

Two new species of the genus *Carpelimus* Leach, 1819
from New Guinea, related to *Carpelimus (Trogophloeus) notumus*
Gildenkov, 2019 (Coleoptera: Staphylinidae: Oxytelinae)

Два новых вида рода *Carpelimus* Leach, 1819 с Новой Гвинеи,
близких к *Carpelimus (Trogophloeus) notumus* Gildenkov, 2019
(Coleoptera: Staphylinidae: Oxytelinae)

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КЛЮЧЕВЫЕ СЛОВА: Coleoptera, Staphylinidae, Oxytelinae, *Carpelimus*, новые виды, Австралийская биогеографическая область, Новая Гвинея.

ABSTRACT: Two new species: *Carpelimus (Trogophloeus) kwauensis* and *Carpelimus (Trogophloeus) nabireensis* spp.n. from the species group close to *Carpelimus (Trogophloeus) notumus* Gildenkov, 2019 are described and illustrated from New Guinea. *C. kwauensis* reliably differs from *C. notumus* only by the structure of aedeagus. *C. nabireensis* is not externally similar to species of the “*notumus*” species group, but is close to them in the structure of aedeagus.

РЕЗЮМЕ: С Новой Гвинеи описаны и проиллюстрированы новые виды *Carpelimus (Trogophloeus) kwauensis* и *Carpelimus (Trogophloeus) nabireensis* spp.n., которые относятся к группе видов близких к *Carpelimus (Trogophloeus) notumus* Gildenkov, 2019. *C. kwauensis* надёжно отличается от *C. notumus* только строением эдеагуса. *C. nabireensis*, напротив, внешне не сходен с представителями группы “*notumus*”, но близок с ними по строению эдеагуса.

Introduction

The new species belong to a taxonomically complex species group close to *Carpelimus (Trogophloeus) notumus* Gildenkov, 2019. Currently, we include in the “*notumus*” species group species that live in the Oriental and Australian Biogeographic Regions and have characteristic tooth-like structures in the internal sac of aedeagus [Gildenkov, 2019a, 2020a]: *Carpelimus (Tro-*

gophloeus) notumus Gildenkov, 2019 and *Carpelimus (Trogophloeus) plenus* Gildenkov, 2019 from the Philippines; *Carpelimus (Trogophloeus) vilisus* Gildenkov, 2019 from Thailand; *Carpelimus (Trogophloeus) ibelensis*, Gildenkov, 2020 and *Carpelimus (Trogophloeus) irianensis* Gildenkov, 2020 from New Guinea (Indonesia, West Papua). The paper continues the author’s series of works on the fauna of the genus *Carpelimus* Leach, 1819 of the Oriental Region and New Guinea [Gildenkov, 2015, 2018a–b, 2019a–f, 2020a–c, 2021a–b, 2022].

This paper is based on the specimens deposited in the following collections: cMG — private collection of M. Gildenkov (Smolensk, Russia); MHNG — Museum d’Histoire Naturelle Geneva (Switzerland); NHMW — Naturhistorisches Museum Wien (Austria); SMNS — Staatliches Museum für Naturkunde in Stuttgart (Germany).

In the present study, standard methods were used for the taxonomic research of insects; the preparations were made on an MBS-10 binocular microscope. The genital preparations were processed using 10% KOH and then fixed in euparal. In the descriptions and diagnoses giving the length to width ratio for the head, pronotum, and elytra, the following standard units were used: 7 standard units = 0.1 mm; thus, 1 standard unit constitutes about 0.0143 mm. Photographs were taken with a Canon EOS 5D Mark III camera and a Canon MP-E 65 mm objective using the extended focus technology.

Carpelimus (*Trogophloeus*)
kwauensis Gilddenkov, **sp.n.**

Figs 1, 3–4.

MATERIAL. Holotype, ♂, Indonesia, West Papua “IRIAN JAYA: Mokwam Kwau 1300-1650m 17.IV.1993 leg. A. RIEDEL” (SMNS). Paratypes: 1♂, Indonesia, West Papua “IRIAN JAYA: Mokwam Kwau 1300-1650m 17.IV.1993 leg. A. RIEDEL” (cMG); 1♀, Papua New Guinea “18 VI 79 | PNG EN Prov. Umg. Iqipinti Korindaop. R.” “Papua Nlle Guinee W.G. Ullrich” (MNHG).

DESCRIPTION (holotype). Length 1.9 mm. Colouration brown. Legs and antennal bases yellow-brown, antennal apices darker, light brown. Integument slightly shining, body with short, light-coloured setation.

Head transverse, with a wide base, ratio of its length (from posterior margin of head to anterior margin of clypeus) to maximum width about 18:25. Neck constriction prominent. Eyes large, convex. Temples well-developed, round, eye diameter in dorsal view barely exceeds temple length. Head width across eyes approximately equal to its width across temples (Fig. 1). Head surface with delicate, fine and dense punctation. Diameter of punctures about 3.0 times as small as eye facet. Distances between punctures approximately equal to their diameter, interspaces smooth, slightly shining. Antennae rather long, antennal segments 1–3 elongate; segments 4–10 slightly elongate; segment 11 elongate, conical. Last 3 segments more massive than others and form loose club (Fig. 1).

Pronotum maximum broad after about 2/3 its length from base, then narrowed. Lateral margin smoothly rounded (Fig. 1). Ratio of pronotum length to its maximum width about 20:26. Surface of pronotum with delicate, fine and dense punctation, like head surface; Pronotal disc with 2 pairs of prominent, symmetrical depressions and 1 unpaired oval depression along midline near apex. Base of pronotal disc with narrow, crescent-shaped depressions, weakly separated by medial ridge. Central part of disc with rather deep, oval depressions fused across midline to single butterfly-shaped depression.

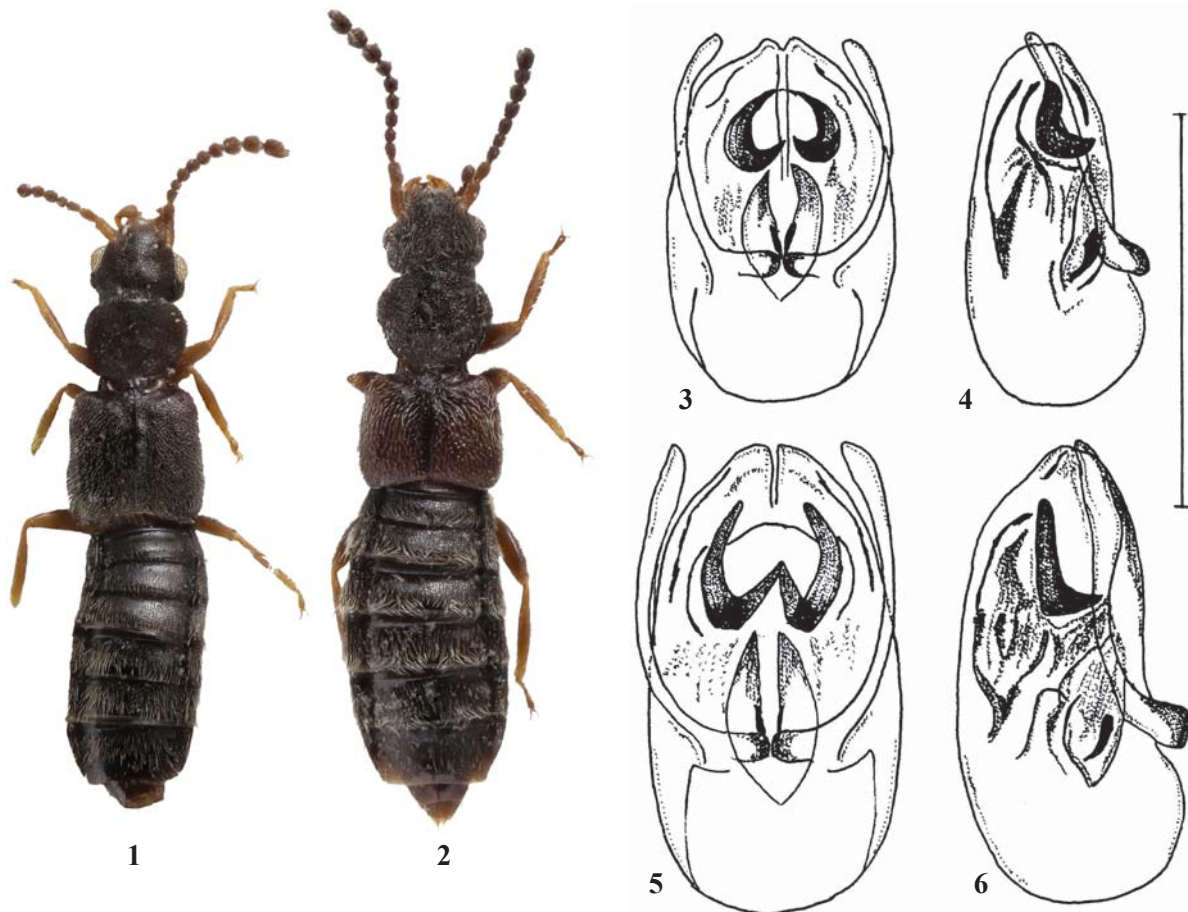
Length of elytra related to their combined width approximately as 31:36. Scutellum with shallow, round depressions (Fig. 1). Elytra with delicate, fine and dense punctation. Diameter of punctures about 2.5 times as small as eye facet. Distances between punctures slightly smaller than their diameter, interspaces smooth, slightly shining.

Abdomen delicately shagreened.

Aedeagus of characteristic structure (Figs 3–4).

Female. Sexual dimorphism absent, female morphologically similar to male. Spermatheca failed to isolate and its structure is unknown.

COMPARATIVE REMARKS. The new species is very similar and closely related to *Carpelimus* (*Trogophloeus*) *notumus* Gilddenkov, 2019 from the Philippines and *Carpelimus* (*Trogophloeus*) *vilisus* Gilddenkov, 2019 from Thailand. It differs from them by slightly less developed eyes,



Figs 1–6. *Carpelimus* spp., holotypes, males: 1, 3–4 — *C. (Trogophloeus) kwauensis*, **sp.n.**; 2, 5–6 — *C. (Trogophloeus) nabireensis*, **sp.n.**; 1–2 — dorsal view; 3, 5 — aedeagus, ventral view; 4, 6 — aedeagus, lateral view. Scale bar: 0.25 mm.

Рис. 1–6. *Carpelimus* spp., голотипы, самцы: 1, 3–4 — *Carpelimus (Trogophloeus) kwauensis*, **sp.n.**; 2, 5–6 — *Carpelimus (Trogophloeus) nabireensis*, **sp.n.**; 1–2 — вид сверху; 3, 5 — эдегус, снизу; 4, 6 — эдегус, сбоку. Масштаб: 0,25 мм.

slightly finer punctation of elytra and slightly longer antennae. Reliably differs only by the structure of aedeagus [Figs 3–4; Gildenkov, 2019a: Figs 5–6, 8–9]. The new species differs from *Carpelimus (Trogophloeus) plenus* Gildenkov, 2019 from the Philippines by smaller body size and finer punctation; reliably differs by the structure of aedeagus [Figs 3–4; Gildenkov, 2019a: Figs 9–10]. It well differs from *Carpelimus (Trogophloeus) ibelensis*, Gildenkov, 2020 and *Carpelimus (Trogophloeus) irianensis* Gildenkov, 2020 living in New Guinea by lighter coloration, significantly more developed depressions on pronotal disc, reliably differs by the structure of aedeagus [Figs 3–4; Gildenkov, 2020a: Figs 10–13].

DISTRIBUTION. Indonesia (West Papua), Papua New Guinea.

ETYMOLOGY. The species name is given according to the name of the village (Kwau Village) in West Papua's, in Manokwari Regencies where the holotype was collected.

Carpelimus (Trogophloeus)
nabirensis Gildenkov, **sp.n.**

Figs 2, 5–6.

MATERIAL. Holotype, ♂, Indonesia, West Papua "IRIAN JAYA: Kabup. Nabire 30 km S Nabire, Kali Cemara 150m, 15.8.1998 | leg. M. Balke (CEM Lux)" (NHMW).

DESCRIPTION (holotype). $\ddot{A}\ddot{e}\ddot{e}\ddot{i}\ddot{a}\ \ddot{o}\ddot{a}\ddot{e}\ddot{a}\ 2.2\ \ddot{i}\ddot{i}$. Length 2.2 mm. Colouration brown. Head, pronotum, abdomen, and apices of antennae black-brown; elytra, legs and bases of antennae brown. Integument slightly shining, body with short, light-coloured setation.

Head transverse, with wide base, ratio of its length (from posterior margin of head to anterior margin of clypeus) to maximum width about 19:27. Neck constriction prominent. Eyes rather large, convex. Temples well developed, rounded, eye diameter in dorsal view approximately equal to temple length. Head widest across eyes (Fig. 2). Head surface with distinct, finely, and very dense punctation. Diameter of punctures slightly smaller than eye facet. Distances between punctures significantly smaller than their diameter, interspaces smooth, slightly shining. Antennae rather long, antennal segments 1–6 elongate; segment 7 slightly elongate; segments 8–10 about as long as wide; segment 11 elongate, conical. Last 3 segments more massive than others and form loose club (Fig. 2).

Pronotum maximum broad after about 2/3 its length from base, then narrowed. Lateral margins smoothly rounded (Fig. 2). Ratio of pronotum length to its maximum width about 24:29. Surface of pronotum with distinct, finely, and very dense punctation, like head surface. Diameter of punctures slightly smaller than eye facet. Distances between punctures significantly smaller than their diameter, interspaces smooth, slightly shining. Pronotal disc has three well-defined depressions. In the central part of disc, deep, oval depressions merge with each other through the medial line, forming a butterfly-shaped depression; at the base — a deep depression in the form of a narrow crescent; at the apex, along the medial line, there is one small oval depression.

Elytra are rather short. Length of elytra related to their combined width approximately as 29:36. Elytra with delicate, fine and dense punctation. Diameter of punctures approximately equal to eye facet. Distances between punctures slightly smaller than their diameter, interspaces smooth, slightly shining.

Abdomen wide, its maximum width related to the width of elytra as 40:36, delicately shagreened.

Aedeagus of characteristic structure (Figs 5–6).

Female. Unknown.

COMPARATIVE REMARKS. According to the structure of aedeagus, the new species is clearly close to the other species of the "notumus" species group. It well differs from all species of this species group by the clear and very dense punctation of head and pronotum, and by the wide abdomen, which is wider than elytra. Reliably differs by the structure of aedeagus (Figs 5–6).

DISTRIBUTION. Indonesia (West Papua).

ETYMOLOGY. Named for its geographical distribution.

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