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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 *Xenokeroptatus* 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 *Xenokeroptatus*). 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 *Keroptatus*.

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 R₄ present; vein CuP extremely reduced or not evident, not quite reaching origin of M₄; Sc complete, costa ends beyond R₅.

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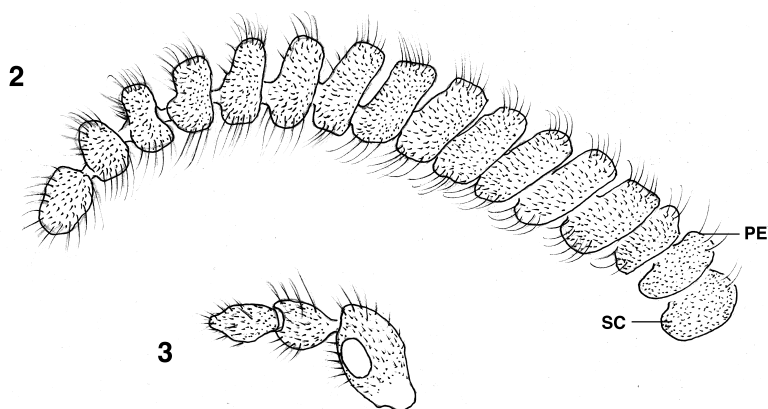
Figure 1. *Plakoterus niger* Evenhuis, gen. nov. et sp. nov., male habitus.

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: Colo-i-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♂, trans-insular 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. Like 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.

ACKNOWLEDGMENTS

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REFERENCES

- Evenhuis, N.L.** 2005. A new species of *Chiasmoneura* (*Prochiasmoneura*) Matile from Fiji (Diptera: Keroplatidae). *Bishop Museum Occasional Papers* **84**: 13–16.
- Evenhuis, N.L.** 2006. Two new species of *Proceroplatus* Matile (Diptera: Keroplatidae) from Fiji. In: Fiji Arthropods IV. *Bishop Museum Occasional Papers* **87**: 3–9.
- Matile, L.** 1990. Recherches sur la systématique et l'évolution des Keroplatidae (Diptera, Mycetophiloidea). *Mémoires du Muséum National d'Histoire Naturelle Paris, Série A, Zoologie* **148**: 1–682.

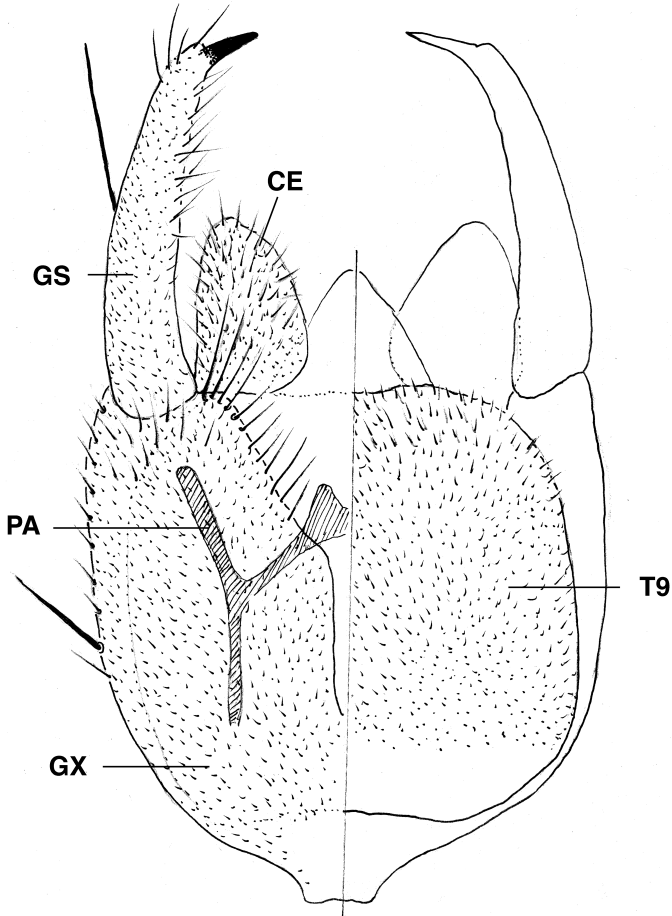


Figure 5. *Plakoterus niger* Evenhuis, gen. nov. et sp. nov., male genitalia, left half ventral view; right half dorsal view. Abbreviations: ce = cercus; gs = gonostylus; gx = gonocoxa; pa = paramere; t9 = tergite 9.

Papp, L., Merz, B. & Földvári, M. 2006. Diptera of Thailand. A summary of the families and genera with references to the species representations. *Acta Zoologica Academiae Scientiarum Hungaricae* **52**: 97–269.

Ševčík, J., Mantič, M. & Blagoderov, V. 2015. Two new genera of Keroplatidae (Diptera), with an updated key to the world genera of Keroplatini. *Acta Entomologica Musei Nationalis Pragae* **55**(1): 387–399.