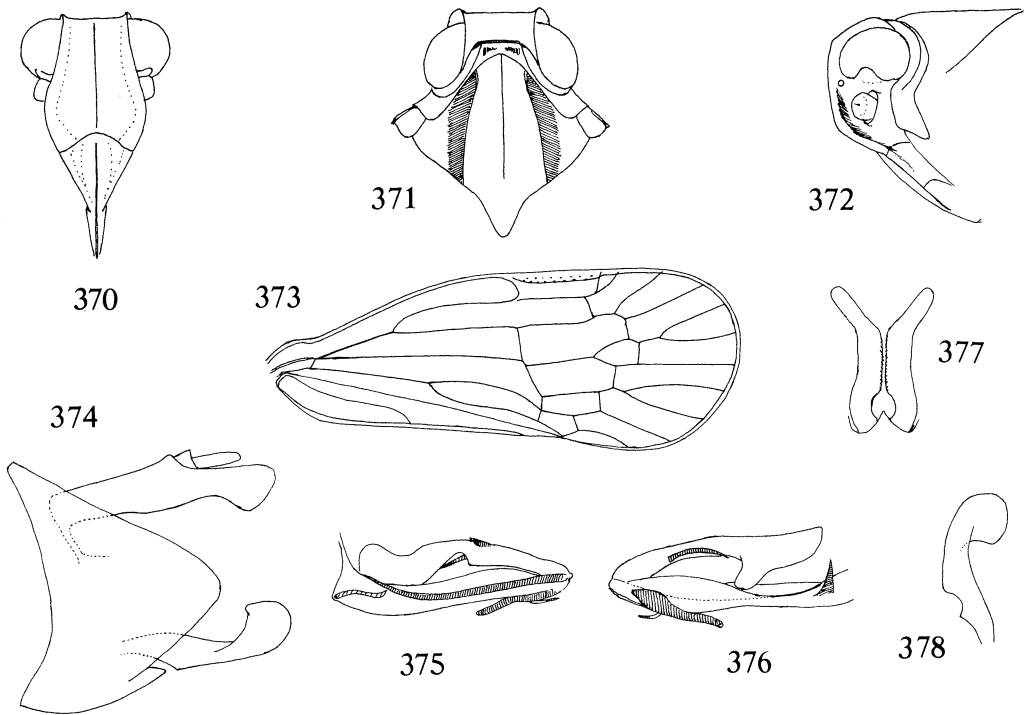


FIG. 370-378. *Bajauana chloris*: 370, frons and clypeus; 371, vertex, pronotum and mesonotum; 372, head, pronotum and mesonotum, lateral view; 373, tegmen; 374, anal segment, pygofer and genital style, left side; 375, aedeagus, left side; 376, aedeagus, right side; 377, genital styles and medioventral process of pygofer, ventral view; 378, right genital style, lateroventral view from right.

Pale ochraceous; mesonotum, except at lateral angles, and legs suffused dilute fuscous. Tegmina subhyaline, tinged pale greenish yellow, longitudinal veins concolorous, a spot at union of claval veins, transverse veins faintly, and costal, apical and commissural margins, light yellowish brown. Wings pearly subhyaline with pale brownish yellow veins.

♂. Anal segment longer than broad (2.2:1), porrect caudad, in dorsal view with lateral margins parallel, apical margin deeply rounded, lateroapical angles in side view weakly produced ventrad in a broad shallowly convex lobe. Pygofer with dorsolateral angles not developed, lateral margin deeply subangulately convex, medioventral process equilaterally triangular, acute at apex. Aedeagus relatively long, with a triangular lobe on right near base and a stout sinuate spinose process ventrally on right at apex, directed cephalad and curving slightly laterad, a long spinose process arising apically on left, directed slightly ventrocephalad then bent slightly dorsocephalad at middle and extending to base of aedeagus, a short slender spinose process arising ventrally a little before apex, directed caudad; flagellum extending to base of aedeagus, a long slender spinose process on right  $\frac{1}{3}$  from base, directed laterocephalad, a short stout spinule on left at middle, directed cephalad, apex of flagellum comprising a broadly rounded lobe, with membranous duct attached to its posterior right margin; suspensorium short, portion above level of dorsal margin of aedeagus about  $\frac{1}{2}$  as long as basal plate strut. Genital style in side view curving upward in distal  $\frac{1}{2}$  and widening rather abruptly in apical  $\frac{1}{4}$ , apical margin convex; inner margin straight in basal  $\frac{1}{2}$  and minutely denticulate, shallowly and broadly excavate basally.

♂: length, 3.2 mm; tegmen, 5.6 mm.

♀. Unknown.



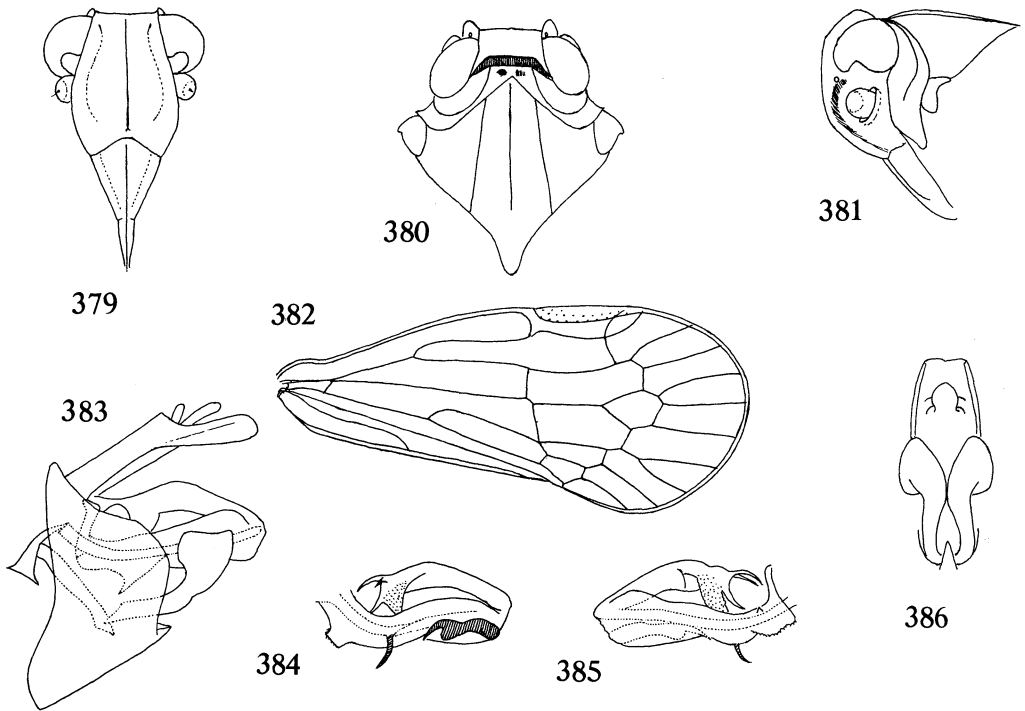


FIG. 379–386. *Bajauana lutea*: **379**, frons and clypeus; **380**, vertex, pronotum and mesonotum; **381**, head, pronotum and mesonotum, lateral view; **382**, tegmen; **383**, ♂ genitalia, left side; **384**, aedeagus, left side; **385**, aedeagus, right side; **386**, anal segment, genital styles and medioventral process of pygofer, ventral view.

Holotype ♂, IRIAN: NEW GUINEA (NW): Wisselmeren, Okaitadi, 1800 m, 7.VIII.1955, J.L. Gressitt (BISHOP 11,689). Type in BISHOP.

In the male, this species can be recognized by its bodily coloration, in which both the ground color of the tegmen and the distribution of darker pigmentation of the mesonotum are characteristic.

The specific epithet is a classical name.

### ***Bajauana lutea* Fennah, new species**

FIG. 379–386

Vertex wider at anterior margin than long in middle line (2.5:1), anterior margin straight, lateral margins strongly diverging caudad, width between basal angles greater than at anterior margin (1.3:1), length of lateral margin greater than length in middle line (1.9:1), posterior margin shallowly concave, disc moderately deeply depressed, medially ecarinate. Frons in middle line longer than broad at widest part (1.1:1), wider at widest part than at base (1.7:1), wider at apex than at base (1.1:1), basal margin elevated, lateral margins strongly foliaceous, median carina distinct to basal margin, median ocellus absent; post-clypeus longer than broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.4:1). Basal metatarsal segment with about 5 teeth. Tegmen with costa strongly produced at base, stigma longer than broad (3.2:1), marginal area with 2–3 rows of granules, submarginal area obscure, without granules,  $Sc_2$  weakly bent at level of 1st transverse vein; vein  $M_{3+4}$  from

M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (3.3:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.5:1), apical margin of tegmen broadly and slightly obliquely rounding.

Light orange-brown; protibiae and protarsi, post-tibiae apically and distal segment of post-tarsi, darker brown. Tegmina yellowish, subhyaline, a spot at union of claval veins, all subapical transverse veinlets and apical margin fuscous, veins otherwise concolorous, but slightly darker than ground color in apical cells. Wings grayish, subhyaline, with veins brown.

♂. Anal segment long, bilaterally symmetrical, slightly deflexed distad of middle, lateral margins slightly produced ventrad in distal  $\frac{1}{2}$ , in side view obtusely angulately concave, lateroapical angles distinct, rounding to apical margin. Pygofer with dorsolateral angles not developed, lateral margins broadly convex; medioventral process triangular, longer than broad at base, with sides straight and apex acute. Aedeagus with a small, shallow, irregularly margined lobe on right at base, a short broad spine dorsally on right near base, directed dorsad, a stout curved spinose process on left about  $\frac{1}{3}$  from base, directed ventrad and curving cephalad, a very stout sinuate process on left at apex, abruptly narrowed near apex and terminating in a spine; flagellum extending to basal  $\frac{1}{5}$  of aedeagus, 2 rather short slender spinose processes arising at apex of flagellum, directed cephalad, and a stouter spinose process directed ventrad; suspensorium short, portion above upper margin of aedeagus  $\frac{1}{3}$  length of basal plate strut. Genital style in side view strongly widening in distal  $\frac{1}{3}$ , apical margin straight or weakly concave, posterior apical angle acute.

♂: length, 3.2 mm; tegmen, 5.4 mm.

♀. Unknown.

Holotype ♂, PNG: NEW GUINEA (SE): S Highlands, Mendi, 1660 m, 8.X.1958, J.L. Gressitt (BISHOP 11,690). Type in BISHOP.

This species is distinguished by bodily proportions, tegminal venation and coloration. The proportions of the vertex are close to those in *B. marginata* (Wlk.), but the 2 differ markedly in the proportions of the stigma, the  $M_{3+4}-M-Cu_{1a}/M-Cu_{1a}$  ratio and the coloration of the tegmina.

### **Bajauana nicander** Fennah, new species

FIG. 387-394

Vertex wider at anterior margin than long in middle line (2.0:1), anterior margin straight, lateral margins rather weakly diverging caudad, width between basal angles greater than at anterior margin (1.3:1), length of lateral margin greater than length in middle line (1.7:1), posterior margin shallowly concave, disc rather deeply depressed, medially carinate. Frons in middle line as long as broad at widest part, wider at widest part than at base (2:1), wider at apex than at base (1.3:1), basal margin slightly elevated, lateral margins moderately foliaceous, median carina distinct to basal margin, median ocellus absent; post-clypeus not as long as broad (1:1.1); antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.2:1). Basal metatarsal segment with about 5 teeth. Tegmen with costa strongly produced at base, stigma longer than broad (2.6:1), marginal area with 1-3 rows of obscure granules, submarginal area distinct, without granules,  $Sc_2$  weakly bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (2.6:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.3:1), apical margin of tegmen evenly broadly rounding.

Pale brownish yellow; carinae of head and thorax ochraceous. Tegmina yellowish hyaline; a small spot in clavus at union of claval veins dilute fuscous, veins concolorous, but those posterior to R fuscous at junction with apical margin; margin yellowish brown. Wings hyaline, with light yellowish-brown veins.

♂. Anal segment moderately long, bilaterally symmetrical, directed caudad, lateral margins in side view shallowly sinuate, almost straight, lateroapical angles not produced, apical margin shallowly convex. Pygofer with dorsolateral angles not developed, lateral margins obtusely rounding at middle, medioventral process triangular, broader at base than long in middle, dorsal surface transversely shallowly convex. Aedeagus rather long, a narrow, almost spinelike, curved lobe ventrally at base, truncate at its apex, a moderately long spinose process ventrally at middle, directed ventrad, a curved spinose process, much inflated in its basal  $\frac{1}{2}$ , on right near apex; flagellum extending to basal  $\frac{1}{4}$  of aedeagus, a long sinuate spinose process arising on left at its base and extending cephalad along left side, membranous portion of flagellum narrow, with anterior margin produced in 2 spinose processes, curving cephalad, upper process

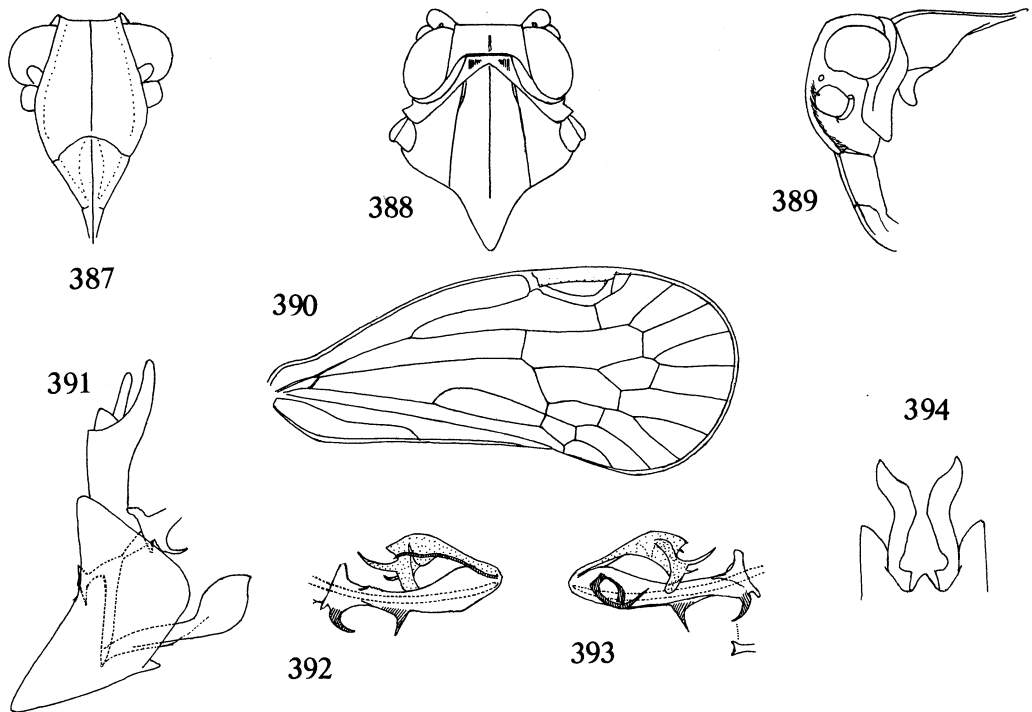


FIG. 387–394. *Bajauana nicander*: **387**, frons and clypeus; **388**, vertex, pronotum and mesonotum; **389**, head, pronotum and mesonotum, lateral view; **390**, tegmen; **391**, anal segment, pygofer and genital style, left side; **392**, aedeagus, left side; **393**, aedeagus, right side; **394**, genital styles and medioventral process of pygofer, ventral view.

2× as long and thick as lower; suspensorium extremely short, portion above level of upper margin of aedeagus less than  $\frac{1}{4}$  length of basal plate strut. Genital style in side view expanding in distal  $\frac{1}{3}$ , apical margin shallowly convex, apical angle acute; inner margin subdentate in basal  $\frac{1}{2}$ , strongly excavate and angulate basally.

♂: length, 3.3 mm; tegmen, 5.0 mm.

♀. Unknown.

Holotype ♂, PNG: NEW GUINEA (NE): Adelbert Mts, Wanuma, 800–1000 m, 26.X.1958, J.L. Gressitt (BISHOP 11,691). Type in BISHOP.

This species is characterized by bodily proportions and features of the tegminal venation.

The specific epithet is a classical name.

### ***Bajauana fulvia* Fennah, new species**

FIG. 395–404

Vertex wider at anterior margin than long in middle line (2.2:1), anterior margin almost straight, lateral margins moderately strongly diverging caudad, width between basal angles greater than at anterior margin (1.4:1), length of lateral margin greater than length in middle line (1.8:1), posterior margin shallowly concave, disc rather deeply depressed, medially ecarinate. Frons in middle line slightly shorter than broad at widest part (1:1.1), wider at widest part than at base (2.0:1), wider at apex than at base (1.3:1), basal

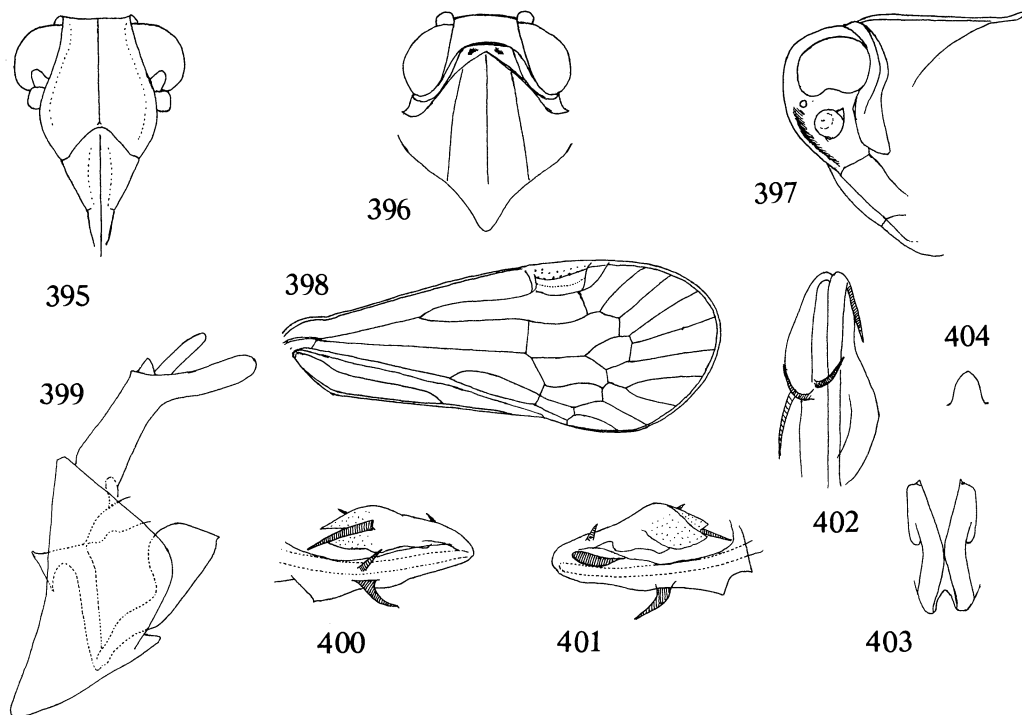


FIG. 395-404. *Bajauana fulvia*: 395, frons and clypeus; 396, vertex, pronotum and mesonotum; 397, head, pronotum and mesonotum, lateral view; 398, tegmen; 399, anal segment, pygofer and genital style, left side; 400, aedeagus, left side; 401, aedeagus, right side; 402, aedeagus, ventral view; 403, genital styles and medioventral process of pygofer, ventral view; 404, medioventral process of pygofer, ventral view.

margin not elevated, lateral margins strongly foliaceous, median carina distinct to basal margin, median ocellus absent; post-clypeus scarcely as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.3:1). Basal metatarsal segment with about 5 teeth. Tegmen with costa weakly produced at base, stigma longer than broad (2.3:1), marginal area with 2-3 rows of granules, submarginal area obscure, without granules,  $Sc_2$  strongly bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (2.0-2.3:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.5:1), apical margin of tegmen broadly and slightly obliquely rounding. Wing with R forked.

Light orange-brown; frons basally, vertex and mesonotum darker reddish brown. Tegmina yellowish hyaline, with thin gray waxy powdering, veins concolorous, apical margin brown. Wings hyaline with veins fuscous.

♂. Anal segment relatively long, moderately deflexed distad of middle, lateral margins in dorsal view slightly converging distad, in side view, shallowly concave, lateroapical angles not produced, margins rounding into apical margin, which is convex. Pygofer with dorsolateral angles not developed, lateral margins obtusely rounding at middle, medioventral process as long as broad at base, with sides convex, converging to meet acutely at apex. Aedeagus rather long, a small triangular lobe ventrally at base, directed ventrad, a stout spinose process lateroventrally on left at middle, directed ventrocaudad, an equally long process on left dorsolaterally at same distance from base, directed dorsocaudad, a stout spinose process on right apically, directed cephalad; flagellum with a short spine on right near base, directed dorsocephalad, a short spine dorsally slightly distad of middle, and a much longer spinose process on left subapically,

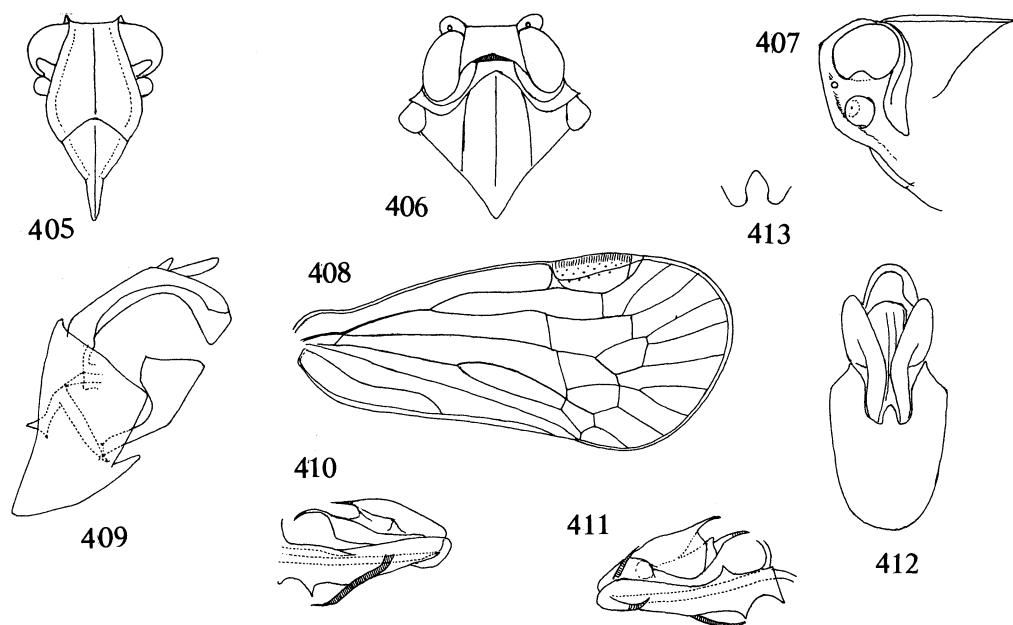


FIG. 405–413. *Bajauana trambelus*: 405, frons and clypeus; 406, vertex, pronotum and mesonotum; 407, head, pronotum and mesonotum, lateral view; 408, tegmen; 409, anal segment, pygofer and genital style, left side; 410, aedeagus, left side; 411, aedeagus, right side; 412, ♂ genitalia, posteroventral view; 413, medioventral process of pygofer, ventral view.

membranous portion of flagellum small, slightly decurved to right; suspensorium short, portion above level of upper margin of aedeagus only  $\frac{1}{4}$  length of basal plate strut. Genital style in side view slightly curved upward at middle and strongly widening in distal  $\frac{1}{2}$ , with outer margin strongly convex, rounding into apical margin, which is almost straight and meets ventral (inner) margin acutangulately; inner margin in posterior view not excavate or angulate basally.

♂: length, 2.8 mm; tegmen, 4.5 mm.

♀. Unknown.

Holotype ♂, PNG: BISMARCK ARCH.: ADMIRALTY IS: MANUS I: Momote, 24.XII.1959, T.C. Maa (BISHOP 11,692). Paratypes, 2♂, same data as holotype. Types in BISHOP.

This species is distinguished by bodily proportions and male genitalic structure. In the tegmen, the veins of the corium may be slightly darker than the ground color, but there is no spot at the fork of  $Cu_1$  in the male.

The specific epithet is a classical name.

### ***Bajauana trambelus* Fennah, new species**

FIG. 405–413

Vertex wider at anterior margin than long in middle line (2.0:1), anterior margin straight, lateral margins weakly diverging caudad, width between basal angles greater than at anterior margin (1.2:1), length of lateral margin greater than length in middle line (1.8:1), posterior margin rather deeply concave, disc rather deeply depressed, medially ecarinate. Frons in middle line as long as broad at widest part, wider at widest part than at base (1.9:1), wider at apex than at base (1.2:1), basal margin elevated, lateral margins

strongly foliaceous, median carina not distinct to basal margin, median ocellus obscurely present; post-clypeus not as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.3:1). Basal metatarsal segment with about 5 teeth. Tegmina with costa rather weakly produced at base, stigma longer than broad (2.6:1), marginal area with 3 rows of granules, submarginal area obscure, without granules,  $Sc_2$  weakly bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (3.0:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.6:1), apical margin of tegmen evenly broadly rounding.

Pale brownish yellow; intercarinal areas of mesonotal disc slightly darker. Tegmina uniformly brownish yellow, hyaline, costa light fuscous, veins light yellowish brown, concolorous with ground or slightly lighter. Wings hyaline, with veins fuscous.

♂. Anal segment long, strongly deflexed in distal  $\frac{1}{2}$ , asymmetrical, with right apical angle broadly produced ventrad in an angulate lobe, left apical angle not produced. Pygofer relatively long, with lateral margins equally produced caudad, abruptly rectangulately bent at middle; medioventral process slightly longer than broad, in ventral view with sides parallel and apical margin deeply rounded. Aedeagus with a small triangular lobe arising ventrally close to base, and a similar lobe arising dorsally on right side almost at same level, a long spinose process arising ventrally on left just distad of middle, directed ventrocephalad, a short small strongly curved spinose process arising laterally on right at apex, directed anterolaterad; flagellum much widened distally, a short slender spinose process, directed dorsocephalad, arising on right at its base, distal part of flagellum dividing into 2 lobes, each with dorsal margin produced in a slender spinose process, that on right straight, that on left decurved; suspensorium stout, in posterior view with each arm broader than distance between them, portion above level of dorsal margin of aedeagus shorter than basal plate strut (1:2.9). Genital styles strongly widening in distal  $\frac{1}{2}$ , with apical margin truncate, apical angles not produced; inner margin minutely denticulate in basal  $\frac{1}{2}$  of style.

♀. Pre genital sternite in middle line shorter than width at hind margin (1:1.2) and longer than greatest width of 1st valvifer (1.3:1), basal margin not elevated, broadly convex, ventral surface transversely and longitudinally convex, hind margin transverse, inner vertical ridge above hind margin narrow, of almost equal width throughout. First valvifer obtusely rounding at level of base of 3rd valvulae. First valvulae rapidly widening to base, with outer margins straight or slightly convex, ventral surface very steeply sloping to middle line. Ventral wall of atrium deeply exposed.

♂: length, 3.2 mm; tegmen, 5.0 mm. ♀: length, 3.2 mm; tegmen, 5.2 mm.

Holotype ♂, IRIAN: NEW GUINEA (NW): Biak I, Mokmer, 5-10 m, 26.V.1959, J.L. Gressitt (BISHOP 11,693). Paratypes, 6♂, 3♀, same data as holotype; Strand, 24.VI.1959, T.C. Maa; Kampong, Landbouw, 30 km NE of air strip, 40 m, 16.VII.1957, D. Elmo Hardy. Types in BISHOP.

This species is characterized by bodily proportions, tegminal venation and coloration.

### ***Bajauana mithras* Fennah, new species**

FIG. 414-422

Vertex wider at anterior margin than long in middle line (2.0:1), anterior margin straight, lateral margins strongly diverging caudad, width between basal angles greater than at anterior margin (1.5:1), length of lateral margin greater than length in middle line (1.5:1), posterior margin shallowly concave, disc rather shallowly depressed, medially ecarinate. Frons in middle line as long as broad at widest part, wider at widest part than at base, wider at apex than at base (1.9:1), basal margin slightly elevated, lateral margins moderately foliaceous, median carina distinct to basal margin, median ocellus absent; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.4:1). Basal metatarsal segment with about 5 teeth. Tegmen with costa weakly produced at base, stigma longer than broad (2.7:1), marginal area with 1-2 rows of granules, submarginal area obscure, without granules,  $Sc_2$  moderately strongly bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (3.0:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.6:1), apical margin of tegmen deeply rounding.

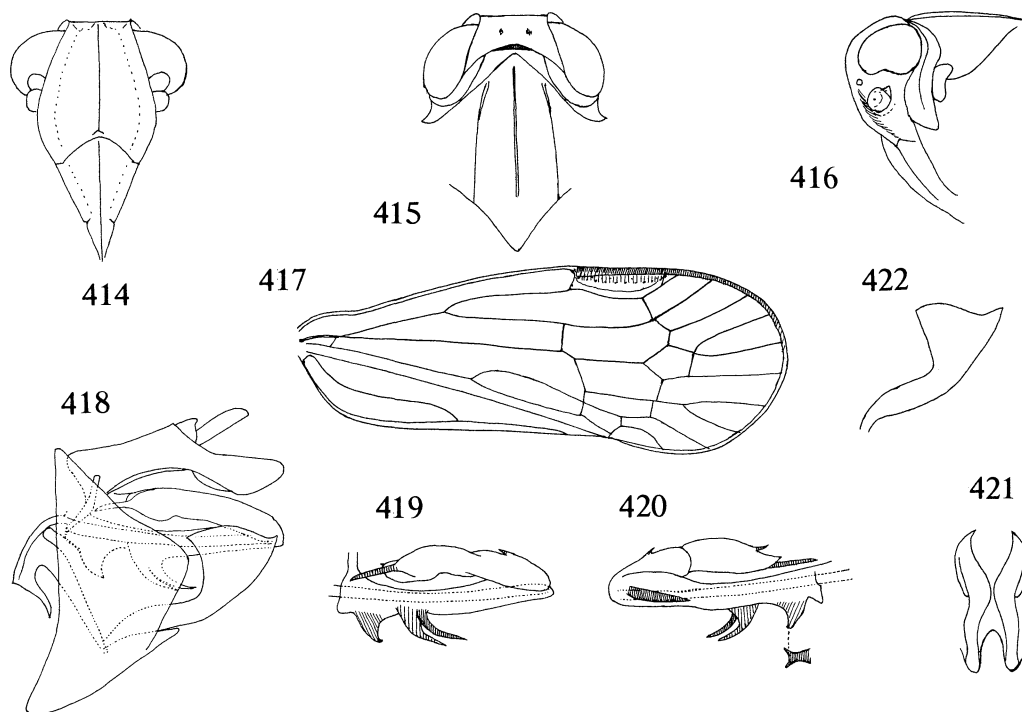


FIG. 414–422. *Bajauana mithras*: **414**, frons and clypeus; **415**, vertex, pronotum and mesonotum; **416**, head, pronotum and mesonotum, lateral view; **417**, tegmen; **418**, ♂ genitalia, left side; **419**, aedeagus, left side; **420**, aedeagus, right side; **421**, genital styles and medioventral process of pygofer, ventral view; **422**, left genital style, side view.

Light brownish yellow; mesonotum darker yellowish brown, antennae, carinae of head finely, protibiae and tarsi, margins of mesotibiae, mesotarsi, abdominal tergites, pregenital sternite, ovipositor and base of pygofer, dark fuscous. Tegmina pale brownish gray, subhyaline, apical cells slightly darker than corium, veins of corium concolorous, veins of membrane slightly darker or fuscous, apical margin, including exterior  $\frac{1}{2}$  of marginal band of stigma, dark fuscous. Wings hyaline, veins fuscous.

♂. Anal segment not quite bilaterally symmetrical, moderately long, weakly deflexed distad of middle, lateral margin in side view concave, lateroapical angles not produced, rounding into apical margin, which is shallowly convex. Pygofer with dorsolateral angles not developed, lateral margins subrectangulately rounding, medioventral process longer than broad at base, with sides weakly converging distad and apical margin deeply rounded. Aedeagus a broad horizontal lobe basally on right, produced ventrally into a vertical triangular lobe with its apex curved mesad, 2 spinose processes ventrally near middle, directed ventrad and curving caudad, a stout, moderately long spinose process on right near apex, directed cephalad; flagellum extending almost to base of aedeagus, rather narrow, a small spine dorsally near base, a slightly larger spine dorsally at middle, overlying membranous portion, which is short and with a rounded margin, a longer spinose process at apex of flagellum, directed cephalad. Suspensorium short, portion above level of upper margin of aedeagus about  $\frac{1}{3}$  length of basal plate strut. Genital style in side view strongly expanding in distal  $\frac{1}{2}$ , anterior apical angle deeply rounded, posterior apical angle acuminate and slightly produced; inner margin not denticulate, and not angulate or excavate basally.

♀. Pregenital sternite in middle line shorter than width at hind margin (1:2.3) and than greatest width of 1st valvifer (1:1.1), basal margin moderately elevated, hind margin transverse, inner vertical ridge above hind margin narrow, distinctly convex, deepest at middle. First valvifer obtusely rounding at level of base

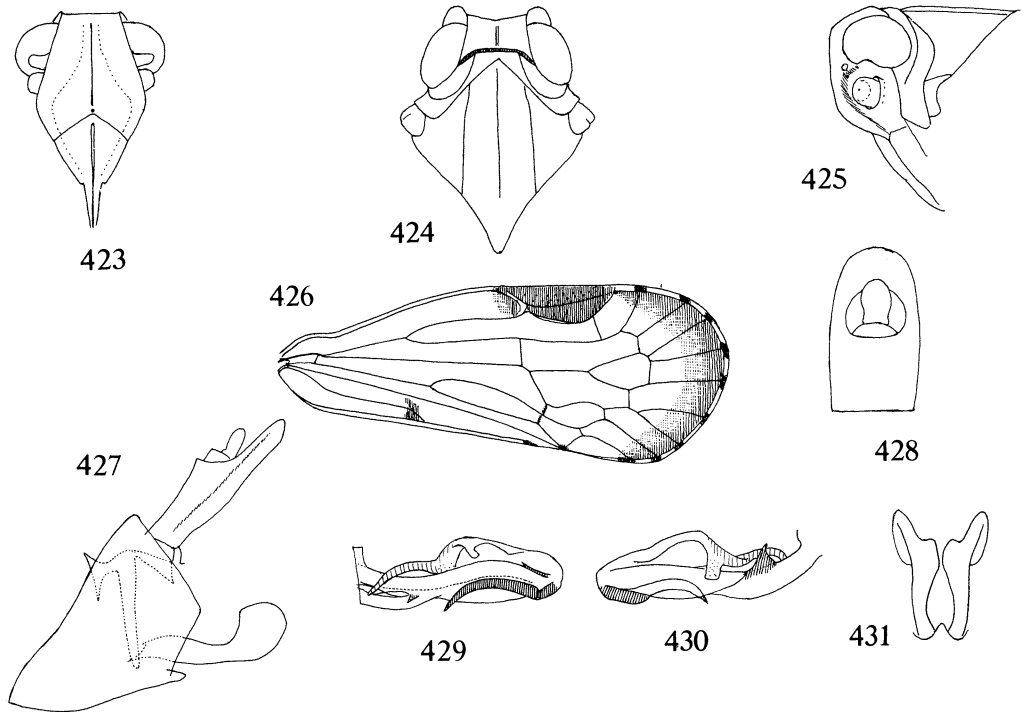


FIG. 423-431. *Bajauana mnesarchus*: **423**, frons and clypeus; **424**, vertex, pronotum and mesonotum; **425**, head, pronotum and mesonotum, lateral view; **426**, tegmen; **427**, anal segment, pygofer and genital style, left side; **428**, anal segment, dorsal view; **429**, aedeagus, left side; **430**, aedeagus, right side; **431**, genital styles and medioventral process of pygofer, ventral view.

of 3rd valvulae. First valvulae moderately rapidly widening to base, with outer margins convex, ventral surface strongly sloping to middle line. Ventral wall of atrium quite deeply exposed.

♂: length, 3.2 mm; tegmen, 4.7 mm. ♀: length, 3.9 mm; tegmen, 5.0 mm.

Holotype ♂, PNG: BISMARCK ARCH.: ADMIRALTY IS: MANUS I: Rossum, 6 km SE of Lorengau, 180 m, 23.XII.1959, T.C. Maa (BISHOP 11,694). Paratypes, 5♂, 7♀, with same data as holotype. Types in BISHOP.

This species is distinguishable by bodily proportions and features of tegminal venation. In the male, the relatively long medioventral process of the pygofer sets this species apart from others that have a genital style with the posterior apical angle acuminate.

### ***Bajauana mnesarchus* Fennah, new species**

FIG. 423-431

Vertex wider at anterior margin than long in middle line (2.1:1), anterior margin straight, lateral margins weakly diverging caudad, width between basal angles greater than at anterior margin (1.2:1), length of lateral margin greater than length in middle line (1.5:1), posterior margin shallowly concave, disc moderately deeply depressed, medially carinate. Frons in middle line as long as broad at widest part, wider at widest part than at base (2.0:1), wider at apex than at base (1.5:1), basal margin elevated, lateral margins



strongly foliaceous, median carina not distinct to basal margin, median ocellus absent; post-clypeus not as long as broad; antenna with 2nd segment subglobose, mesonotum longer in middle line than broad between lateral carinae at base (2.5:1). Basal metatarsal segment with about 5 teeth. Tegmen with costa strongly produced at base, stigma longer than broad (2.3:1), marginal area with 4–5 rows of granules, submarginal area obscure, without granules,  $Sc_2$  strongly bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (4.7:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.4:1), apical margin of tegmen obliquely rounding.

Reddish brown; basal  $\frac{1}{3}$  of frons tawny, carinae of head, pronotum and mesonotum ochraceous, abdomen light yellowish brown, strongly suffused red. Tegmina dilute yellowish brown, subhyaline, costal cell at apex, stigma, transverse veinlets, apical veins at margin and a dilute suffusion in apical  $\frac{1}{2}$  of apical cells and a dilute spot at union of claval veins, fuscous, apical margin of tegmen ochraceous, infusate at apex of veins. Wings pale brownish gray, with veins fuscous.

♂. Anal segment moderately long, directed caudad, apical margin broadly rounded, apical angles not produced. Pygofer with dorsolateral angles not produced, lateral margins broadly convex, medioventral process triangular, subacute at apex, with sides straight or very slightly concave, length in middle not quite equal to width at base. Aedeagus rather long, a triangular flange on right  $\frac{1}{3}$  from base, directed latero-dorsad, a short stout spinose process on left at same level, directed ventrocephalad; a large stout spinose process on left at apex directed cephalad then ventromesad; flagellum extending as far as base of aedeagus, a small slender spinose process on left at base, directed cephalad, a long stout spine at apex, directed cephalad and curving weakly mesad and across to left; suspensorium very short, portion above level of dorsal margin of aedeagus only about  $\frac{1}{3}$  length of basal plate strut. Genital style in side view rather abruptly widening in distal  $\frac{1}{2}$ , apical margin convex, ventral moderately produced mesad between middle and apical  $\frac{1}{4}$ ; inner margin minutely denticulate in its middle portion, not excised basally.

♂: length, 3.3 mm; tegmen, 5.0 mm.

♀. Unknown.

Holotype ♂, IRIAN: NEW GUINEA (NW): Wisselmeren, 1530 m, Urapura, Kamo Val, 10.VIII.1955, J.L. Gressitt (BISHOP 11,695). Type in BISHOP.

This species is distinguished by bodily proportions and tegminal venation. The male stands apart from those of other species in the coloration of the tegmen in conjunction with the paler color of the frons in its basal  $\frac{1}{3}$ .

### ***Bajauana latifrons* Fennah, new species**

FIG. 432–439

Vertex wider at anterior margin than long in middle line (2.0:1), anterior margin straight, lateral margins rather strongly diverging caudad, width between basal angles greater than at anterior margin (1.4:1) length of lateral margin greater than length in middle line (1.9:1), posterior margin broadly concave, disc rather deeply depressed, medially ecarinate. Frons in middle line as long as broad at widest part, wider at widest part than at base (1.9:1), wider at apex than at base (1.3:1), basal margin elevated, lateral margins strongly foliaceous, median carina not distinct to basal margin; median ocellus absent or small and nonfunctional; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.7:1). Basal metatarsal segment with about 5 teeth. Tegmen with costa rather weakly produced at base, stigma longer than broad (2.7:1), marginal area with 2 rows of granules, submarginal area distinct, without granules,  $Sc_2$  weakly bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (2.4:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.5:1), apical margin of tegmen moderately broadly obliquely rounding.

Pale ochraceous; pro- and mesotibiae and tarsi dilute fuscous. Tegmina pallid, subhyaline, a small spot at base of stigma fuscous, veins ochraceous except apically, where they are light brown, apical margin dark brown. Wings white, subhyaline, veins brownish ochraceous.

♂. Anal segment moderately long, slightly deflexed distad of middle, lateral margins in side view concave, apical angles rounded, not produced, apical margin truncate. Pygofer with dorsolateral angles not developed, lateral margin rather abruptly rounding at middle, medioventral process broad, not as long as broad at base, moderately narrowing distad and broadly rounded apically. Aedeagus with a long

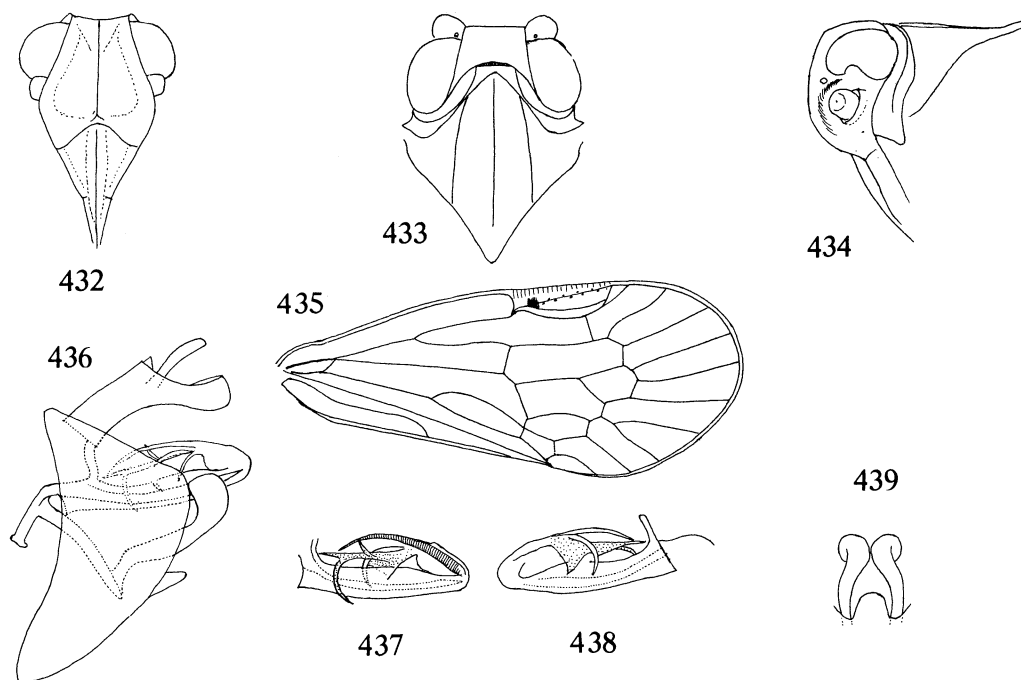


FIG. 432-439. *Bajauana latifrons*: 432, frons and clypeus; 433, vertex, pronotum and mesonotum; 434, head, pronotum and mesonotum, lateral view; 435, tegmen; 436, ♂ genitalia, left side; 437, aedeagus, left side; 438, aedeagus, right side; 439, genital styles and medioventral process, ventral view.

spinose process on left at apex; flagellum with 2 long spinose processes arising dorsally at middle, both decurving, one directed cephalad, the other to right, 2 slender membranous spinelike processes arising ventrally, one directed to left and slightly curved upward, the other longer, curving to left and ventrad, apex of flagellum slender, membranous; suspensorium relatively short, portion above level of upper margin scarcely  $\frac{1}{3}$  as long as basal plate strut. Genital style in side view curved upward and widening in distal  $\frac{1}{3}$ , apical margin convex; inner margin feebly obliquely and minutely striate, very slightly indented and obtusely angulate at base.

♂: length, 3.5 mm; tegmen, 5.5 mm.

♀. Unknown.

Holotype ♂, IRIAN: NEW GUINEA (SW): S of Vogelkop, Fak Fak, S coast of Bomberai, 10-100 m, 3.VI.1959, T.C. Maa (BISHOP 11,696). Paratypes, 2♂, same locality as holotype, 3,12.VI.1959, T.C. Maa. Types in BISHOP.

This species is recognizable by its general light coloration, in combination with the presence of a small fuscous spot at the base of the stigma and the strongly flaring lateral frontal carinae.

### ***Bajauana consobrina* Fennah, new species**

FIG. 440-447

Vertex wider at anterior margin than long in middle line (2.2:1), anterior margin straight, lateral margins weakly diverging caudad, width between basal angles greater than at anterior margin (1.2:1), length of

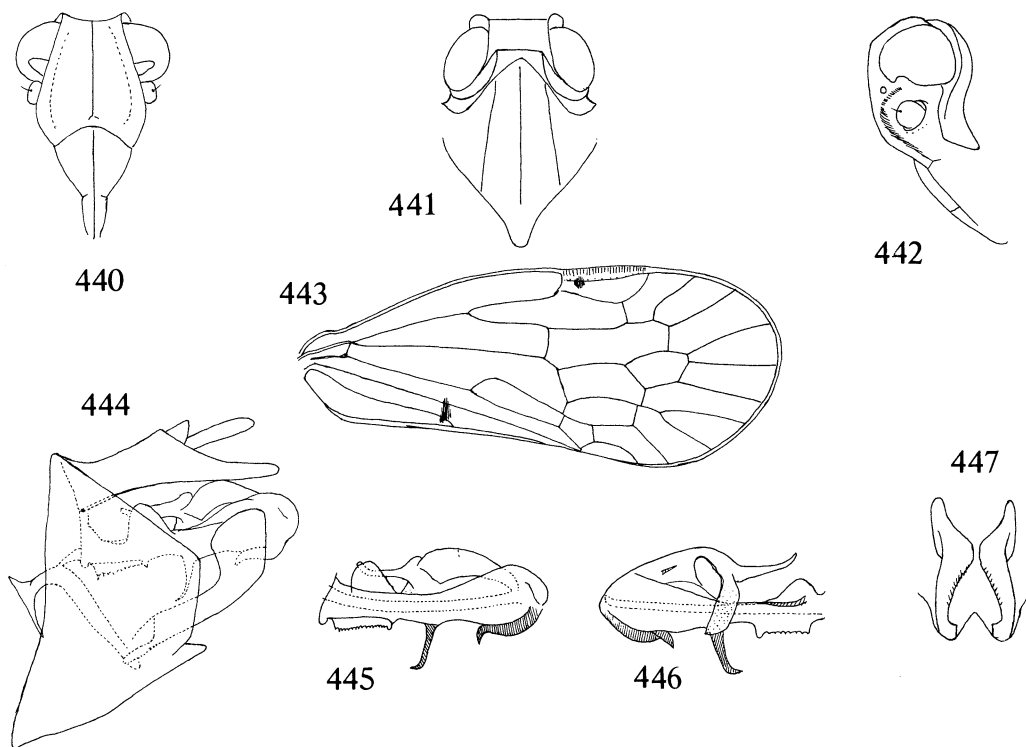


FIG. 440–447. *Bajauana consobrina*: 440, frons and clypeus; 441, vertex, pronotum and mesonotum; 442, head and pronotum, lateral view; 443, tegmen; 444, ♂ genitalia, left side; 445, aedeagus, left side; 446, aedeagus, right side; 447, genital styles and medioventral process, ventral view.

lateral margin greater than length in middle line (1.7:1), posterior margin rather deeply concave, disc rather shallowly depressed, medially carinate. Frons in middle line not as long as broad at widest part (1:1.1), wider at widest part than at base (1.8:1), wider at apex than at base (1.3:1), basal margin elevated, lateral margins moderately foliaceous, median carina distinct to basal margin; median ocellus absent; post-clypeus not quite as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.5:1). Basal metatarsal segment with about 5 teeth. Tegmen with costa moderately produced at base, stigma longer than broad (2.4:1), marginal area with 1–2 rows of obscure granules, submarginal area distinct, without granules,  $Sc_2$  rather weakly bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (4.3:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.7:1), apical margin of tegmen broadly, slightly obliquely rounding.

Pale brownish yellow to ochraceous; tibiae and tarsi of fore- and middle legs distally, intercarinal area of mesonotal disc, light orange-brown to reddish brown, lateral fields light to moderately dark reddish brown. Abdominal tergites of ♀ entirely and ventrites laterally, fuscous. Tegmina yellowish hyaline, a spot at union of claval veins and a small round spot at base of stigma, fuscous; veins of corium yellow, veins of membrane fuscous. Wings hyaline, with fuscous veins.

♂. Anal segment moderately long, only slightly deflexed in distal  $\frac{1}{2}$ , lateral margins in side view shallowly sinuate, apical angles not produced, apical margin broadly rounded. Pygofer with dorsolateral angles not developed, lateral margin subrectangulately bent at middle; medioventral process triangular, broader at base than long with sides straight and apex acutely angulate. Aedeagus relatively long, a triangular vertical twisted lobe on left dorsally, a shallow vertical minutely denticulate lobe ventrally near base, a rather long stout spinose process ventrally at middle, directed ventrad and curved cephalad apically,

a very stout sinuate spinose process ventrally at apex, directed cephalad and ventrad; on right side of aedeagus a small subhorizontal shallow lobe, with margin minutely denticulate; flagellum extending to basal  $\frac{1}{6}$  of aedeagus, strongly decurved at middle, a small slender spinose process on right near base, directed cephalad, a longer stout sinuate spinose process dorsally at  $\frac{2}{3}$  base, directed cephalad; suspensorium short, length above level of upper margin of aedeagus about  $\frac{1}{5}$  length of basal plate strut.

♀. Pregenital sternite in middle line shorter than width at hind margin (1:1.6) and about as long as greatest width of 1st valvifer, basal margin convex, distinctly elevated, hind margin weakly convex, inner vertical ridge above hind margin narrow, shallowly concave on each side of middle line, obtusely angulately elevated at middle. First valvifer obtusely rounding at level of base of 3rd valvulae. First valvulae rather gradually widening to base, with outer margins straight, ventral surface rather weakly sloping to middle line. Ventral wall of atrium moderately exposed.

♂: length, 3.6 mm; tegmen, 5.4 mm. ♀: length, 3.6 mm; tegmen, 5.8 mm.

Holotype ♂, PNG: NEW GUINEA (NE): Korop, Upper Jimi Val, 1300 m, 12.VII.1955, J.L. Gressitt (BISHOP 11,697). Paratype, 1♀, same data as holotype. Types in BISHOP.

This species is distinguished by its bodily proportions and features of the tegminal venation.

### **Bajauana sunias** Fennah, new species

FIG. 448-458

Vertex wider at anterior margin than long in middle line (2:1), anterior margin straight, lateral margins weakly diverging caudad, width between basal angles greater than at anterior margin (about 1.3:1), length of lateral margin greater than length in middle line (1.6:1), posterior margin shallowly concave; disc shallowly depressed, medially carinate. Frons in middle line longer than broad at widest part (1.1:1), wider at widest part than at base (1.9:1), wider at apex than at base (1.3:1), basal margin slightly elevated, lateral margins moderately foliaceous, median carina distinct to basal margin, median ocellus absent; post-clypeus at least as long as broad (1.1:1); antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.3:1). Basal metatarsal segment with about 5 teeth. Tegmen with costa strongly produced at base, stigma longer than broad (2.6:1), marginal area with 1-2 rows of granules, submarginal area obscure, without granules,  $Sc_2$  moderately bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (4.2:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.7:1), apical margin of tegmen evenly broadly rounding.

Yellowish brown; intercarinal areas of pronotum, mesonotum and apical segment of pro- and mesotarsi darker brown, mesoscutellum ochraceous, last 3 abdominal tergites becoming suffused fuscous towards middle line. Tegmina yellowish, small marks in corium at middle of M and fork of  $Cu_1$ , in clavus at union of veins and at apex of all apical veinlets, and all transverse veinlets, fuscous. Wings hyaline, with veins fuscous.

♂. Anal segment moderately long, only slightly deflexed distad of middle; lateral margin in side view weakly sinuate, dorsolateral angles not produced, rounding into apical margin, which is transverse. Pygofer with dorsolateral angles not developed, lateral margin rather deeply convex, medioventral process triangular, slightly longer than broad, with lateral margins straight and apex deeply rounded, dorsal surface slightly convex transversely. Aedeagus with a rather short narrow flattened process, apically bicuspidate, ventrally at base, directed ventrad and curving caudad, a longer spinose process ventrally at middle, directed ventrad and curving cephalad at its apex, and a short stout sinuate spinose process ventrally at apex, directed cephalad; flagellum with a long slender slightly sinuate spinose process arising on left near base, directed cephalad, a moderately long spinose process arising near apex of decurved portion of flagellum, directed cephalad; suspensorium short, portion above level of dorsal margin of aedeagus about  $\frac{1}{4}$  length of basal plate strut. Genital style in side view strongly widening in distal  $\frac{1}{3}$ , apical margin shallowly convex, apical angle very slightly produced.

♀. Pregenital sternite in middle line shorter than width at hind margin (1:1.7), and about as long as greatest width of 1st valvifer, basal margin very broadly elevated, convex, hind margin very slightly convex, inner vertical ridge above hind margin broadly triangular, moderately deep at middle. First valvifer broadly

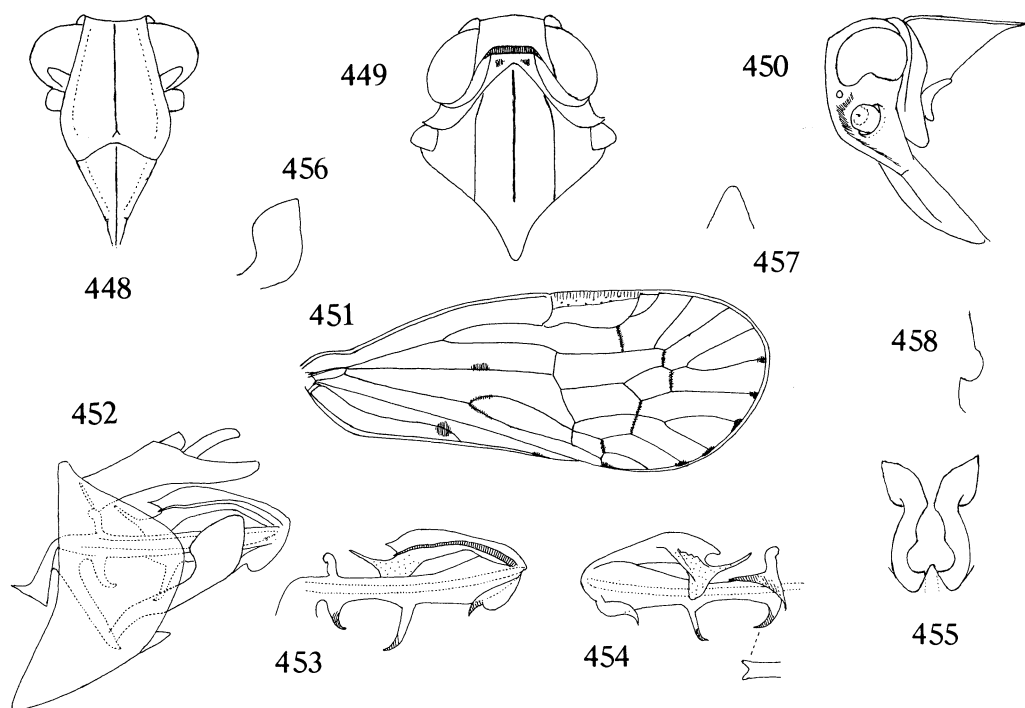


FIG. 448–458. *Bajauana sunias*: 448, frons and clypeus; 449, vertex, pronotum and mesonotum; 450, head, pronotum and mesonotum, lateral view; 451, tegmen; 452, ♂ genitalia, left side; 453, aedeagus, left side; 454, aedeagus, right side; 455, genital styles and medioventral process, ventral view; 456, apical part of left genital style, side view; 457, medioventral process, ventral view; 458, inner margin of basal ½ of right genital style, ventral view.

rounding at level of base of 3rd valvula. First valvulae evenly widening basad, with outer margin straight, ventral surface steeply sloping to middle line. Ventral wall of atrium deeply exposed.

♂: length, 3.3 mm; tegmen, 4.7 mm. ♀: length, 3.5 mm; tegmen, 4.7 mm.

Holotype ♂, PNG: NEW GUINEA (SE): S Highlands, Dimifa, SE of Mt Giluwe, 2200 m, 10.X.1958, J.L. Gressitt (BISHOP 11,698). Paratypes, 4♂, 5♀ and 1 mutilated specimen, NEW GUINEA (SE): same locality as holotype, 9, 10.X.1958; SE slope of Mt Giluwe, 2450 m, 12.X.1958. A further 2♀, nontypes, (NEW GUINEA (SE): S Highlands, Mendi, 1660 m, 13.X.1958, J.L. Gressitt) are referred to this species. All specimens in BISHOP.

This species is distinguished by its bodily proportions, tegminal venation and coloration. In superficial appearance it is not unlike *B. lutea*, but the latter is larger, its vertex is relatively wider and more declivous, and the apical margin of the tegmen is fuscous, not pale yellowish interrupted with fuscous at the apex of each apical vein as in *B. sunias*. From *B. consobrina*, *B. sunias* differs in the less flaring lateral margins of the frons and the shape of the ventral lobe at the base of the aedeagus.

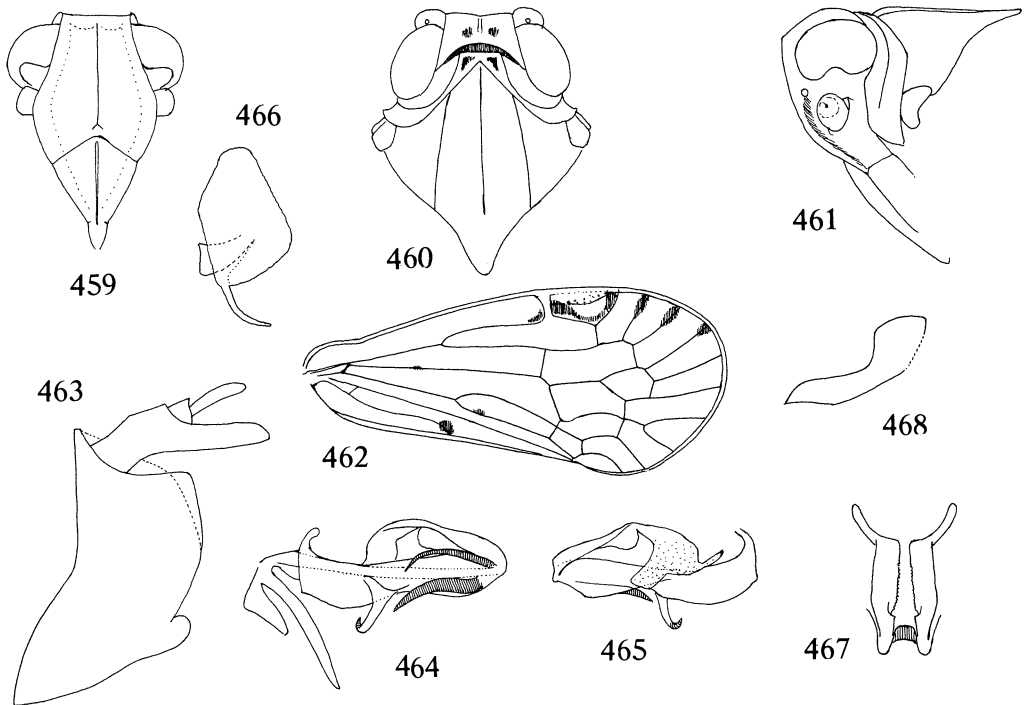


FIG. 459-468. *Bajauana theanira*: **459**, frons and clypeus; **460**, vertex, pronotum and mesonotum; **461**, head, pronotum and mesonotum, lateral view; **462**, tegmen; **463**, anal segment and pygofer; **464**, aedeagus, left side; **465**, aedeagus, right side; **466**, flagellum, dorsal view; **467**, genital styles and medioventral process of pygofer, ventral view; **468**, left genital style, side view.

### *Bajauana theanira* Fennah, new species

FIG. 459-468

Vertex wider at anterior margin than long in middle line (2.3:1), anterior margin straight, lateral margins rather strongly diverging caudad, width between basal angles greater than at anterior margin (1.4:1), length of lateral margin greater than length in middle line (2.3:1), posterior margin shallowly concave, disc rather deeply depressed, medially carinate. Frons in middle line as long as broad at widest part, wider at widest part than at base (1.8:1), wider at apex than at base (1.2:1), basal margin elevated, lateral margins rather strongly foliaceous, median carina not distinct to basal margin, median ocellus absent; post-clypeus not as long as broad (1:1.2); antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.3:1). Basal metatarsal segment with about 5 teeth. Tegmen with costa moderately produced at base, stigma longer than broad (2.1:1), marginal area with 3 rows of granules, submarginal area obscure, without granules,  $Sc_2$  rather strongly bent at level of 1st transverse vein, vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (3.5:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.9:1), apical margin of tegmen evenly broadly rounding.

Yellowish brown; carinae of head and thorax and legs, ochraceous; disc of frons, vertex and mesonotum darker brown. Tegmina grayish hyaline, spots in corium at middle of M and on  $Cu_{1b}$ , in stigma, and in clavus at union of claval veins and in posterior claval cell, fuscous; veins and anterior and apical margins, dark fuscous. Wings hyaline, with fuscous veins.

♂. Anal segment moderately long, directed caudad, lateral margins in side view weakly concave, almost straight in distal  $\frac{1}{2}$ , apical margin broadly rounded, apical angles not produced. Pygofer with dorsolateral angles not symmetrical, that on right side obtuse, only very weakly produced, that on left side distinctly

produced and rectangulately rounded, lateral margin of right side convex, that of left side straight in upper  $\frac{1}{2}$ , angulately bent at middle; medioventral process very stout, as thick dorsoventrally as long, in ventral view as long as broad at base, apical margin subtruncate or broadly rounded. Aedeagus with a triangular sclerotized lobe horizontally on left in basal  $\frac{1}{2}$ , a large, mostly unpigmented spinose process on left ventrally near middle, directed ventrad and curving mesad, a stout spinose process arising medially near apex, directed cephalad and to right, and slightly deflexed distally, a long slender spinose process on left near base of flagellum, directed cephalad and slightly deflexed distally; flagellum extending to basal  $\frac{1}{4}$  of aedeagus, lightly sclerotized, in dorsal view broad, almost trapezoidal, produced cephalomesad apically in a moderately long spinose process; suspensorium short, portion above dorsal margin of aedeagus about  $\frac{1}{4}$  length of basal plate strut. Genital style in side view widening and curved upward in distal  $\frac{1}{2}$ , apical margin shallowly convex, apical angles rounded; inner margin in basal  $\frac{1}{2}$  minutely subdenticulate, abruptly excavate and angulate at base.

♀. Pregenital sternite in middle line shorter than wide at hind margin (1:1.6) and than greatest width of 1st valvifer (1:1.2), basal margin broadly convex, narrowly and weakly elevated, hind margin transverse, inner vertical ridge above hind margin narrow, very shallowly convex. First valvifer broadly rounding at level of base of 3rd valvulae. First valvulae moderately gradually widening to base, with outer margins almost straight, ventral surface steeply sloping to middle line. Ventral wall of atrium deeply exposed.

♂: length, 3.5 mm; tegmen, 5.9 mm. ♀: length, 3.5 mm; tegmen, 5.4 mm.

Holotype ♂, PNG: NEW GUINEA (NE): Busu Riv, E of Lae, 100 m, 14.IX.1955, J.L. Gressitt (BISHOP 11,699). Paratypes, 1 ♀, 2 mutilated specimens, same data as holotype. Types in BISHOP.

This species is characterized by bodily proportions, features of the tegminal venation, and coloration. The stigma has a tawny-yellow anterior marginal area and elsewhere it is infuscate with a clear area towards the posterior margin.

### ***Bajauana sabazius* Fennah, new species**

FIG. 469-477

Vertex wider at anterior margin than long in middle line (2.0:1), anterior margin straight, lateral margins rather weakly diverging caudad, width between basal angles greater than at anterior margin (about 1.3:1), length of lateral margin greater than length in middle line (nearly 1.4:1), posterior margin shallowly concave, disc depressed, weakly medially carinate. Frons in middle line as long as broad at widest part, wider at widest part than at base (1.8:1), wider at apex than at base (nearly 1.3:1), basal margin elevated, lateral margins moderately foliaceous, median carina not distinct to basal margin, median ocellus absent; post-clypeus slightly broader than long (1.1:1); antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.6:1). Basal metatarsal segment with 5 teeth. Tegmen with costa weakly produced at base, stigma longer than broad (about 2:1), marginal area with 3 rows of granules, submarginal area obscure, without granules,  $Sc_2$  strongly bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $M-Cu_{1a}$  longer than  $M-Cu_{1a}$  (about 3.7:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (about 1.9:1), apical margin of tegmen broadly and slightly obliquely rounding.

Dark yellowish brown; carinae of vertex, pronotum and mesonotum and hind margin of pronotum, legs except tarsi apically, post-tibiae apically and post-femora, ochraceous. Tegmina grayish hyaline, all veins, 3-4 spots in corium and a spot in clavus, piceous, costal and commissural margins reddish brown, apical margin fuscous.

♂. Anal segment relatively long, bilaterally symmetrical, moderately deflexed at middle, lateral margin in side view broadly concave, apical margin deeply rounded. Pygofer in side view with lateral margin rather strongly produced caudad, broadly convex; medioventral process thick, deeper dorsoventrally than long medially. Aedeagus with a large spinose process arising ventrally at middle from an irregularly-edged horizontal flange on right in basal  $\frac{1}{2}$ , and directed cephalad, a stout spinose process ventrally at apex, curving to right below aedeagus, a short slender spinose process on left at middle directed ventrocephalad, and a long spinose process on left at apex directed dorsocephalad; flagellum strongly curving to right in distal  $\frac{1}{2}$ , giving off a slender spinose process directed cephalad and a larger sinuate lobe extending

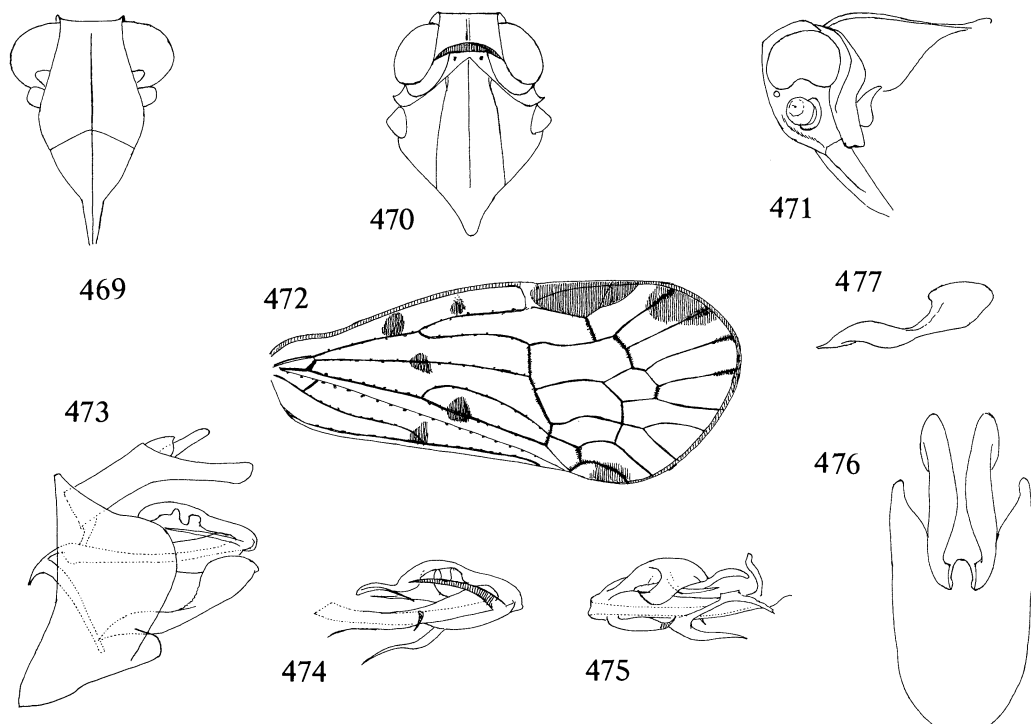


FIG. 469-477. *Bajauana sabazius*: **469**, frons and clypeus; **470**, vertex, pronotum and mesonotum; **471**, head, pronotum and mesonotum, lateral view; **472**, tegmen; **473**, ♂ genitalia, left side; **474**, aedeagus, left side; **475**, aedeagus, right side; **476**, genital styles and pygofer, ventral view; **477**, left genital style, side view.

cephalad then abruptly recurved to left then caudad as a slender spine; suspensorium with portion above level of dorsal margin of aedeagus about  $\frac{1}{3}$  as long as basal plate strut. Genital style narrow basally, gradually widening distad, apical margin shallowly convex, apical angle deeply rounded, inner margin in basal  $\frac{1}{2}$  angulate, excavate but not denticulate.

♀. Pre genital sternite shorter in middle line than wide at posterior margin (1:1.8) and as long as greatest width of 1st valvifer, basal margin slightly tumid, apical margin transverse, straight; vertical ridge on its inner edge moderately well developed. First valvula moderately rapidly widening to base, with outer margin sinuate and basal margin oblique, ventral surface strongly sloping to middle line. Ventral wall of atrium deeply exposed.

♂: length, 3.5 mm; tegmen, 5.7 mm. ♀: length, 4.0 mm; tegmen, 5.4 mm.

Holotype ♂, IRIAN: NEW GUINEA (NW): Waris, S of Hollandia, 450-500 m, 16-23.VIII.1959, T.C. Maa (BISHOP 11,700). Paratype, 1 ♀, same locality as holotype, 24-31.VIII.1959, T.C. Maa. Types in BISHOP.

This species is distinguishable by the proportions of the head, the tegminal venation and coloration, and the structure of the genitalia in both sexes. In the group of species with grayish tegmina with near-piceous veins, it stands apart by the presence of 4-5 spots across the tegmen in its basal  $\frac{1}{3}$  and by the distribution of fuscous markings in the apical cells. In the male genitalia, the form of the medioventral



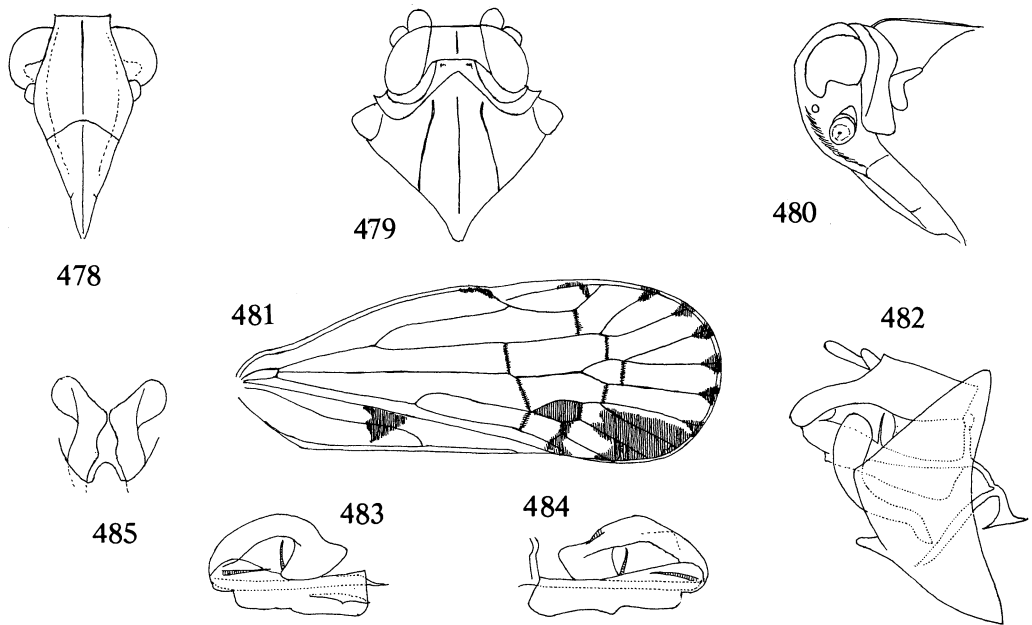


FIG. 478–485. *Bajauana tithonus*: 478, frons and clypeus; 479, vertex, pronotum and mesonotum; 480, head, pronotum and mesonotum, lateral view; 481, tegmen; 482, ♂ genitalia, right side; 483, aedeagus, right side; 484, aedeagus, left side; 485, genital styles and medioventral process of pygofer, ventral view.

process of the pygofer and the recurved apical portion of the flagellum are characteristic.

### *Bajauana tithonus* Fennah, new species

FIG. 478–485

Vertex wider at anterior margin than long in middle line (nearly 1.7:1), anterior margin straight, lateral margins weakly diverging caudad, width between basal angles greater than at anterior margin (1.3:1), length of lateral margin greater than length in middle line (about 1.6:1), posterior margin shallowly concave, transverse between lateral pronotal carinae, disc moderately deeply depressed, medially weakly carinate. Frons in middle line scarcely longer than broad at widest part, wider at widest part than at base (2:1), wider at apex than at base (1.4:1), basal margin only very weakly elevated, lateral margins moderately foliaceous, median carina distinct to basal margin, median ocellus absent; post-clypeus not quite as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (about 2:1). Basal metatarsal segment with 7 teeth. Tegmen with costa moderately produced at base, stigma longer than broad (2.6:1), marginal area with 2 rows of fine granules, submarginal area obscure, without granules,  $Sc_2$  moderately bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to  $Cu_{1a}$  longer than  $Cu_{1a}-Cu_{1b}$  (3:1), subapical cell  $M_{3+4}$  longer than subapical cell  $Cu_{1a}$  (1.3:1), apical margin of tegmen broadly rounding.

Brown; frons lighter brown, carinae of vertex and pronotum, and mesonotum at lateral angles, pale ochraceous, legs light yellowish brown. Tegmina yellowish hyaline; a small spot at apex of costal cell, a row of about 8 small diffuse spots along  $Cu_2$ , a well-defined spot at union of claval veins, nodal line veins R-M and  $M_{3+4}$ , cell  $M_{3+4}$ , all subapical transverse veinlets, a suffusion over each apical vein at junction with apical margin, and a suffusion extending over part of apical cells  $M_3$ ,  $M_4$  and  $Cu_{1a}$ , fuscous; apical margin alternately dull ochraceous and fuscous, costal margin dull ochraceous. Wings hyaline, with veins almost concolorous.

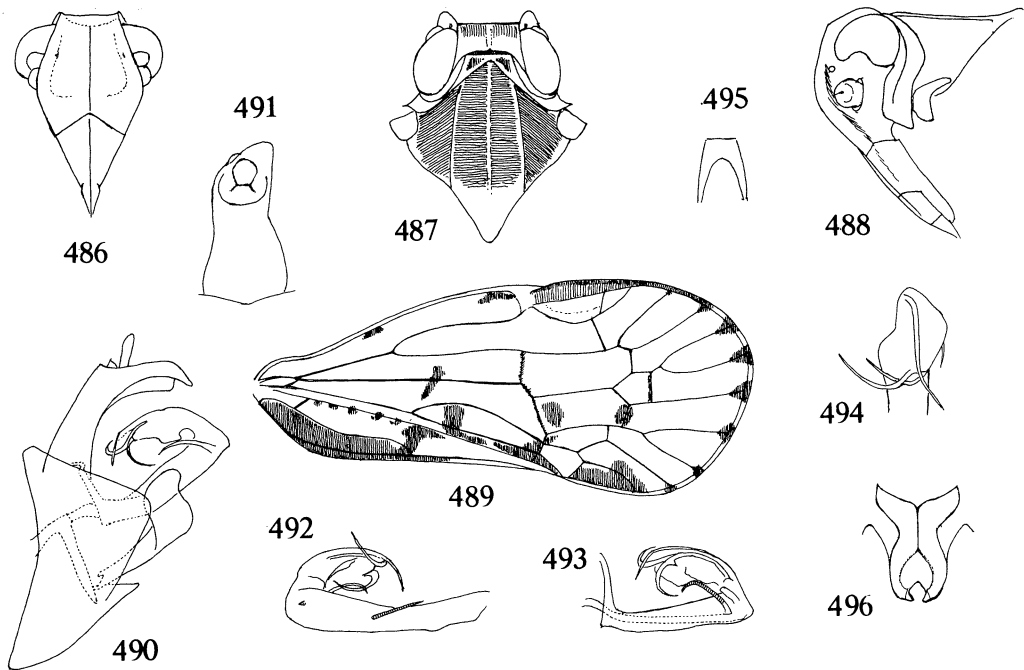


FIG. 486-496. *Bajauana pinodes*: 486, frons and clypeus; 487, vertex, pronotum and mesonotum; 488, head, pronotum and mesonotum, lateral view; 489, tegmen; 490, ♂ genitalia, left side; 491, anal segment of ♂, dorsal view; 492, aedeagus, right side; 493, aedeagus, left side; 494, apical part of flagellum, dorsal view; 495, suspensorium, posterior view; 496, genital styles and ventral margin of pygofer, ventral view.

♂. Anal segment relatively stout, bilaterally symmetrical, lateral margin in side view shallowly sinuate, concave in distal  $\frac{1}{2}$ , lateroapical angles not produced, apical margin deflexed, medially incised. Pygofer symmetrical, with dorsolateral angles not developed, lateral margin produced caudad, obtusely angulately bent at middle, medioventral process as long as broad at base, with lateral margins convex, converging distad and rounding into convex apical margin. Aedeagus produced on right side in basal  $\frac{1}{2}$  in a horizontal triangular lobe; phallobase deep for most of its length, so that phallic duct lies immediately below its upper margin; a rather short slender spinose process arising dorsally near middle of aedeagus, directed dorsad, a subequal but more slender spinose process arising on right apically, directed cephalad, a slightly shorter spinose process on left apically, also directed cephalad; flagellum tubular, decurved to right in distal  $\frac{1}{2}$ , a short adpressed spinose process dorsally at middle, directed cephalad. Suspensorium moderately long, portion above level of dorsal margin of aedeagus about  $\frac{1}{3}$  length of basal plate strut. Genital style in side view curved upward and expanding in distal  $\frac{1}{2}$ , with ventral margin evenly curved, apical margin broadly convex, distal angles not well defined; inner margin of styles weakly subdentate in basal  $\frac{1}{2}$ , shallowly concave basally but not abruptly excavate or angulate.

♂: length, 3.1 mm; tegmen, 4.0 mm.

♀. Unknown.

Holotype ♂, IRIAN: NEW GUINEA (NE): Kassam, 1350 m, 48 km E of Kainantu, 30.X.1959, T.C. Maa (BISHOP 11,701). Type in BISHOP.

This species is distinguishable by the proportions of the head, the tegminal venation and markings, and the structure of the male genitalia.

***Bajauana pinodes* Fennah, new species**

FIG. 486–496

Vertex wider at anterior margin than long in middle line (nearly 2.3:1), anterior margin straight, lateral margins weakly diverging caudad, width between basal angles greater than at anterior margin (1.2:1), length of lateral margin greater than length in middle line (1.5:1), posterior margin shallowly concave; disc deeply depressed, medially ecarinate. Frons in middle line as long as broad at widest part, wider at widest part than at base (1.7:1), wider at apex than at base (1.1:1), basal margin strongly elevated, lateral margins strongly foliaceous, median carina not distinct to basal margin; median ocellus absent; post-clypeus as long as broad; antenna with 2nd segment subglobose. Mesonotum longer in middle line than broad between lateral carinae at base (2.2:1). Basal metatarsal segment with 5 teeth. Tegmen with costa rather weakly produced at base, stigma longer than broad (2.5:1), marginal area with 3 rows of granules, submarginal area rather obscure, without granules,  $Sc_2$  rather weakly bent at level of 1st transverse vein; vein  $M_{3+4}$  from M fork to M-Cu<sub>1a</sub> transverse vein longer than M-Cu<sub>1a</sub> (5.7:1), subapical cell  $M_{3+4}$  longer than subapical cell Cu<sub>1a</sub> (1.7:1), apical margin of tegmen broadly obliquely rounding.

Yellowish brown; lateral margins of vertex and a faint line medially, genae, lateral carinae and lateral lobes of pronotum, all carinae of mesonotum and pleura, ochraceous; femora and tibiae faintly suffused fuscous. Tegmina pale grayish, subhyaline, a diffuse spot at middle of M in corium and one distad of fork of Cu, sometimes a linear spot in costal cell  $\frac{1}{3}$  from base, a diffuse spot in clavus at union of claval veins, posterior cell of clavus, nodal and subapical lines of transverse veins, with diffuse spots overlying  $M_{3+4}$  and  $M_2$ - $M_{3+4}$ , and a suffusion over each apical vein at margin, fuscous; apical margin otherwise tawny. Wings grayish, with veins fuscous.

♂. Anal segment not bilaterally symmetrical, in dorsal view narrower in distal than in basal  $\frac{1}{2}$ ; in lateral view with ventral margin broadly concave, apical angle of left side more strongly produced caudad than that of right. Pygofer bilaterally symmetrical, with dorsolateral angles not developed, in side view with lateral margin subrectangulately rounding at middle; medioventral process about as long as broad, constricted basally and subangulately rounding apically. Aedeagus relatively narrow, a slender spinose process on right at middle, directed cephalad, a small sinuate spinose process, directed laterad, near apex, a moderately long spinose process on left side near base of flagellum, directed dorsocephalad and decurved distally; flagellum with a slender spine dorsally, directed cephalad and decurved distad, and 2 slender spinose processes apically, both curving to right; suspensorium long, portion above level of dorsal margin of aedeagus shorter than basal plate strut (1:1.5). Genital style in side view abruptly widening in distal  $\frac{1}{2}$ , with posterior margin sinuate and apical angle deeply rounded; inner margin of style minutely and obscurely denticulate, excavate and acutely angulately produced mesad basally.

♂: length, 4.1 mm; tegmen, 4.8 mm.

♀. Unknown.

Holotype ♂, PNG: NEW GUINEA (NE): W Sepik, Eliptamin Val, 1200–1300 m, 1–15.IX.1959, W.W. Brandt (BISHOP 11,702). Type in BISHOP.

This species is recognizable by the proportions of the head and thorax, the tegminal venation and coloration. The margins of the frons recall those in *B. latifrons*, but the 2 species differ entirely in the coloration of the thorax.

*Acknowledgments.* I am greatly indebted to the authorities of the Bishop Museum for affording me the opportunity of studying this material, and to Dr Paul Freeman, British Museum (Natural History), for the privilege of studying the types in his charge.

## REFERENCES

- Distant, W. L. 1906. Rhynchota. Heteroptera-Homoptera. *Fauna Br. India* 3: i–xiv, 1–503.  
 1907. Rhynchotal notes xli. *Ann. Mag. Nat. Hist.* ser. 7, 19: 277–95.  
 1911. Descriptions of new genera and species of Oriental Homoptera. *Ann. Mag. Nat. Hist.* ser. 8, 8: 735–47.  
 1912. Descriptions of new genera and species of Oriental Homoptera. *Ann. Mag. Nat. Hist.* ser. 8, 9: 181–94.

1916. Rhynchota, Homoptera: Appendix. *Fauna Br. India* **6**: 1-248.
1917. Rhynchota. Part 2: Suborder Homoptera. The Percy Sladen Trust Expedition to the Indian Ocean in 1905 under the leadership of Mr. J. Stanley Gardiner, M.A. *Trans. Linn. Soc. Zool.* **17**: 273-322.
- Fennah, R. G.** 1950. Fulgoroidea of Fiji. *Bishop Mus. Bull.* **202**: 1-122.
1956. Homoptera: Fulgoroidea. *Insects Micronesia* **6**(3): 39-211.
1978. Fulgoroidea (Homoptera) from Viet-nam. *Ann. Zool.* **34**(9): 208-79.
- Kirkaldy, G. W.** 1907a. Leafhoppers supplement (Hemiptera). *Bull. Hawaii. Sugar Plant. Assoc. Entomol.* **3**: 1-186.
- 1907b. Descriptions et remarques sur quelques Homoptères de la famille des Fulgoroidea vivant sur la canne à sucre. *Ann. Soc. Entomol. Belg.* **51**: 123-27.
- Muir, F.** 1925. On the genera of Cixiidae, Meenoplidae and Kinnaridae (Fulgoroidea, Homoptera). *Pan-Pac. Entomol.* **1**: 156-63.
- Stål, C.** 1859. Novae quaedam Fulgorinorum formae speciesque insigniores. *Berl. Entomol. Z.* **3**: 313-27.
- Walker, F.** 1857. Catalogue of the Homopterous insects collected at Sarawak, Borneo, by Mr. A. R. Wallace, with descriptions of new species. *J. Proc. Linn. Soc. Zool.* **1**: 141-75.
1870. Catalogue of the Homopterous insects collected in the Indian archipelago by Mr. A. R. Wallace, with descriptions of new species. *J. Linn. Soc. Zool.* **10**: 82-193.

## HOMONYMY IN THE ARADIDAE (HEMIPTERA)

I am grateful to Professor Richard Cowen, University of California, Davis, for drawing my attention to the fact that the following names are preoccupied and require replacement names.

*Glyptomorpha* Kormilev, 1977 (Carventinae) (Kormilev, 1977, *Trans. Am. Entomol. Soc.* **103**: 612) is preoccupied by *Glyptomorpha* Holmgren, 1868 (Hymenoptera: Braconidae). *Zemira* Kormilev, 1977 (Mezirinae) (Kormilev, 1971, *Pac. Insects Monogr.* **26**: 31) is preoccupied by *Zemira* Adams & Adams, 1853 (Gastropod, Olividae). For *Glyptomorpha*, I propose the new name *Morphocoris* Kormilev, and for *Zemira*, I propose the new name *Zimera* Kormilev.—**Nicholas A. Kormilev**, 84-05 89th Street, Woodhaven, New York 11421, USA.