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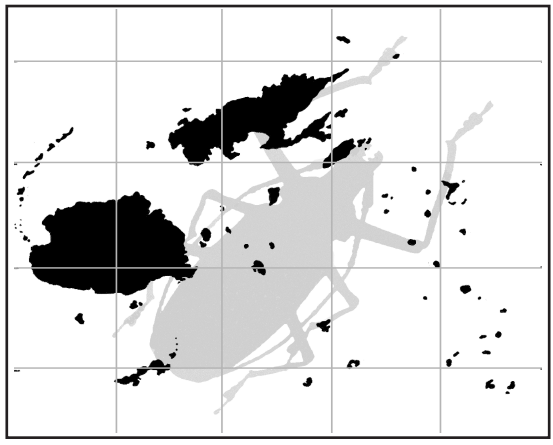

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First record of the genus *Xenoplatyura* Malloch from Fiji (Diptera: Keroplatidae)[1]

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Abstract. A new species, *Xenoplatyura bipartita*, **n**. **sp**., is described and illustrated and is the first record of the keroplatid genus in Fiji.

The genus *Xenoplatyura* is predominantly found throughout the Old World tropics, except for seven of these that are found in the Neotropical Region (Evenhuis 2006b), comprising 50 species. In the Australian/Oceanian Region it occurs in Australia (6 spp.) and Micronesia (1 sp.) and 6 species are known from the Oriental Region with species in both Palaearctic and Oriental China (Evenhuis & Pape 2024; see Cao *et al*. 2007 for the Chinese species).

Surveys in Fiji for terrestrial arthropods using Malaise traps for 5 years resulted in discoveries of a number of new Diptera taxa, including Keroplatidae (Evenhuis 2005, 2006a). The results presented here mark the first record of the genus *Xenoplatyura* Malloch in Fiji.

MATERIAL AND METHODS

Material derives from the Fiji Arthropod Survey, now housed in Bishop Museum (BPBM). The holotype is deposited in BPBM with paratypes in BPBM and some to be deposited in the Fiji National Insect Collection (FNIC). Extended depth of field images were accomplished by using a Leica M165C stereo dissecting scope via the Leica Microsystems LAS Multifocus software (v. 5.0.1) and using Zerene Stacker® software (v. 1.04) (Zerene Systems, LLC, Richmond, Washington, USA) to align and stack focus each final image. Morphological terminology follows Cumming & Wood (2017).

TAXONOMY

Genus *Xenoplatyura* Malloch

Xenoplatyura Malloch, 1928: 601. type species *Platyura conformis* Skuse, 1888, by original designation.

Afrorfelia Matile, 1970: 787. Type species: *Orfelia tsacasi* Matile, 1970, by original designation.

1. Contribution No. 2024-001 to the Pacific Biological Survey.

Figure 1. *Xenoplatyura bipartita,* n. sp. male habitus, lateral view.

***Xenoplatyura bipartita* Evenhuis, n. sp.**
(Figs. 1–6)

Type. Holotype ♂ (BPBMENT0000081270) and paratypes 1♂, 5♀, from FIJI: **Taveuni**: Caucadrove Prov., 5.6 km SE Tavuki Village, Devo Peak, 16.843°S, 179.955°W, 1187 m, 21 Nov–13 Dec 2002, E.I. Schlinger, M. Tokota'a. Malaise (FBA 149481); 1♂, same data except 1,064 m, 27 Dec 2002–3 Jan 2003; 1♂, same data except, 31 Jul–14 Aug 2004; 1♂, same data except 20–27 Dec 2002. *Other paratypes*: **Vanua Levu**: 1♂, Batiqere, 3–10 Jan 2004, E.I. Schlinger, M. Tokota'a. Malaise. **Viti**

Figure 2–3. *Xenoplatyura bipartita,* n. sp. **2**, dorsal view; **3**. Fore tibial organ.

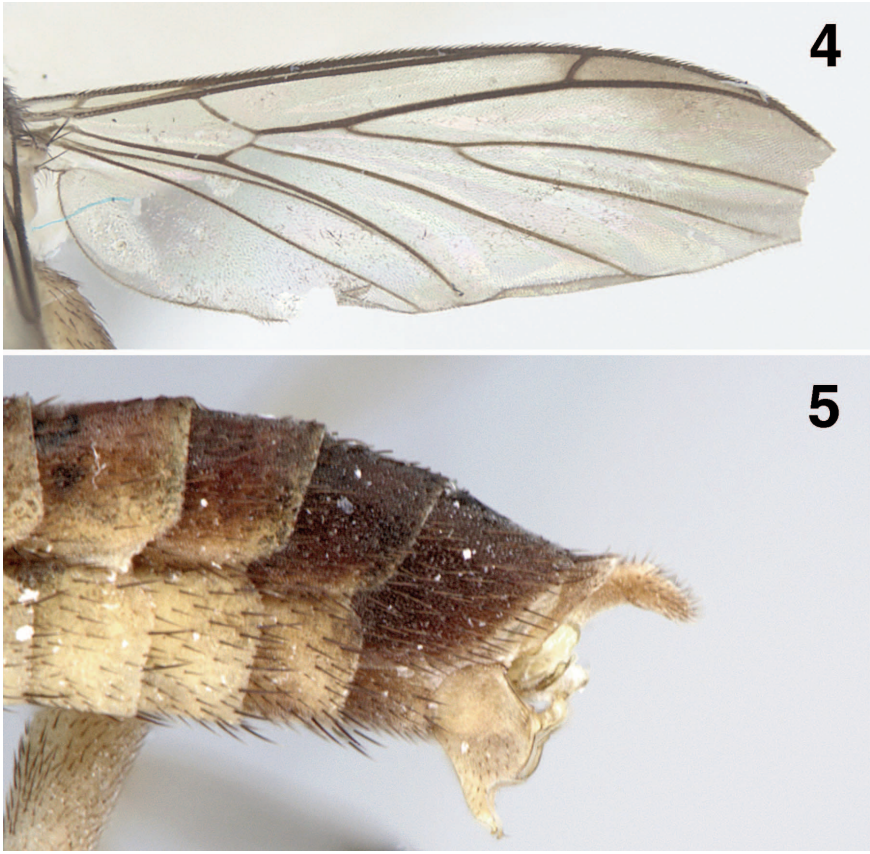
Levu: Naltasiri Prov: 1♀, 4 km WSW Colo-i-Suva Village. Mt. Nakobalevu, 12–24 Aug 2004, Timoci coll. Malaise. Holotype and paratypes in BPBM.

Diagnosis. Most similar to the Peninsular Malaysian *Xenoplatyura beaveri* Matile, 1979 by the shared possession of a fore tibial sensory organ, but can be easily separated from it by the striking yellow (to pale orange) and black pattern on the abdominal tergites (tergites generally reddish and becoming darker posteriorly), the yellowish pleura (reddish in *X. beaveri*), the lack of mesoscutal banding (present in *X. beaveri*), the predominantly yellow scutellum with brown stripe medially (all reddish in *X. beaveri*), and brown only along the dorsal rim of the halter knob (halter knob all reddish brown in *X. beaveri*).

Description. MALE (Fig. 1). Lengths: Body: 3.8 mm; wing: 3.4 mm.

Head. Occiput reddish brown with fairly dense minute black recumbent hairs. Vertex and ocellar tubercle black. Three ocelli, medial ocellus half the size of the lateral ones. Frons yellowish brown, white pollinose above antennal sockets. Antennae: scape and pedicel cup-shaped, yellow. Flagellum: dark brown. Face yellow with pale yellow-white upper half. Palpi yellowish white.

Thorax (Figs. 1, 2). Mesonotum shining brown on disc, yellowish white on humeral area, yellowish white anterodorsally and thin yellow notopleural line. Minute scattered hairs dorsally. Scutellum yellow with brown medial stripe, with long setae on posterior margin. Prothorax dark brown with some long setae. Pleura yellowish white, bare, except



Figures 4–5. *Xenoplatyura bipartita,* n. sp. **4**. Wing; **5**. Posterior segments of abdomen, lateral view.

3 setae on proepimeron. Halter stem yellow, yellowish brown on outer rim of knob.

Legs. Yellow. Fore coxa, apex of mid and hind coxae with black hairs, longest apically. Femora with black hairs. Tibiae with setulae in rows. Fore tibial organ (Fig. 3) well demarcated, reddish. All tibiae with minute setae. Mid tibia with posterior comb and hind tibia with anterior and posterior combs. Tibial spurs dark brown: 1: 2: 2, mid and hind inner spur minute. Basitarsi slightly longer than their respective tibiae. Claws minute.

Wing (Fig. 4). Subhyaline with a brown infuscation apicodorally, darkest in radial cells, fading in medial cells. Veins dark brown. Costa extends beyond vein R_{4+5}; Sc complete, ending slightly beyond base of Rs; R_{2+3} ending in costa slightly beyond R_1. Petiole of M one-fourth length of M_1 and M_2. Veins M_2 and CuP not reaching wing margin, veins M_4 and CuA reach wing margin.

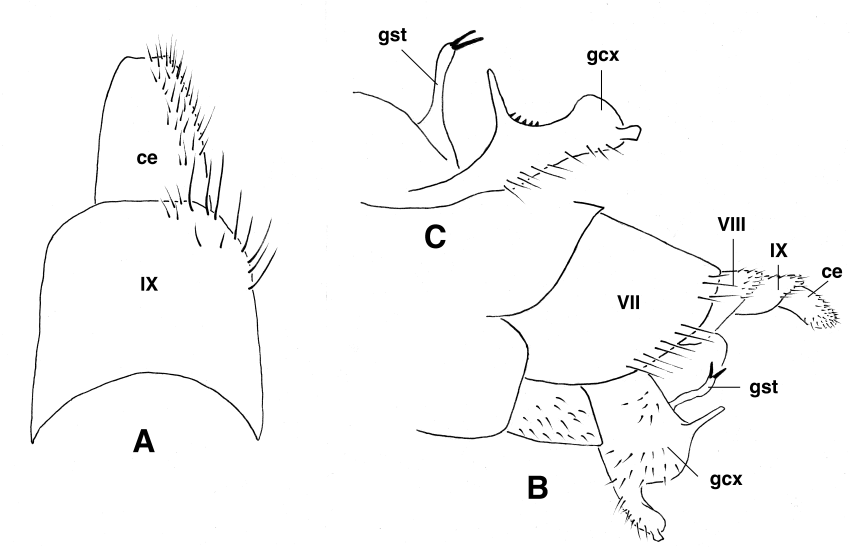


Figure 6. *Xenoplatyura bipartita,* n. sp. male genitalia, **A**. dorsal view; **B**. lateral view; **C**. caudal view of gonocoxite and gonostylus. Abbreviations: ce = cercus; gcx = gonocoxite; gst = gonostylus; VII = tergite VII; VIII = tergite VIII; IX = tergite IX.

Abdomen (Fig. 5). Tergites I–V pale reddish orange, tergites VI–VIII dark brown, with dense recumbent black hairs. Sternum all yellow.

Hypopygium (Fig. 6). Tergite IX (Fig. 6A) dark brown, elongated, subrectangular, with rounded posterior corners, cercus well exerted, subconical, truncate apically. Genitalia as in Figs. 6B–C.

FEMALE. As in male but paler; wing infuscation not as evident as in male.

Remarks. Thousands of specimens of keroplatids in BPBM from areas between Fiji and Peninsular Malaysia were examined (e.g., Vanuatu, Solomon Islands, New Guinea, Indonesia) and no other specimens of *Xenoplatyura* have been found. Thus, its presence in Fiji is a probable example of a relict population distribution in the genus.

ACKNOWLEDGMENTS

Field work in Fiji was supported in part by NSF DEB-0425790 "Terrestrial Arthropods of Fiji" and by the Schlinger Foundation and they are thanked for their support. Thanks to Vladimir Blagoderov for discussions regarding fore tibial organs in keroplatids and mycetophilids.

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A new genus and species from Fiji masquerading as *Setostylus* Matile (Diptera: Keroplatidae: Keroplatinae)[1]

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Abstract. A new keroplatine keroplatid from Fiji, *Plakoterus niger* **gen. et sp. nov.,** is described and illustrated. In size and in general appearance, it is most similar to *Setostylus* Matile, but it lacks a well-developed vein CuP and the male genitalia have completely different features.

Surveys for arthropods in Fiji have resulted in the finding of a number of new keroplatids (e.g., Evenhuis, 2005, 2006). Initial sorting of one such morphospecies placed it in the keroplatine genus *Setostylus* Matile. But upon closer examination, it turned out to not fit any described genus of Keroplatinae. Using the keys in Matile (1990) and the key to world Keroplatinae (Ševčík *et al*., 2015) it runs to *Xenokeroplatus* Matile by lacking vein CuP, but differs from it primarily by not having tarsi longer than the body, but also differing in the shape of the gonocoxa and other male genitalic features as well as its relatively small size (2 mm vs >5 mm in *Xenokeroplatus*). Herein is described and illustrated *Plakoterus niger* **gen. et sp. nov**.

Genus *Plakoterus* Evenhuis, gen. nov.

Type species: *Plakoterus niger* gen. et sp. nov.

Etymology. The generic name is an anagram of *Keroplatus*.

Plakoterus niger Evenhuis, **gen. nov. et sp. nov.**

(Figs. 1–6)

The diagnosis and description below serve for both the new genus and the new species.

Diagnosis. Generally all black except fore tibiae and tarsi yellow. Head with three ocelli; antennal flagellomeres (14) laterally compressed; with three palpal segments. Thorax with anepimeron with hairs; laterotergite bare. Legs with single tarsal spurs; foreleg with minute spur; mid and hindlegs with long, robust spurs; tibiae with regular rows of setae. Wing with R_4 present; vein CuP extremely reduced or not evident, not quite reaching origin of M_4; Sc complete, costa ends beyond R_5.

1. Contribution No. 2024-002 to the Pacific Biological Survey.

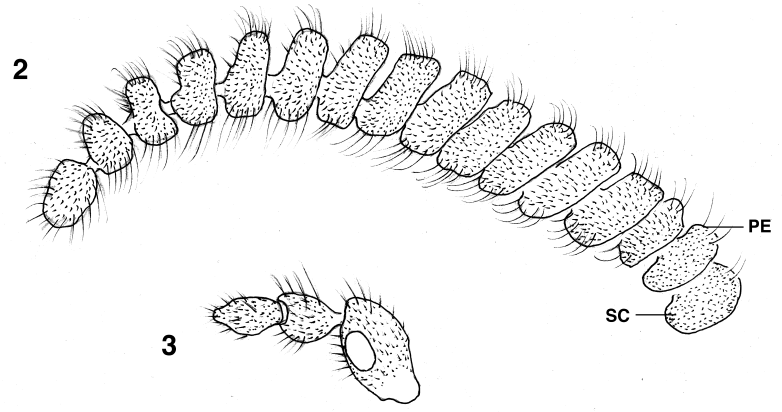
Figure 1. *Plakoterus niger* Evenhuis, gen. nov. et sp. nov., male habitus.

Description: Lengths: Body: 2.0–2.3 mm; wing; 1.7–1.8 mm. **Male** (Fig. 1). *Head*. Black. Three ocelli near middle of frons, outer pair large, medial half size of outer ocelli. Antennae (Fig. 2): scape and pedicel subspherical, scape brownish black, pedicel black. Flagellum: 14-segmented, all black, flattened laterally, each flagellomere subrectangular in lateral view, articulated asymmetrically. Palp (Fig. 3) 3-segmented.

Thorax. Generally black overall; anepisternum dark brownish black, with group of small dorsal setae. Mesonotal hairs brownish. Laterotergite bare. Halteres yellow.

Legs. Black except fore tibia and tarsi yellow. Coxal hairs whitish. Spurs (1: 1: 1) black, those on fore leg minute, those on mid and hind legs very long. Tibiae with regular rows of setae.

Wing (Fig. 4). Grayish hyaline, somewhat darkened apically and along CuA. Costal vein ending three-fourths way from end of R_5 to M_1. Sc ending in C at origin of Rs. Vein R_4 ending in costa beyond end of R_1. Fusion of R+M one-third length of fusion of M_1+M_2. Medial veins pale colored to evanescent. CuA recurved at wing margin. CuP reduced, extending only to about level of origin of M_4.



Figures 2–3. *Plakoterus niger* Evenhuis, gen. nov. et sp. nov. **2**, antenna; **3**, palp, Abbreviations: pe = pedicel; sc = scape.

Abdomen. Black with sparse matted white hairs, brown to black hairs laterally.

Hypopygium (Fig. 5). Dark brown. Ninth tergite subrectangular with rounded corners, slightly concave apically. Cerci subovate. Gonostylus long, length subequal to gonocoxa length, thin, with blunt darkly sclerotized conical process apically, mesal surface with long, thin hairs. Outer surface with single strong long setae medially, smaller stiff hairs apically. Gonocoxa with row of strong hairs along posteromesal surface, basally with sparse strong long setae. Paramere somewhat W-shaped.

Female. Unknown.

Types: *Holotype* ♂ (BPBMENT 0000081263) and 2 ♂ *paratypes* from **FIJI**: Viti Levu: Coloi-Suva, 3–6 Mar 1963, C.M. Yoshimoto. *Other paratypes*: **FIJI**: Viti Levu: 4♂, (FJVL4a-M02-19), Malaise; 2♂, (FJVL59d-M03-06), Malaise; 2♂, (FJVL02-M01-51), Malaise. Vanua Levu: 3♂, transinsular road, above summit, 500–550 m, 6–9 Oct 1979, S.N. Lal, G.A. & S.L. Samuelson (BPBM); 2♂, (FJVN57-M03-14), Malaise. **SOLOMON IS**: Florida Islands: Nggela I: 1♂, Haleta, 250 m, 17 Oct 1964, R. Straatman (BPBM). Holotype and paratypes in BPBM.

Etymology. The specific epithet derives from the Latin *niger* = black; referring to the virtually all black color of this species.

Remarks. *Plakoterus* is most similar to *Setostylus* in general appearance and size, but differs from it by the lack of vein CuP (present in *Setostylus*), the minute tibial spur on the foreleg (well developed in *Setostylus*), CuA recurved at wing margin (this vein straight to wing margin in *Setostylus*), the thickened process apically on gonostylus of the male genitalia (only a strong seta apically on the gonostylus in *Setostylus*), and the lack of strong pegs on the male genitalia (these pegs present on the posterior edge of tergite 9 and the inner margin of the gonostylus in *Setostylus*). *Plakoterus* and *Xenokeroplatus* are the only keroplatine genera lacking a well-developed vein CuP; however, that seems to be the only significant character shared between the two. Both occur in the south Pacific with the

Figure 4. *Plakoterus niger* Evenhuis, gen. nov. et sp. nov. wing..

Solomon Islands harboring both genera (*Xenokeroplatus* is also found in Thailand; cf. Papp, *et al*. 2006), but the male genitalia of each genus are extremely different and there is a significant size difference (*Xenokeroplatus* (ca. 5 mm in length) is more than twice the size of the tinier (ca. 2 mm) *Plakoterus*). The male genitalia of *Xenokeroplatus* are much higher than wide with long, tapering gonocoxae while in *Plakoterus* the gonocoxae are more rectangular with gonocoxae only slightly higher than wide. Liker in *Setostylus*, numerous short pegs are found mesally on the gonocoxae in *Xenokeroplatus*, but *Plakoterus* lacks any pegs and these areas instead have long and short thin hairs.

It is interesting to note that only males of this species have been collected. It could be that only males are alate; or that males are more dispersive than females, with the latter keeping close to the ground and not subject to being trapped in Malaise or aerial sweep nets.

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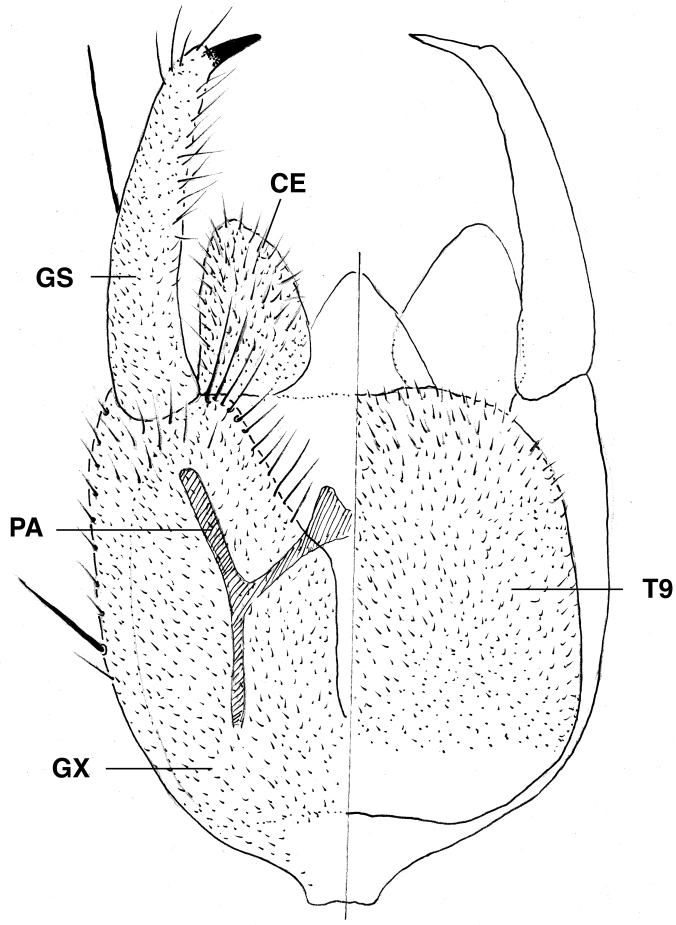

Figure 5. *Plakoterus niger* Evenhuis, gen. nov. et sp. nov., male genitalia, left half ventral view; right half dorsal view. Abbreviations: ce = cercus; gs = gonostylus; gx = gonocoxa; pa = paramere; t9 = tergite 9.

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