

DESCRIPTION OF A NEW SPECIES OF THE GENUS *TROCTOPSOCULUS*
MOCKFORD, 1967 (INSECTA: PSOCODEA)

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Summary. A new species, *Troctopsoculus milenae* sp. n., is described from French Guiana, representing only the third known species of the genus *Troctopsoculus* Mockford, 1967. The holotype female was collected from dry *Phenakospermum guyannense* leaves at a rainforest edge near Petit Saut Lake. The new species is most similar to *T. morenus* Mockford, 1967 but differs in its paler body coloration, details of forewing venation, and wing pattern.

Key words: taxonomy, new species, description, biodiversity, French Guiana, Amazonia.

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Резюме. Из Французской Гвианы описан новый вид *Troctopsoculus milenae* sp. n., представляющий собой третий известный вид рода *Troctopsoculus* Mockford, 1967. Голотип (самка) был собран с сухих листьев *Phenakospermum guyannense* на опушке тропического леса недалеко от озера Пти-Саут. Новый вид наиболее близок к *T. morenus* Mockford, 1967, но отличается от него более светлым телом, деталями жилкования передних крыльев и окраской крыльев.

INTRODUCTION

The family Troctopsocidae Mockford, 1967 is a small group within the Psocodea characterized by distinctive beetle-like (elytriform) forewings, a feature that initially led to their placement within the "electrentomoid" psocids (Mockford, 1967). The family is primarily Neotropical, though representatives have since been recorded from southern Europe and the Oriental Region (Lienhard, 1988).

Among the Troctopsocidae, the genus *Troctopsoculus* Mockford, 1967 is exceptionally poorly represented in collections. The genus was established by Mockford (1967) based on a single female of *T. morenus* Mockford, 1967 from Macuspana, Tabasco, Mexico. Six years later, New (1973) described a second species, *T. brasiliensis* New, 1973, from a single female

collected in Brazil. Notably, this specimen lacked a head, yet was considered sufficiently distinct to warrant description. Virtually nothing is known of the biology or ecology of *Troctopsoculus*. Whether the scarcity of records reflects genuine rarity, cryptic habits, or insufficient sampling in appropriate habitats remains unclear.

In this paper, we describe a new species of *Troctopsoculus* from French Guiana. This discovery extends the known distribution into the Amazonian region and provides additional morphological data for this poorly known group. Over half a century after the description of *T. brasiliensis*, the discovery of a new species underscores how much remains to be learned about the diversity of Neotropical Troctopsocida.

MATERIAL AND METHODS

A psocoptera specimen was collected in French Guiana during a field trip on 22 July 2025 by the first author by beating the vegetation. The collected material was stored in 95% ethanol, and later has been deposited at the National Museum of Natural History, Sofia, Bulgaria (NMNH).

The specimen was examined in propylene glycol using a light microscope Optika. Photographs were taken by a camera Canon PowerShot SX500IS. Morphological terminology follows Smithers (1972); wing venation nomenclature follows Mockford (1967).

Measurements abbreviations: LC – body length; F+tr – hind femur and trochanter length; T – hind tibia length; t1, t2, t3 – tarsomeres of hindtarsus (lengths measured from condyle to condyle); P4 – terminal palp segment, FW – forewing; HW – hindwing; D – anteroposterior diameter of the compound eye; IO – shortest distance between compound eyes.

TAXONOMY

Family Troctopsocidae Mockford, 1967

Type genus: *Troctopsocus* Mockford, 1967.

DIAGNOSIS. Fore wings elytriform, with thickened, reticulate venation. Tarsal claws either with 2 preapical teeth or 2 claws on each leg different from one another, the anterior claw bearing a "cowl", the posterior claw with a single, long bent seta near base (Mockford, 1967; Smithers, 1990).

Genus *Troctopsoculus* Mockford, 1967

Type species: *Troctopsoculus morenus* Mockford, 1967.

DIAGNOSIS. Antennae 11-segmented. Fore wing with pterostigma open basally. Hind wing without basal section of Rs. Anterior arms of median epicranial sutures indistinct. Claw with two preapical teeth. Subgenital plate without stout marginal setae. T-shaped sclerite present. Areola postica not joined to M (Mockford, 1967; Smithers, 1972, 1990).

Troctopsoculus milenae Mishev et Georgiev, sp. n.

<https://zoobank.org/NomenclaturalActs/F0B5C24A-BAC1-4D53-AF46-3C0512C49BC7>

Fig. 1

TYPE MATERIAL. Holotype: ♀, **French Guiana**: near the road to and in proximity to Petit Saut Dam, 5°04'21.6"N 53°01'37.9"W, h=72 m, bushes at the edge of rainforest near road, dry leaves of *Phenakospermum guyannense*, beating the vegetation, 22.VII 2025, Todor Mishev leg.

DESCRIPTION. Coloration (Fig. 1). The specimen is generally creamy whitish. The abdomen is light brown. The dorsal part of the head is white with small scattered patches of dark pigment, antennae and pedicel are brown, the scape is white. Gena is covered with darker brown elongate irregular stripe. Compound eyes are light blue-grey (turning black during preservation) with a rusty-brown stripe about its middle area, surrounded with dark pigment. Ocelli pale partly surrounded by rusty-brown pigment. The palps are brown. Thorax is white dorsally and darker ventrally. Legs are creamy brown with an exception of the terminal parts of the tibia and t1 which are white. Forewings are with a specific pattern of three distinct colours (darker grey-brown, bluish-white and creamy-yellow) as shown on Fig. 1. Hind wings are smoky with darker apical area.

Morphology. Subgenital plate rounded posteriorly, with long marginal setae. T-sclerite well visible, with long stem thickening distally and with relatively straight arms. Epiproct and paraprocts damaged and unknown.

Male. Unknown.

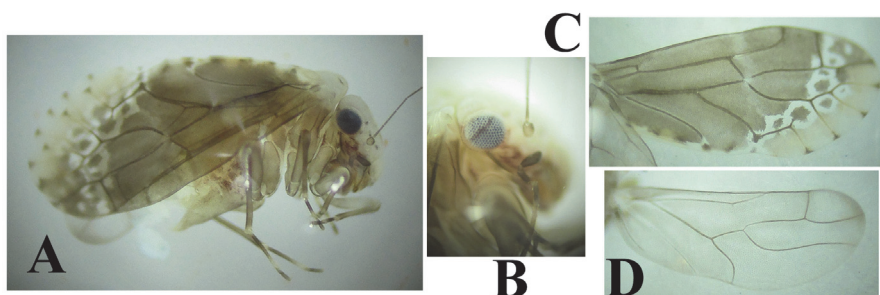


Fig. 1. Holotype (female) of *Troctopsoculus milenae* sp. n.: A – general view; B – head; C – forewing; D – hind wing.

MEASUREMENTS (in mm). Holotype (female): LC = 1.24, F+tr = 0.37, T = 0.50, t1 = 0.25, t2 = 0.04, t3 = 0.05, P4 = 0.09, FW = 1.32, HW = 1.04, D = 0.17, IO = 0.35, IO/D = 2.06.

DIAGNOSIS. From both known species of the genus, *T. morenus* and *T. brasiliensis*, which are generally brown (Mockford, 1967; New, 1973), *T. milenae* sp. n. differs by its paler body coloration. However, the new species is most similar to *T. morenus*, by its wing venation and wing pattern. Both species differ by the length of M2, which in the new species is just slightly longer than M1, and much longer in *T. morenus*. Areola postica is widely rounded in *T. morenus* and triangular with a rudimental crossvein in *T. milenae* sp. n. The wing periphery from AP to R5 is light creamy-yellow, while in *T. morenus* it is darker. All the terminal points of the veins in the new species have dark dots, while in *T. morenus* such are lacking. The hind wing venation in both species is identical but in the new species it is darkening at its tip.

HABITAT. The holotype was collected at the edge of lowland tropical rainforest at 72 m elevation, approximately 200–300 m from the artificial lake Petit Saut. The specimen was found in shade, beneath a dense patch of 10–15 *Phenakospermum guyannense* (Strelitziaceae) plants exceeding 3 m in height. It was beaten from dry leaves of this banana-like monocot, hanging between ground level and approximately 1.5 m above the ground (Fig. 2). At the time of collection, conditions were relatively dry and sunny for French Guiana, with humidity

around 70%. Despite extensive searching at the type locality and surrounding area, including a return visit of several hours approximately two months later, only a single specimen was obtained, though other Psocodea species were present. This apparent rarity is consistent with the extremely scarce collecting record of the genus *Troctopsoculus* worldwide.

DISTRIBUTION. Known only from type locality

ETYMOLOGY. Named after Milena Lilova, in appreciation of her assistance during fieldwork in French Guiana.



Fig. 2. Habitat of *Troctopsoculus milenae* sp. n.

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