

Achilidae (Fulgoroidea : Homoptera) from Mauritius

J. R. WILLIAMS

Mauritius Sugar Industry Research Institute, Réduit, Mauritius

Introduction

The only Achilid on record from the Mascarene Islands is *Paraphypia macabeana* Synave, described in 1960 from Mauritius. Eleven additional species, also from Mauritius, were collected by the author during 1971–75. All are described here as new. Three belong to *Paraphypia* and this hitherto monotypic genus is accordingly redefined. Five genera have been erected to accommodate the other eight species.

All type specimens have been deposited in the British Museum (Natural History).

This paper is the fourth of a series on Mascarene Fulgoroidea, others having dealt with Cixiidae (Williams, 1975 a, b) and Derbidae (Williams, 1976).

Key to the genera

- 1 Head greatly produced forward, extending before eyes for a distance equal to the length of an eye *Thectoceps* gen. nov.
- 2 Head not greatly produced forward, extending before eyes for a distance of not more than half the length of an eye 3
- 3 Apex of vertex acutely angulate 5
- 4 Apex of vertex very obtusely angulate 9
- 5 Vertex shield-like, not or shallowly depressed; median carina not reaching apex
Paraphypia Synave
- 6 Vertex not shield-like, greatly depressed and trough-like each side of median carina; median carina complete, reaching apex 7
- 7 Declivity of vertex to dorsal plane of head and thorax less than 50° *Deltometopus* gen. nov.
- 8 Declivity of vertex to dorsal plane of head and thorax about 80° *Alticeps* gen. nov.
- 9 Median carina of vertex not reaching to apex and depressed with disc *Cocottea* gen. nov.
- 10 Median carina of vertex reaching to apex, disc depressed between median and lateral carinae *Cernea* gen. nov.

Paraphypia Synave

Paraphypia Synave, 1960, *Bull. Inst. r. Sci. nat. Belg.*, **36** (36) : 7. Haplotype, *Paraphypia macabeana* Synave.

Head, with eyes, about 0.9 width of pronotum. Vertex declivous (about 40°); produced before eyes for a distance of 0.3–0.4 the length of an eye; length in midline about equal to width at base of midline; median carina not reaching to apex; posterior margin sinuously excavate, sometimes angulately or concavely excavate; lateral carinae straight, or nearly so, and usually converging slightly distad; anterior margin carinate, forming an acutely (55°–70°) angulate or angulately convex apex, meeting lateral carinae at a very obtuse but usually distinct angle; apex formed by anterior margin at least as long as lateral margin; disc not depressed or shallowly depressed, shield-like. Frons with triangular laterobasal areas extending on to dorsal surface of head

on each side of apex of vertex; median carina percurrent on clypeus, raised above lateral margins at least basally; lateral margins gently concave and diverging from apex of head to about level of antennae, then incurving; disc between median and lateral carinae not concave proximally, becoming shallowly concave distally; three transverse carinae generally present on each side near base, the proximal most distinct and often reaching the median carina, the two distal usually failing to reach the median carina. Clypeus shorter than frons; medially and laterally carinate. Rostrum reaching to post-trochanters. Antennae with second segment subglobose. Ocelli touching eyes. Pronotum medially carinate; lateral carinae of disc nearly straight or slightly convex, about twice as long as median carina, reaching hind margin; disc with an impression on each side. Mesonotum tricarinate; much longer than combined lengths of pronotum and vertex. Post-tibiae with a single lateral spine basad of middle. Tegmina three times as long as broad; costal margin convex; eight areoles around apical margin distad of stigmal cell; clavus extending beyond midway; Sc + R fork and Cu₁ fork at about same level and distinctly beyond level of union of claval veins.

Pygofer with medioventral process in ventral view more or less parallel-sided with an irregularly-rounded, medially-indentate apex. Phallobase with medioventral lobe deeply divided apically and heavily spinose with two particularly large spines basad of the division; lateral lobes expanded ventrolaterally, the left more so than the right. Phallic appendages symmetrical; wider towards the base; minutely denticulate, particularly at apex.

P. macabeana Synave was hitherto the only known species of this genus; three other species are described below. The broad, flat or shallowly-depressed vertex and the shape of the frons are very characteristic. The multiple carination across the base of the frons is absent in one of the species here described and in many individuals of the other species only the proximal carina is distinct. The male genitalia are very uniform and provide no features of use for species discrimination. The genus is closely related to *Deltometopus* gen. nov.

Synave implied that this genus is close to *Phypia* Stål but Fennah's (1950) description of the latter does not indicate any close affinity and shows that the configuration of the vertex, frons and pronotum are different in the two genera.

Paraphypia macabeana Synave

(Figs. 1, 2 (a))

Paraphypia macabeana Synave, 1960, *Bull. Inst. r. Sci. nat. Belg.*, 36 (36) : 8, fig. 13. (Type locality; Macabé, Mauritius. Type repository; Museum National d'Histoire Naturelle, Paris.)

Overall length 5.5–6.5 mm. Vertex with disc not depressed; anterior margin forming an apical angle of about 70°. Frons slightly wider than long in median line; widest part 1.5–1.6 times width at apex of head; projecting medially at base, and apex of head in profile angulately convex, snout-like; three transverse carinae on each side near base. Pronotum with disc not or slightly depressed between median and lateral carinae.

Vertex ochraceous, sometimes suffused fuscous. Frons concolorous with vertex to about midway, then a broad, white, transverse band followed by a broad, dark fuscous, transverse band adjacent to frontoclypeal suture. Clypeus white or pallid becoming ochraceous distally. Pronotum and mesonotum

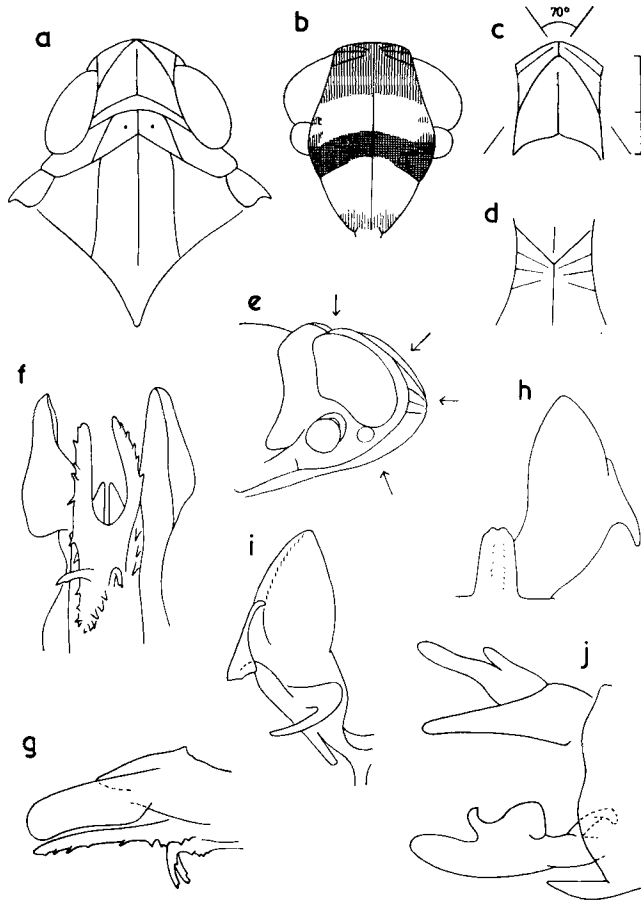


FIG. 1. *Paraphypia macabeana* Synave (a) vertex, pronotum and mesonotum; (b) frons and clypeus; (c) vertex viewed at right angles to disc; (d) apex of head from directly in front; (e) head and thorax in profile, showing angles of view in (a)-(d); (f) phallobase, ventral view; (g) phallobase, lateral view; (h) genital style and medioventral process of pygofer, ventral view; (i) genital style, dorsal view; (j) pygofer, anal segment and genital style, lateral view.

ochraceous and variably, but more or less uniformly, suffused fuscous. Tegmina to line of flexure ivory-white except fuscous across extreme base, two fuscous patches in costal cell, one before and one after the level of Sc+R fork, and a transverse ochraceous area, often faint or absent, between levels of costal patches.

MAURITIUS: Perrier, 2 ♂, 8 ♀, 14.xii.71, 1 ♀, 23.xii.71, 2 ♀, 3.i.72, 3 ♂, 22.iv.72, 2 ♂, 14.x.72, 3 ♂, 2 ♀, 5.x.75; Macabé, 1 ♀, 29.iv.72, 1 ♂, 5.viii.72, 1 ♂, 3 ♀, 22.x.72, 1 ♂, 2.i.74, 1 ♂, 23.xi.74; Mt. Cocotte, 2 ♀, 23.ix.73, 2 ♂, 1 ♀, 15.xii.73, 5 ♂, 4 ♀, 6.iii.75; Nicoliere, 1 ♂, 2 ♀, 28.iv.74, 7 ♂, 4 ♀, 29.xii.74; Le Pouce, 3 ♂, 3 ♀, 22.vii.72; Bris Fer, 1 ♂, 18.viii.73; Case Noyale, 2 ♂, 2 ♀, 28.x.72; Trois Mamelles, 1 ♀, 30.ix.73 (J.R.W.).

The pigmentation of the frons and to a lesser extent the tegmina are distinctive in this species. It is known only from Mauritius and is the most commonly encountered species of Achilidae when sweeping native vegetation.

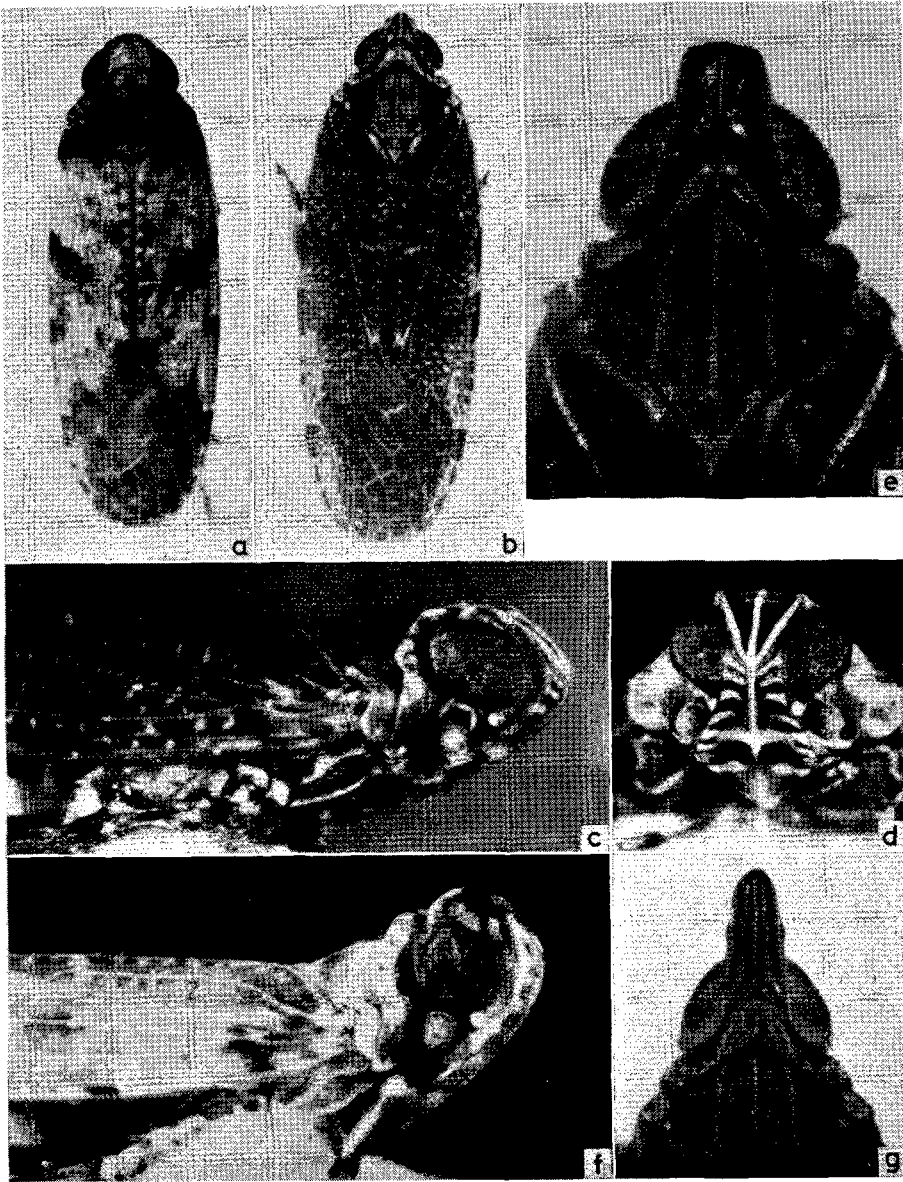


FIG. 2 (a) *Paraphypia macabeana* Synave, (b-d) *Deltometopus paryphiceps* sp. nov., (e) *Cocot tea seclusa* sp. nov., (f) *Alticeps vigilis* sp. nov., (g) *Thectoceph mauritiensis* sp. nov.

Paraphypia pallidifrons sp. nov.

(Fig. 3)

Overall length about 5.5 mm. Vertex with disc either side of median carina shallowly but distinctly depressed; anterior margin forming an apical angle of about 55° . Frons longer in middle line than wide (1.2 : 1); widest part 1.7 times width at apex of head; projecting medially at base, and apex

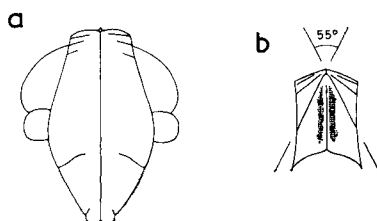


FIG. 3. *Paraphypia pallidifrons* sp. nov. (a) frons and clypeus; (b) vertex viewed at right angles to disc.

of head in profile angulately convex, snout-like; three transverse carinae on each side near base. Pronotum with disc shallowly depressed between median and lateral carinae.

Vertex, frons and clypeus entirely ochraceous except a dark fuscous band along each side of median carina on vertex. Pronotum and mesonotum ochraceous suffused fuscous. Tegmina to line of flexure more or less uniformly ochraceous suffused fuscous.

Holotype ♂, MAURITIUS: Macabé, 22.xi.73 (J.R.W.).

Paratype, MAURITIUS: same locality as holotype, 1 ♀, 23.xii.74 (J.R.W.).

This species is readily distinguished by the light, uniform pigmentation of the frons and clypeus and by the two dark longitudinal bands on the vertex.

***Paraphypia picta* sp. nov.**

(Fig. 4)

Overall length 6.5–7.0 mm. Vertex with disc either side of median carina shallowly depressed; anterior margin forming an apical angle of about 65°. Frons a little longer in middle line than wide; widest part 1.7–1.8 times width at apex of head; projecting medially at base, and apex of head in profile

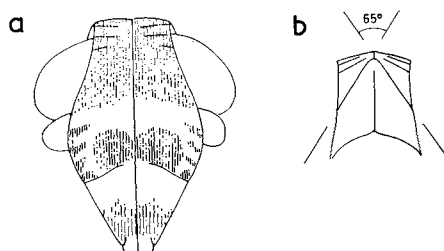


FIG. 4. *Paraphypia picta* sp. nov. (a) frons and clypeus; (b) vertex viewed at right angles to disc.

angulately convex, snout-like; three transverse carinae on each side near base. Pronotum with disc depressed between median and lateral carinae.

Vertex fuscous. Frons concolorous with vertex basally, brokenly and variably patterned fuscous and pale ochraceous distally. Clypeus pale ochraceous becoming fuscous distally. Pronotum and mesonotum ochraceous with fuscous suffusions. Tegmina to line of flexure more or less uniformly ochraceous lightly suffused fuscous with many pallid transverse flecks, a small

fuscous patch after basal cell, costal vein with two dark fuscous lengths near its middle.

Holotype ♂, MAURITIUS: Mt. Cocotte, 4.v.75 (J.R.W.).

Paratypes, MAURITIUS: same locality as holotype, 1 ♀, 4.v.75, 1 ♂, 16.ii.74 (J.R.W.).

The patterned frons distinguishes this species. The disc of the vertex, like that of *P. pallidifrons*, is shallowly depressed.

***Paraphypia planifrons* sp. nov.**

(Fig. 5)

Overall length, ♂, 6.5 mm. Vertex with disc either side of median carina not depressed; anterior margin forming an apical angle of about 60°. Frons as long in middle line as wide; widest part 1.6 times width at apex of head; not projecting medially at base and apex of head in profile bluntly and evenly convex, not snout-like; without transverse carinae near base. Pronotum with disc shallowly depressed between median and lateral carinae.

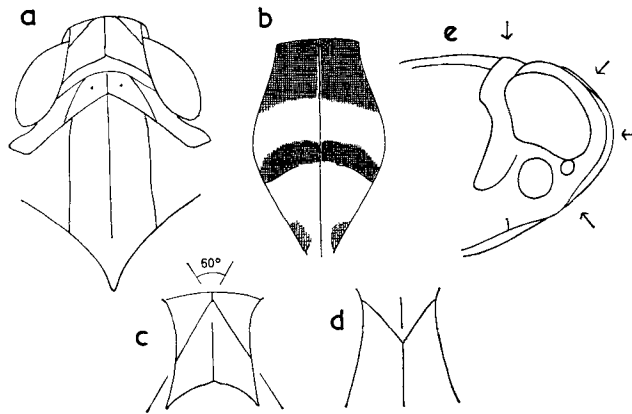


FIG. 5. *Paraphypia planifrons* sp. nov. (a) vertex, pronotum and mesonotum; (b) frons and clypeus; (c) vertex viewed at right angles to disc; (d) apex of head, from directly in front; (e) head and thorax in profile, showing angles of view in preceding drawings.

Vertex dark fuscous. Frons concolorous with vertex to about midway, then a broad whitish or yellowish-ochraceous transverse band followed by a broad dark fuscous transverse band adjacent to the frontoclypeal suture. Clypeus whitish or yellowish-ochraceous except fuscous apically. Pronotum and mesonotum ochraceous patterned dark fuscous. Tegmina to line of flexure infuscate, flecked and blotched yellowish-ochraceous.

Holotype ♂, MAURITIUS: Mt. Cocotte, 2.vi.73 (J.R.W.).

Paratype, MAURITIUS: same locality as holotype, 1 ♂, 4.v.75 (J.R.W.).

Despite the absence of transverse carinae across the frons, this species has the general characters of *Paraphypia*. The pigmentation of the frons, but not of the tegmina, is similar to that of *P. macabeana*.

Deltometopus gen. nov.

Head, with eyes, 0.8–0.85 width of pronotum. Vertex declivous (about 45°); produced before eyes for a distance of about 0.4 the length of an eye; length in midline at least equal to width at base of midline; median carina complete; posterior margin roundedly or sinuously excavate; lateral carinae straight or slightly convex, converging distad; anterior margin carinate, forming an acutely angulate apex, anterior carina on each side running into lateral carina without forming an angle with it or forming a barely perceptible angle; disc on each side of median carina greatly depressed and trough-like. Frons with triangular laterobasal areas extending on to dorsal surface of head on each side of apex of vertex; longer in midline than wide; widest part about twice width at apex of head; median carina percurrent on clypeus, raised above lateral margins; lateral margins concave and diverging from apex of head to about level of antennae, then incurving; disc concave between median and lateral carinae except basally; three transverse carinae on each side near base, the two proximal distinct and nearly reaching, or reaching, the median carina, the distal evanescent, short, never reaching the median carina. Clypeus shorter than frons; medially and laterally carinate. Rostrum reaching to post-trochanters. Antennae with second segment subglobose. Ocelli touching eyes. Pronotum medially carinate; lateral carinae of disc straight or slightly convex, about twice as long as the median carina, not always distinctly reaching the hind margin; disc much depressed between median and lateral carinae and with an impression on each side. Mesonotum tricarinate; much longer than combined lengths of pronotum and vertex. Post-tibiae with a single lateral spine basad of middle. Tegmina more than three times as long as broad; costal margin convex; eight (rarely nine) areoles around apical margin distad of stigmal cell; clavus extending beyond midway; Sc + R fork and Cu₁ fork at about same level and distinctly beyond level of union of claval veins.

Pygofer with medioventral process in ventral view more or less parallel-sided with a rounded, medially-indentate apex. Phallobase with medioventral lobe deeply divided apically and heavily spinose with two particularly large spines basad of the division; lateral lobes expanded ventrolaterally, the left more so than the right. Phallic appendages symmetrical; wider towards the base; minutely denticulate, particularly at apex.

Type species, *Deltometopus paryphiceps* sp. nov.

This genus is close to *Paraphypia*. It is distinguished readily by the vertex, which is not shield-like and has a complete median carina, on each side of which the disc is depressed and trough-like. The male genitalia are indistinguishable from those of *Paraphypia*.

Deltometopus paryphiceps sp. nov.

(Figs. 2 (b–d), 6)

Overall length, ♂, 6.0–6.5 mm, ♀, 6.5–7.0 mm. Vertex with anterior margin forming an apical angle of 35–45°; lateral margins not longer, and usually distinctly shorter, than apex formed by anterior margin; longer in midline than wide at base of midline (1.3 : 1).

Vertex very dark fuscous, almost black, except along median, lateral and anterior carinae, and a triangular area on each side abutting posterior margin,

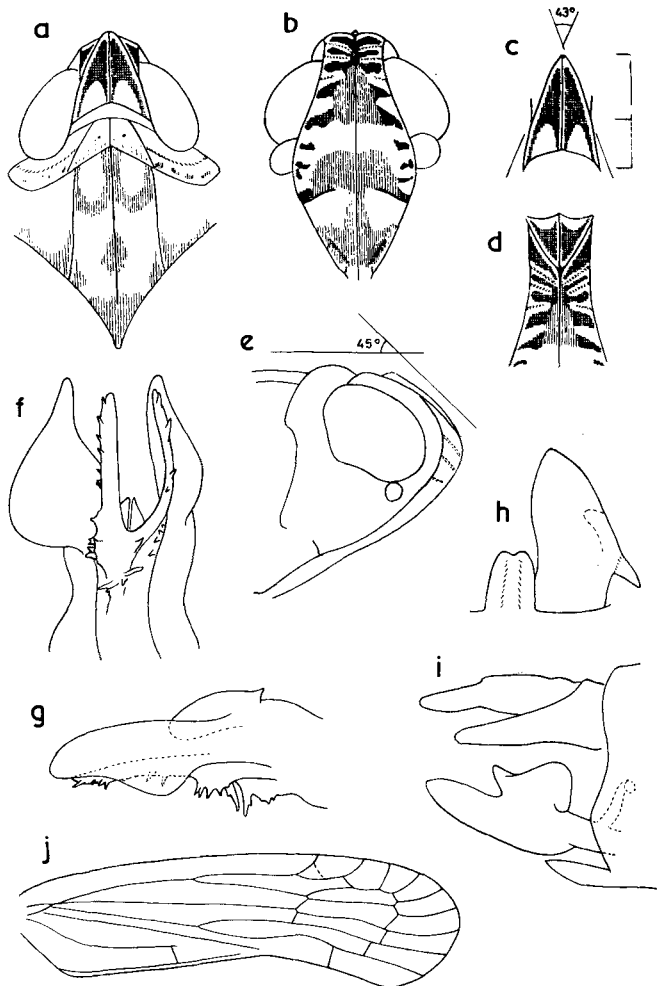


FIG. 6. *Deltometopus paryphiceps* sp. nov. (a) vertex, pronotum and mesonotum; (b) frons and clypeus; (c) vertex viewed at right angles to disc; (d) apex of head, from directly in front; (e) head and thorax in profile; (f) phallobase, ventral view; (g) phallobase, lateral view; (h) genital style and medioventral process of pygofer, ventral view; (i) pygofer, anal segment and genital style, lateral view; (j) tegmen.

yellowish-ochraceous. Frons alternately dark fuscous to black and yellowish-ochraceous to ivory-white along each side; centrally brownish-ochraceous with an irregular, transverse, yellowish to white area after midway; transverse basal carinae yellowish-ochraceous. Clypeus ochraceous, paler or white basally. Pro- and mesonotum ochraceous variegated with fuscous suffusions. Tegmina brownish-ochraceous to line of flexure, infuscate apically, flecked ivory-white, costal cell with two dark patches against costal vein.

Holotype ♂, MAURITIUS: Perrier, 14.xii.71 (J.R.W.).

Paratypes, MAURITIUS: Perrier, 2 ♀, 6.xii.71, 2 ♂, 1 ♀, 14.xii.71, 1 ♂, 3.i.72, 3 ♂, 2 ♀, 22.iv.72, 3 ♂, 1 ♀, 14.x.72, 1 ♂, 2 ♀, 5.x.75; Plaine Champagne, 1 ♂, 11.v.74; Mt. Cocotte, 1 ♂, 1 ♀, 4.v.75; Bambou Mts., 3 ♀, 8.xii.71; Nicoliere, 1 ♂, 28.iv.74, 1 ♀, 29.xii.74 (J.R.W.).

The pigmentation of the vertex in this species is definitive and distinctive.

Deltometopus maculatus sp. nov.

(Fig. 7)

Overall length, ♂, 5.5 mm, ♀, 6.0 mm. Vertex with anterior margin forming an apical angle of 55–65°; lateral margins distinctly longer than apex formed by anterior margin; as long in midline as wide at base of midline.

Vertex without definitive pigmentary pattern, fuscous to dark fuscous with anterior carina and irregular areas laterally near base, ochraceous. Frons alternately fuscous and ochraceous along each side; centrally ochraceous varyingly suffused fuscous, usually with a lighter, irregular transverse area; transverse basal carinae, and usually median carina, ochraceous. Clypeus ochraceous or pallid basally, fuscous distally. Pronotum ochraceous with anterior of disc dark fuscous. Mesonotum ochraceous anteriorly and dark fuscous in angle formed by posterior margin. Tegmina variegated fuscous, ochraceous and ivory-white to line of flexure, infuscate apically, flecked pallid or ivory-white, costal cell with two dark patches against costal vein.

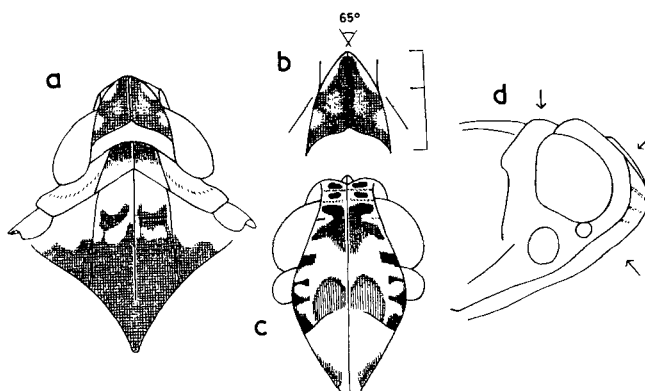


FIG. 7. *Deltometopus maculatus* sp. nov. (a) vertex, pronotum and mesonotum; (b) vertex viewed at right angles to disc; (c) frons and clypeus; (d) head and thorax in profile, showing angles of view in preceding drawings.

Holotype ♂, MAURITIUS: Case Noyale, 28.x.72 (J.R.W.).

Paratypes, MAURITIUS: 2♀, same data as holotype; 1♂, same data but 11.v.74 (J.R.W.).

This species is separable from *D. paryphiceps* by the form of the vertex and its ill-defined, broken pigmentation, and by the pigmentation of the pro- and mesonotum.

Alticeps gen. nov.

Dorsal plane of thorax reflexed at junction of mesonotum and tegmina, forming an angle of about 155°. Head, with eyes, about 0.8 width of pronotum. Vertex steeply declivous, almost vertical (80°) to plane of dorsum anterior of tegmina; produced before eyes for a distance about equal to half the length of an eye; median carina complete; posterior margin angulately excavate (about 90°); lateral carinae straight or gently convex, converging distad; anterior margin carinate, forming an acutely-angulate apex, anterior carina on each side running into lateral carina without forming an angle with it, or

forming a barely perceptible angle; disc greatly depressed, trough-like, on each side of median carina. Frons with triangular laterobasal areas on each side of apex of vertex; longer in midline than wide; widest part more than twice width at apex of head; median carina percurrent, raised above lateral margins; lateral margins concave and diverging from apex of head to about level of antennae, then incurving; disc slightly concave on each side after about level of antennae; three very faint, low, transverse carinae on each side near base, none reaching median carina. Clypeus shorter than frons; medially and laterally carinate. Rostrum reaching to post-trochanters. Antennae with second segment subglobose. Ocelli touching eyes. Pronotum medially carinate; lateral carinae of disc slightly sinuous, about twice as long as median carina, distinctly reaching hind margin; disc depressed between median and lateral carinae and with an impression on each side. Mesonotum tricarinate, longer than combined lengths of vertex and pronotum. Post-tibiae with a single lateral spine basad of middle. Tegmina more than three times as long as broad; costal margin convex; eight areoles around apical margin distad of stigmal cell; clavus extending beyond midway; Sc + R fork and Cu₁ fork at about same level and distinctly beyond level of union of claval veins.

Type species, *Alticeps vigilis* sp. nov.

Alticeps vigilis sp. nov.

(Figs. 2 (f), 8)

Overall length, ♀, 6.0–6.5 mm. Vertex with anterior margin forming an apical angle of 40–45°; lateral margins longer than apex formed by anterior margin (1.25 : 1); longer in middle line than wide at base of middle line (1.5 : 1).

Vertex ochraceous with dark fuscous areas of variable extent. Frons along margin yellowish-ochraceous to ivory-white with fuscous intrusions; centrally fuscous or ochraceous. Clypeus mostly ochraceous, pale or whitish

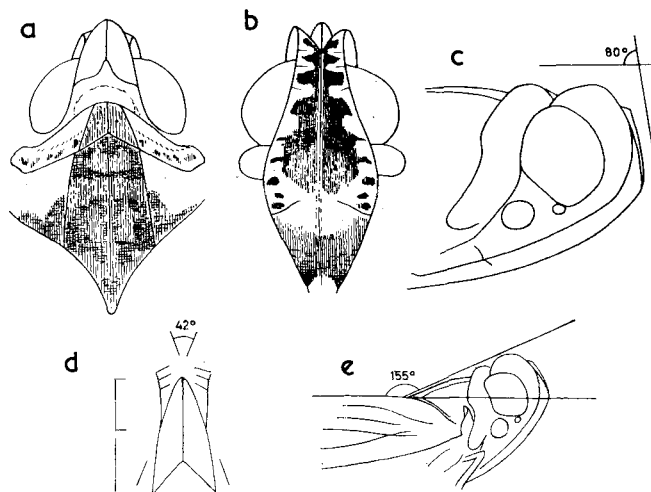


FIG. 8. *Alticeps vigilis* sp. nov. (a) vertex, pronotum and mesonotum; (b) frons and clypeus; (c) head and thorax in profile; (d) vertex viewed at right angles to disc; (e) body profile showing raised posture of head and thorax.

basally and fuscous distally. Pronotum ochraceous except disc and patches along hind margin fuscous. Mesonotum ochraceous laterally, otherwise unevenly suffused fuscous. Tegmina brownish ochraceous to line of flexure, infuscate apically, flecked ivory-white, suffused fuscous across base and two fuscous patches against costal vein.

Holotype ♀, MAURITIUS: Trois Mamelles, 30.ix.73 (J.R.W.).

Paratype, MAURITIUS: 1 ♀, same data as holotype.

The affinities of this species are with *Deltometopus*. Its outstanding characteristic is its body posture. The front of the body is raised and as if to compensate for this the head is tilted down relative to the thorax: the vertex, as a result, is almost at right angles to the plane of the thorax, although its declivity from horizontal is in the order of 50°–60°, and the back of the head and neck are well-exposed.

The transverse carinae of the frons are barely perceptible low ridges.

Thectoceps gen. nov.

Head, with eyes, about 0.8 width of pronotum. Vertex slightly declivous (about 20°); produced before eyes for a distance equal to the length of an eye; length in midline twice width at base of midline; median carina not distinctly reaching apex; posterior margin sinuously excavate; anteriorly carinate; demarcation between anterior and lateral carinae not evident in dorsal view, the carinate sides converging very gradually for most of their length then incurving smoothly to a pointed apex; disc depressed and trough-like on each side of median carina. Frons prow-like, greatly produced medially at base, in profile sharply convex basally then gently concave and becoming gently convex distally; nearly twice as long as wide; widest part twice width at base; median carina percurrent on clypeus; three transverse carinae near base, the first complete, meeting the median carina, the others incomplete, reaching about half-way to median carina; disc much depressed, trough-like, between base and first transverse carina. Clypeus much shorter than frons; medially and laterally carinate. Rostrum reaching to post-trochanters. Antennae with second segment subglobose. Ocelli touching eyes. Pronotum medially carinate; lateral carinae of disc gently convex, about twice as long as median carina, distinctly reaching hind margin; disc depressed between median and lateral carinae; without an impression on each side. Mesonotum tricarinate; only a little longer than combined lengths of vertex and pronotum. Post-tibiae with a single lateral spine basad of middle. Tegmina more than three times as long as broad; costal margin convex; eight areoles around apical margin distad of stigmal cell; clavus ending a little beyond midway; Sc + R fork and Cu₁ fork at about the same level and distinctly beyond level of union of claval veins.

Type species, *Thectoceps mauritiensis* sp. nov.

Thectoceps mauritiensis sp. nov.

(Figs. 2 (g), 9)

Overall length, ♀, 6.0–6.5 mm. Vertex dark fuscous except reddish spot on each side of disc near base and carinae yellowish-ochraceous. Frons dark fuscous basally becoming brownish-ochraceous distally; transverse carinae

and patches along lateral margins yellowish-ochraceous. Clypeus ochraceous with base pale or whitish. Pronotum with disc dark fuscous; laterally ochraceous interruptedly dark fuscous. Mesonotum dark fuscous with castaneous patches and a pale spot in each lateral angle. Tegmina more or less uniformly infuscate and flecked ivory-white.

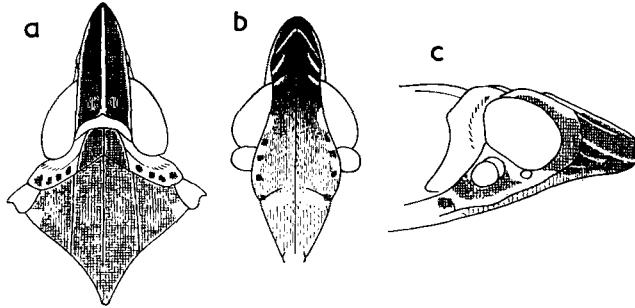


FIG. 9. *Thectoceps mauritiensis* sp. nov. (a) vertex, pronotum and mesonotum; (b) frons and clypeus; (c) head in profile.

Holotype ♀, MAURITIUS, Bris Fer, 18.viii.73 (J.R.W.).

Paratype, MAURITIUS: 1 ♀, Crown Land Cabinet, 24.x.72 (J.R.W.).

This species runs to couplet 57 (*Callichlamys* Kirk. and *Koloptera* Metc.) in Fennah's key (Fennah, 1950) owing to the anteriorly carinate and very long vertex. *Martorella* Caldwell also has these features.

Cocottea gen. nov.

Head, with eyes, about 0.9 width of pronotum. Vertex slightly declivous (20° – 30°); produced before eyes for a distance of 0.3–0.5 the length of an eye; width at base of midline about equal to or greater than length in midline; median carina not reaching to apex; posterior margin concave; lateral margins straight and converging slightly distad; anterior margin carinate, forming a very obtusely angulate apex; disc, with median carina, depressed. Frons longer in midline than wide; widest part at least twice width at base; median carina slightly higher than lateral margins, percurrent on clypeus; lateral margins concave and diverging to level of antennae, then incurving; basal margin straight in face view; disc shallowly depressed between median and lateral carinae. Clypeus much shorter than frons; medially and laterally carinate. Rostrum reaching to post-trochanters. Antennae with second segment subglobose. Ocelli not touching eyes. Pronotum greatly excavate behind eyes; lateral carinae of disc straight or nearly so, diverging greatly caudad, not reaching hind margin; median carina weakly developed and often not reaching anterior margin; disc shallowly depressed and with an impression on each side; a weak carina present laterally between eye and tegula. Mesonotum tricarinate; much longer than combined lengths of vertex and pronotum. Post-tibiae with a single lateral spine well basad of middle. Tegmina more than three times as long as broad; costal margin convex; eight areoles around apical margin distad of stigmal cell; clavus extending beyond midway.

Pygofer with medioventral process in ventral view more or less parallel-sided before rounding into a truncate, medially-indentate apex. Phallobase

with medioventral lobe deeply incised apically, the margin of the incision massively and ruggedly thickened and forming a collar-like structure. Phallic appendages symmetrical, narrow, strap-like, slightly clavate and minutely denticulate, particularly at apex.

Type species, *Cocottea seclusa* sp. nov.

The vertex in this genus resembles that in *Mahuna* Distant (as described by Fennah, 1950) but the lateral margins of the frons in the latter are not proximally concave, the pronotum is much wider than the head, and there are nine areoles around the tegminal margin distad of the stigmal cell.

Cocottea seclusa sp. nov.

(Figs. 2 (e), 10)

Overall length, ♂, 4.5–5.0 mm, ♀, 5.0–5.5 mm. Vertex as wide at base of midline as long in midline; overall width slightly less than overall length; produced before eyes for about half the length of an eye. Frons at widest part more than twice width at base (2.3–2.6 : 1). Tegmina with Sc + R fork and Cu_1 fork distinctly beyond level of union of claval veins.

Dark fuscous, patched and marked ochraceous. Frons and clypeus ochraceous except base of frons and extremity of clypeus dark fuscous. Median and lateral carinae of vertex, lateral carinae of pronotal disc, and carinae of

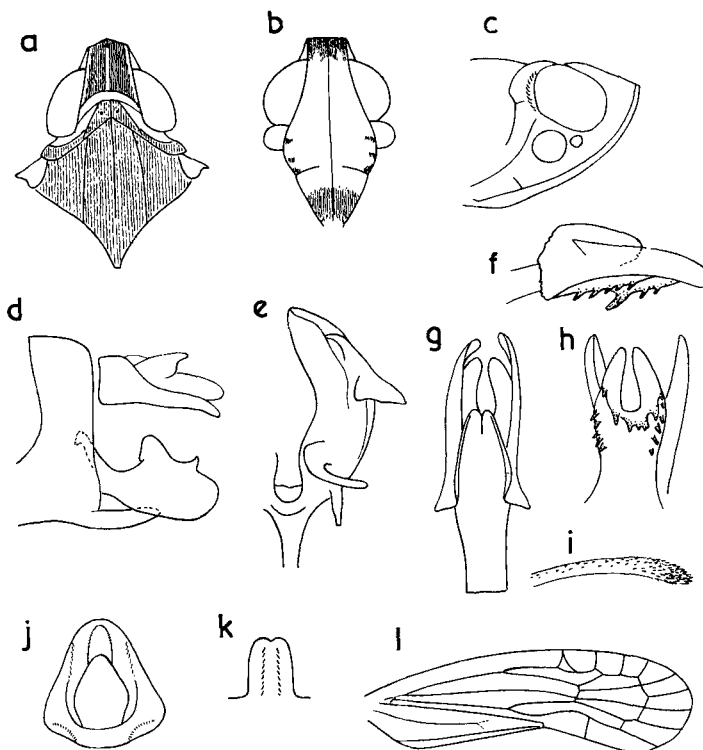


FIG. 10. *Cocottea seclusa* sp. nov. (a) vertex, pronotum and mesonotum; (b) frons and clypeus; (c) head in profile; (d) pygofer, anal segment and genital style, lateral view; (e) genital style, dorsal view; (f) phallobase, lateral view; (g) phallobase, dorsal view; (h) phallobase, ventral view; (i) apex of phallic appendage; (j) anal segment of male, dorsal view; (k) medioventral process of pygofer, ventral view; (l) tegmen.

mesonotum, ochraceous. Tegmina with veins ochraceous; flecked ivory-white to line of flexure.

Phallobase with ventral lobe in ventral view widest near middle and narrowing evenly to apex.

Holotype ♂, MAURITIUS: Mt. Cocotte, 8.xi.72 (J.R.W.).

Paratypes, MAURITIUS: same locality as holotype, 2 ♂, 3 ♀, 4.xi.72, 4 ♂, 3 ♀, 8.xi.72, 1 ♀, 6.x.73 (J.R.W.).

Cocottea lineata sp. nov.

(Fig. 11)

Overall length, ♂, 5.0–5.5 mm, ♀, 5.5–6.0 mm. Vertex as wide at base of midline as long in midline; overall width slightly less than overall length; produced before eyes for about half the length of an eye. Frons at widest part more than twice width at base (2.3–2.5 : 1). Tegmina with Sc+R fork at, and Cu₁ fork well beyond, level of union of claval veins.

Ochraceous, with fuscous patches and suffusions. Vertex suffused fuscous except pale along median carina. Frons narrowly dark fuscous along basal and lateral margins and along median carina for most of its length. Clypeus with lateral margins narrowly dark fuscous. Mesonotum with carinae pallid and bordered fuscous at least partly. Tegmina with veins pallid.

Phallobase with ventral lobe in ventral view widest near apex, lateroapical angles and apices of thickened collar distinctly separated.

Holotype ♂, MAURITIUS: Trois Mamelles, 10.ii.73 (J.R.W.).

Paratypes, MAURITIUS: same locality as holotype, 1 ♂, 10.ii.73, 1 ♀, 5.v.74, 1 ♀, 1.vi.75; Chamarel, 1 ♂, 27.iv.72 (J.R.W.).

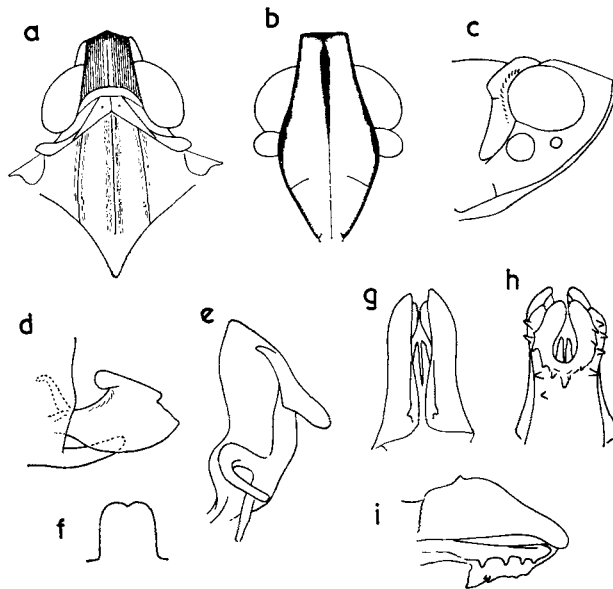


FIG. 11. *Cocottea lineata* sp. nov. (a) vertex, pronotum and mesonotum; (b) frons and clypeus; (c) head in profile; (d) genital style and medioventral process of pygofer, lateral view; (e) genital style, dorsal view; (f) medioventral process of pygofer, ventral view; (g) phallobase, dorsal view; (h) phallobase, ventral view; (i) phallobase, lateral view.

Cocottea verecunda sp. nov.

(Fig. 12)

Overall length, ♂, 4.5–5.0 mm, ♀, 5.0–6.0 mm. Vertex wider at base of midline than long in midline (1.3–1.5 : 1); overall width a little greater than overall length; produced before eyes for about one-third the length of an eye. Frons at widest part twice width at base. Tegmina with Sc + R fork and Cu₁ fork well beyond level of union of claval veins.

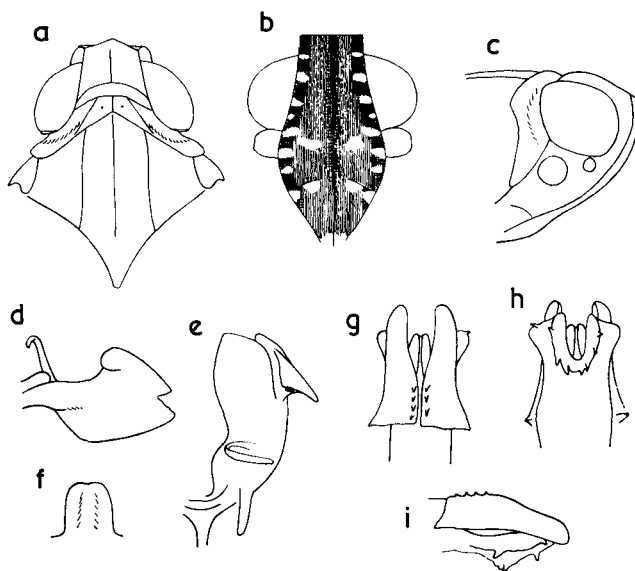


FIG. 12. *Cocottea verecunda* sp. nov. (a) vertex, pronotum and mesonotum; (b) frons and clypeus; (c) head in profile; (d) genital style, lateral view; (e) genital style, dorsal view; (f) medioventral process of pygofer, ventral view; (g) phallobase, dorsal view; (h) phallobase, ventral view; (i) phallobase, lateral view.

Dark fuscous mottled ochraceous. Vertex dark fuscous except ochraceous along median and lateral carinae. Frons largely fuscous, ochraceous patches sharply defined along lateral borders and diffuse and variable elsewhere. Clypeus with ochraceous patches at frontoclypeal suture. Pronotum and mesonotum ochraceous along carinae, otherwise mottled. Tegmina variegated fuscous-ochraceous, abundantly patched ivory-white to line of flexure.

Phallobase with ventral lobe in ventral view widening sharply and considerably at apex.

Holotype ♂, MAURITIUS: Trois Mamelles, 22.ii.75 (J.R.W.).

Paratypes, MAURITIUS: 4 ♂, 2 ♀, same data as holotype; Mt. Cocotte, 1 ♀, 27.v.73 (J.R.W.).

Cernea gen. nov.

Head, with eyes, about 0.9 width of pronotum. Vertex declivous (about 40°); produced before eyes for a distance of 0.3 the length of an eye; width at base of midline less than length in midline; median carina complete, reaching to apex; posterior margin roundedly or sinuously excavate; lateral margins

slightly concave, further apart basally than apically; anterior margin carinate, forming an obtusely angulate apex; disc depressed between median and lateral carinae. Frons as long as wide; widest part more than twice width at base; median carina percurrent, slightly higher than lateral margins; basal margin straight in face view; lateral margins straight and diverging sharply to about level of antennae, then incurving; a single, low, evanescent, transverse carina on each side at base reaching about half-way to median carina to enclose a triangular facet. Clypeus shorter than frons; medially and laterally carinate. Antennae with second segment subglobose. Ocelli touching eyes. Pronotum medially carinate; lateral carinae of disc slightly concave, about twice as long as median carina, not quite reaching hind margin; disc only slightly depressed between median and lateral carinae, without or with a very faint impression on each side. Mesonotum tricarinate; longer than combined lengths of pronotum and vertex. Post-tibiae with a single lateral spine basad of middle. Tegmina three times as long as broad; costal margin convex; eight areoles around apical margin distad of stigmal cell; clavus extending beyond midway; Sc+R fork and Cu₁ fork at about the same level and distinctly beyond the level of the union of the claval veins.

Pygofer with medioventral process in ventral view more or less parallel-sided before rounding into a truncate, medially-indentate apex.

Type species, *Cernea insularis* sp. nov.

Cernea insularis sp. nov.

(Fig. 13)

Overall length, ♂, 4.0–4.5 mm, ♀, 4.5–5.0 mm. Vertex dark fuscous except median carina and lateral margins bordered yellowish-ochraceous. Frons brownish-ochraceous. Clypeus pale or whitish basally, brownish-ochraceous distally. Pronotum and mesonotum brownish-ochraceous with carinae of mesonotum banded dark fuscous on each side. Tegmina ochraceous variably suffused fuscous and with a few scattered whitish or yellowish-ochraceous flecks basad of line of flexure.

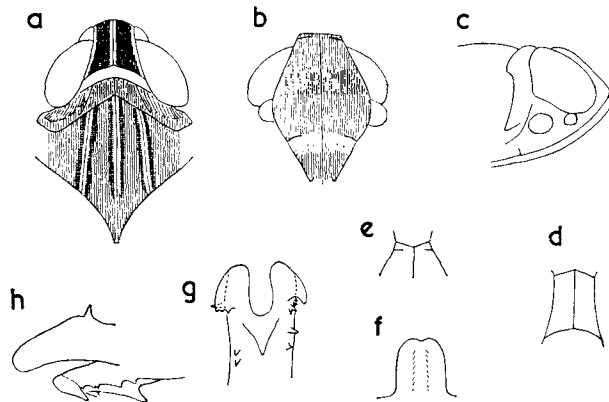


FIG. 13. *Cernea insularis* sp. nov. (a) vertex, pronotum and mesonotum; (b) frons and clypeus; (c) head in profile; (d) vertex viewed at right angles to disc; (e) apex of head from in front; (f) medioventral process of pygofer, ventral view; (g) phallobase, ventral view; (h) phallobase, lateral view.

Phallobase with medioventral lobe deeply incised apically; a large median spur at base of incision and other spurs laterally at each apex, all directed cephalad.

Holotype ♂, MAURITIUS: Mt. Cocotte, 4.v.75 (J.R.W.).

Paratypes, MAURITIUS: 2 ♂, 3 ♀, same data as holotype; 1 ♀, same data but 27.v.73.

The declivous vertex, its shape and its complete median carina, and the frons with its faint laterobasal triangular facets, are the main characters that distinguish this species and warrant the erection of a new genus to accommodate it. There are resemblances to *Magadha* Distant.

References

- FENNAH, R. G. 1950. A generic revision of Achilidae (Homoptera; Fulgoroidea) with descriptions of new species. *Bull. Br. Mus. nat. Hist. (Ent. Ser.)*, **1** (1): 170.
- WILLIAMS, J. R. 1975 a. The Cixiidae (Fulgoroidea: Homoptera) of Mauritius. *J. nat. Hist.*, **9**: 169-204.
- 1975 b. Cixiidae (Fulgoroidea: Homoptera) from Réunion Island. *J. nat. Hist.*, **9**: 669-680.
- 1976. Derbidae (Fulgoroidea) from the Mascarenes. *Bull. Maurit. Inst.*, **8**: 129-144.