

## A New Species of *Chiasmoneura (Prochiasmoneura)* Matile (Diptera: Keroplatidae: Macrocerinae), From Melanesia<sup>1,2</sup>

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**Abstract:** A new species of *Chiasmoneura (Prochiasmoneura)*, *C. (P.) melanesica*, is described and illustrated. It is found in Fiji, Vanuatu, and the Solomon Islands. It marks the second record of Keroplatidae from Fiji.

### INTRODUCTION

Examination of specimens of the genus *Chiasmoneura* Matile from Fiji and nearby islands shows some of them to belong to a new species in the subgenus *Prochiasmoneura* Matile. The species of *Prochiasmoneura* were recently reviewed in Matile (1990) wherein he described two new species from the southern Pacific, *C. collessi* (Australia), and *C. bougainvillei* (Bougainville Island) to add to the 7 species already known from Africa and New Zealand.

Matile (1990) separated the subgenera *Chiasmoneura*, *Prochiasmoneura*, and *Synesostyla* Matile on the basis wing pattern, the size and setation of the cerebral sclerite (occipital phragma), and the gonostyles of the male genitalia. My examination of species throughout Melanesia and into SE Asia and southern Japan shows that these characters are not necessarily of value in separating the three subgenera as these shapes and wing patterns vary and overlap. However, the male genitalia consistently have similarly shaped gonostyles, which typify the species in the genus. It may therefore be that the subgenera are synonymous with a great range of variation in certain characters of the wing patterning, head, and other characters. Until more detailed study is done to clarify this situation, I provisionally place the new species here in the subgenus *Prochiasmoneura* as it runs there using the key in Matile (1990). This brings the total number of known species in the subgenus to ten.

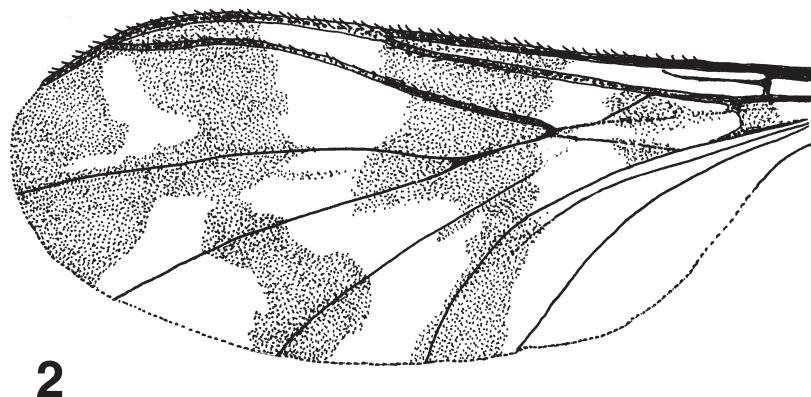
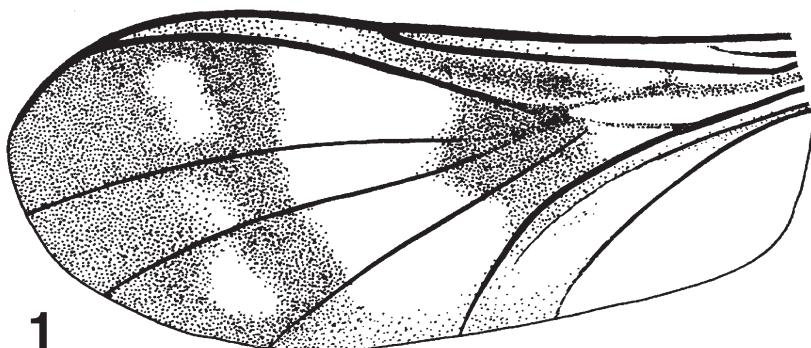
### MATERIAL AND METHODS

Material used in this study derives from the collections in the Bishop Museum, Honolulu (BPBM) and the Fiji National Insect Collection, Suva (FNIC). Specimens deriving from FNIC as part of the NSF-funded Fiji Arthropod Survey will be returned there. Morphological terminology follows Soli *et al.* (2000). Wing terminology follows Merz & Haenni (2000).

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1. Contribution No. 2005-007 to the NSF-Fiji Arthropod Survey.

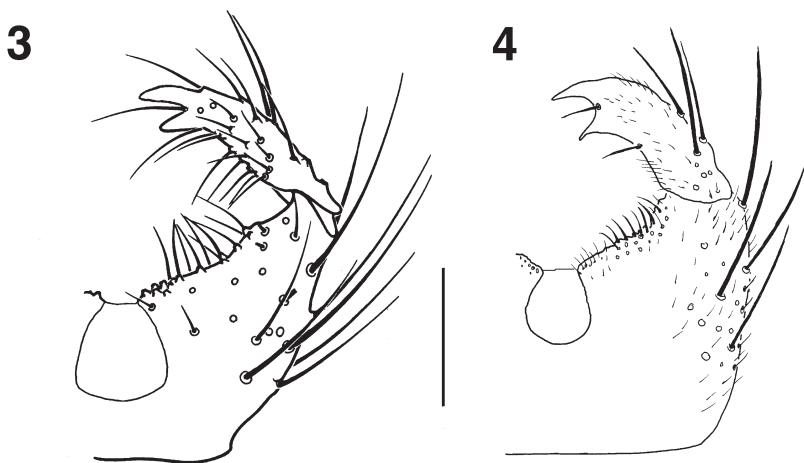
2. Contribution No. 2005-016 to the Pacific Biological Survey.



Figs. 1–2. *Chiasmoneura (Prochiasmoneura)* wings. 1. *C. (P.) bougainvillei* Matile (redrawn from Matile 1990). 2. *C. (P.) melanesica* Evenhuis, new species.

***Chiasmoneura (Prochiasmoneura) melanesica* Evenhuis, new species**  
(Figs. 2, 4)

**Diagnosis:** Fits closest to *C. bougainvillei* Matile but can be separated by the distinct clear area in wing cell m<sub>2</sub>, which often extends to the wing margin and is contiguous with the clear area in cell cu<sub>1</sub> (this clear area in cell m<sub>2</sub> smoky and does not reach the wing margin and is not contiguous with the clear area in cell cu<sub>1</sub> in *C. bougainvillei*) and the infuscation along the distal portion of vein CuA<sub>2</sub> to the wing margin (this infuscation absent in *C. bougainvillei*) (cf. Figs. 1 and 2). The abdomen in *C. melanesica* is predominantly brown, yellow, if present, is found at the bases of tergites IV, V, or VI in females and sometimes all of tergite V in males (yellow markings distinct as paired spots on the dorsal portions of tergites II–VI in *C. bougainvillei*). The male genitalia differ in that *C. melanesica* has gonostyli with strong setation only on the basal half (in *C. bougainvillei*,



**Figs. 3–4.** *Chiasmoneura (Prochiasmoneura)* male genitalia. 3. *C. (P.) bougainvillei* (redrawn from Matile, 1990 based on specimens in BPBM). 4. *C. (P.) melanesica* Evenhuis, new species.

this setation extends to the apex) and *C. melanesica* has only fine setation on the basal inner surface of the gonostyli (this area has strong setae in *C. bougainvillei*) (cf. Figs. 3 and 4).

**Description:** Lengths: Body: 1.69–1.98 mm; wing: 1.96–2.50 mm. **Head:** Brown to dark chocolate brown, blackish brown around ocellar triangle; cerebral sclerite subequal in width and length, not well developed dorsally. Lateral ocellus separated from eye margin by 2.5 times width of median ocellus. Antenna yellowish brown, slightly longer than abdomen; pedicel bare, a few hairs may be present apically in some specimens; flagellomeres cylindrical, length ca. 4 times width on segments 1–6, 3 times width on segments 7–11, 2 times width on segments 12–14. Frons brown. Face, clypeus, and mouthparts yellow to brown.

**Thorax.** Brownish yellow. Mesoscutum subshining brown to dark brown, with lines of short dorsocentrals. Mesoscutal setae arranged irregularly along anterolateral margin, densest anteriorly and posteriorly. Mesopleuron bare; proepimeron and anepimeron with setae; metepisternum bare. Base of halter with small hairs. Halter with stem yellowish, knob brown with sparse short hairs.

**Wing** (Fig. 2). Patterned with brownish infuscation; microtrichia irregularly scattered throughout wing. Veins chiefly dark brown, with strong setation on C, R<sub>1</sub>, and R<sub>4+5</sub>. C extending beyond tip R<sub>4+5</sub> to just before midpoint of distance from R<sub>4+5</sub> to M<sub>1</sub>. Sc short, incomplete, ending close to but without distinct connection to C. Radio-medial fusion non-existent, tips of veins bm-cu, and Rs and bases of veins R<sub>4+5</sub> and M<sub>1+2</sub> meet at a point. CuA<sub>1</sub> effaced basally, not meeting bm-cu. Vein A<sub>1</sub> complete to wing margin. Infuscation in three general areas; 1) basally, consisting of clouds in basal cell; 2) a transverse band in middle from distal end of R<sub>1</sub> to wing margin in cell cup; and 3) apically from distal third of R<sub>4+5</sub> down to wing margin at tip of CuA<sub>1</sub>; with clear areas in latter: one irregularly shaped in cell r4+5; one in cell m1 often contiguous with one in cell m2, both often reaching wing margin. Anal cell clear, or with small brown spot at extreme base. Wing fringe with long hairs.

**Legs.** Fore coxa yellow with rows of setae anteriorly; mid and hind coxa brown, mid coxae with setae anterodistally, hind coxa with single setae posteriorly. Fore femora, tibiae, and tarsi pale brownish yellow; mid and hind femora and tibia with brown coloration on apical one-fourth. All legs with two short yellowish to brownish tibial spurs.

**Abdomen:** Subshining brownish yellow. Tergites usually slightly darker than sternites. Yellow, if rarely present, at extreme base of tergites IV, V, or VI.

**Male genitalia** (Fig. 4). Gonocoxite with posteromedial margin setate near gonostylus, with fine hairs in a group near innermost point. Gonostylus bidentate with relatively short seta in between teeth and basal to lower tooth; 4–5 strong setae on basal half; inner margin with short, fine setae basally.

**Variation:** Of the specimens examined, males tend to appear darker brown than females in body coloration and tend to have darker brown to black apical abdominal segments.

**Remarks.** This marks only the second record of Keroplatidae from Fiji. Matile (1990) described *Heteropterina flavovittata* from Suva on Viti Levu. There are many more undescribed species of Keroplatidae in the material collected during these surveys.

**Types:** Holotype (BPBM 16,589) ♀ from **VANUATU**: Santo Island: Matantas, 0–100 m, 11.x.1979, G.M. Nishida, G.A. Samuelson. **Paratypes:** **FIJI**: **Viti Levu**: 1 ♀, Navai, 700–800 m, 10.ii.1971, N.L.H. Krauss (BPBM); 1 ♀, Nadarivatu, 3.ix.1938, E.C. Zimmerman, at light; 1 ♂, same data except 31.viii.1938 (BPBM); 2 ♂, Mt. Korobaba, 4 km NW Lami Town, 400 m, 18°6'8"S, 178°22'57"E, 15–20.xi.2004, K. Koto, Malaise; 3 ♂, 1 ♀, same data except 20.xi–1.xii.2004; 1 ♂, 1 ?, same data except 1–13.xii.2004; 1 ♀, same data except 260 m, 24.xii.2004, 18°6'15"S, 178°22'50"E (all in FNIC); 2 ♂, Vuda Province: Koryanitu Eco Park, 0.5 km N. Abaca Village, 800 m, 17.667"S, 177.55"E, 26.x–5.xi.2002, E.I. Schlinger, M. Tokota'a, Malaise [FBA 079556–079557] (BPBM); 3 ♂, 1 ♀, same data except 28.xi–3.xii.2002 [FBA 075939–075942] (BPBM). **Kadavu**: 3 ♂, 1 ♀, Moanakaka Bird Sanctuary, 0.25 km SW Solodamu Village, 60 m, 19°04'39"S, 178°07'15.6"E, 6.xi.2004–8.i.2005, S. Lau, Malaise trap [FJKV41a-M03-17] (FNIC, BPBM). **VANUATU**: Efate Island: 1 ♀, Vila, 0–100 m, xii.1978, N.L.H. Krauss; Espiritu Santo: 1 ♀, 15 km NE Luganville, 12.iv.1964, R. Straatman (all in BPBM). **SOLOMON ISLANDS**: Santa Isabel: 1 ♂, Buala, 25–40 m, 13–16.x.1981, J.L. Gressitt, Malaise (BPBM). Holotype in BPBM; paratypes in BPBM and FNIC.

**Etymology:** the specific epithet derives from the Melanesian region in which this species is found.

#### ACKNOWLEDGMENTS

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