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Two new species of the genus *Carpelimus* Leach, 1819 from New Guinea (Coleoptera: Staphylinidae: Oxytelinae)

Два новых вида рода *Carpelimus* Leach, 1819 с Новой Гвинеи (Coleoptera: Staphylinidae: Oxytelinae)

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

ABSTRACT: The new species of *Carpelimus*: *C.* (*Trogophloeus*) *cemarensis*, **sp.n.** and *C.* (*Trogophloeus*) *pseudocemarensis*, **sp.n.** are described and illustrated from West Papua and Papua New Guinea. The new species are close and reliably differ only in the structure of the aedeagus. On the territory of Indonesia, these species are similar and possibly related to *Carpelimus* (*Trogophloeus*) *moluccanensis* Gildenkov, 2020 from the Moluccas.

РЕЗЮМЕ: Из Западного Папуа и Папуа Новой Гвинеи, описаны и проиллюстрированы новые виды *Carpelimus* (*Trogophloeus*) *cemarensis*, **sp.n.** и *Carpelimus* (*Trogophloeus*) *pseudocemarensis*, **sp.n.**, которые близки и надёжно отличаются только строением эдеагуса. На территории Индонезии эти виды сходны и, возможно, близки с *Carpelimus* (*Trogophloeus*) *moluccanensis* Gildenkov, 2020 с Молуккских островов.

Introduction

At present, 15 species of the genus *Carpelimus* have been known for New Guinea [Gildenkov, 2020a, c, 2023a], 6 of which are described by the author [Gildenkov, 2020a, 2023a]. Two new species have been described from Indonesia (West Papua) and Papua New Guinea. They are very close and reliably differ only in the structure of the aedeagus. In Indonesia and Papua New Guinea, these species are similar and possibly related only to *Carpelimus* (*Trogophloeus*) *moluccanensis* Gildenkov, 2020 from the Moluccas [Gildenkov, 2023b]. The paper continues the author's series of works on the fauna of the genus *Carpelimus* Leach, 1819 of the Oriental Biogeographic Region and New Guinea [Gildenkov, 2015, 2018a, b, 2019a, b, c, d, e, f, 2020a, b, c, 2021a, b, 2022, 2023a, b].

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); NKME — Naturkundemuseum Erfurt (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*) *cemarensis* Gildenkov, **sp.n.**
Figs 1, 3–5.

MATERIAL. Holotype, ♂ "INDONESIA. Irian Jaya Nabire distri., 150 m NN, Cemara River, VIII. 1998, leg. M. Balke" (NKME). Paratypes: 1♂, 1♀ "INDONESIA. Irian Jaya Nabire distri.., 150 m NN, Cemara River, VIII. 1998, leg. M. Balke" (NKME; 1♂ — cMG); 1♂, 1♀ "INDONESIA. Irian Jaya Jayapura district Genyem., 50 m NN, IV-V. 1999, leg. M. Balke" (NKME); 1♂ "XI 78 | PNG Morobe Umg. Kaiapit" "Papua Nlle Guinee W.G. Ullrich" (MNHG).

DESCRIPTION (holotype). Length 1.8 mm. Colouration brown. Head, pronotum, abdomen, and apices of antennae

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dark brown; elytra brown; legs and bases of antennae yellow-brown. Integument quite shining, body with short, light-coloured hairs.

Head transverse, with a wide base, ratio of its length (from posterior margin of head to anterior margin of clypeus) to maximum width about 17:24. Neck constriction prominent. Eyes large, convex. Temples well-developed, round, eye diameter in dorsal view about 2 times as long as temple length. Head width across eyes approximately equal to its width across temples (Fig. 1). Head surface with very delicate, fine and dense punctation. Diameter of punctures about 3.5 times as small as eye facet. Distances between punctures slightly smaller than their diameter, interspaces smooth, quite shining. Antennae rather short, antennal segments 1–3 elongate; segments 4–7 about as long as wide; segments 8–10 slightly transverse; segment 11 elongate, conical. Last 3 segments more massive than others and form loose club (Fig. 1).

Pronotum widest about 2/3 its length from base, then narrowed. Lateral margins straight from base, then smoothly rounded (Fig. 1). Ratio of pronotum length to its maximum width about 20:25. Surface of pronotum with delicate, fine and very dense punctation. Diameter of punctures about 3 times as small as eye facet. Distances between punctures slightly smaller than their diameter, interspaces smooth, quite shining. Pronotal disc with two pairs of well- developed, symmetrical depressions. At the base, these depressions form wide cres-

Figs 1–2. *Carpelimus* spp., holotypes, males, dorsal view: 1 — *Carpelimus* (*Trogophloeus*) *cemarensis*, **sp.n.**; 2 — *Carpelimus* (*Trogophloeus*) *pseudocemarensis*, **sp.n.**

Рис. 1–2. *Carpelimus* spp., голотипы, самцы, сверху: 1 — *Carpelimus* (*Trogophloeus*) *cemarensis*, **sp.n.**; 2 — *Carpelimus* (*Trogophloeus*) *pseudocemarensis*, **sp.n.**

cents; they are separated by a barely distinct medial ridge. In central part of disc, depressions merge through the medial line, forming a single butterfly-shaped depression. In addition, there is one small unpaired oval depression along the medial line near the apex (Fig. 1).

Ratio of length of elytra to their combined width approximately as 30:34. Scutellum area with less developed oval depressions (Fig. 1). Surface of 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, quite shining.

Abdomen delicately shagreened.

Aedeagus of characteristic structure (Figs 3, 4).

Female. Sexual dimorphism absent, female morphologically similar to male. Spermatheca of characteristic structure (Fig. 5).

COMPARATIVE REMARKS. The new species is similar in colouration, body morphology and integument microsculpture [Gildenkov, 2020a] to *Carpelimus* (*Trogophloeus*) *moluccanensis* Gildenkov, 2020. It reliably differs in the structure of the aedeagus (Figs 3, 4) [Gildenkov, 2020a: 57, figs. 7−9].

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

ETYMOLOGY. Named after the Cemara River, on the banks of which the holotype was collected.

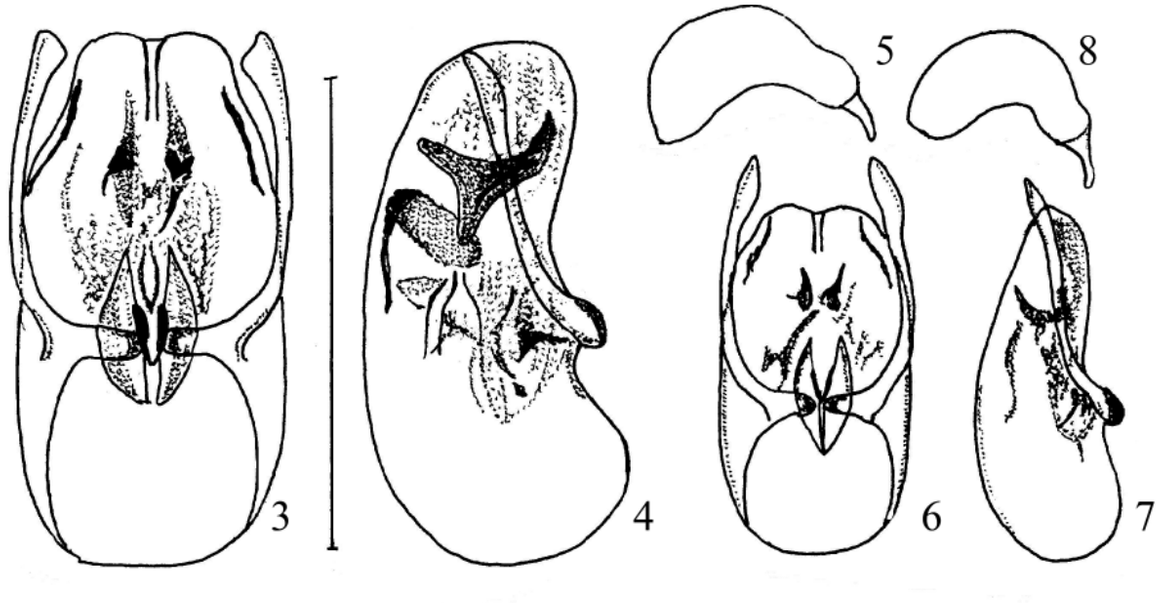
Carpelimus (*Trogophloeus*) *pseudocemarensis* Gildenkov, **sp.n.**
Figs. 2, 6–8.

MATERIAL. Holotype, ♂ "INDONESIA. Irian Jaya Nabire distri.., 150 m NN, Cemara River, VIII. 1998, leg. M. Balke" (NKME). Paratypes: 1♂ "INDONESIA. Irian Jaya Jayapura district Genyem., 50 m NN, IV–V. 1999, leg. M. Balke" (cMG); 3♀♀ "INDONESIA. Irian Jaya Nabire distri.., 150 m NN, Cemara River, VIII. 1998, leg. M. Balke" (NKME); 3♀♀ "INDONESIA. Irian Jaya Jayapura district Genyem., 50 m NN, IV–V. 1999, leg. M. Balke" (NKME; 1♀ — cMG).

DESCRIPTION (holotype). Length 1.7 mm. Colouration brown. Head, pronotum, abdomen dark brown; elytra and apices of antennae brown; legs and bases of antennae yellow-brown. Integument quite shining, body with short, light-coloured hairs.

Head transverse, with a wide base, ratio of its length (from posterior margin of head to anterior margin of clypeus) to maximum width about 17:23. Neck constriction prominent. Eyes large, convex. Temples well-developed, round, eye diameter in dorsal view about 1.5 times as long as 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 times as small as eye facet. Distances between punctures slightly smaller than their diameter, interspaces smooth, quite shining. Antennae rather short, antennal segments 1–3 elongate; segments 4–7 about as long as wide; segments 8–10 slightly transverse; segment 11 elongate, conical. Last 3 segments more massive than others and form loose club (Fig. 2).

Pronotum widest about 2/3 its length from base, then narrowed. Lateral margins straight from base, then smoothly rounded (Fig. 1). Ratio of pronotum length to its maximum width about 19:24. Surface of pronotum with delicate, fine and very dense punctation. Diameter of punctures about 3 times as small as eye facet. Distances between punctures slightly smaller than their diameter, interspaces smooth, quite shining. Pronotal disc with two pairs of well- developed, symmetrical depressions. At the base, these depressions form wide crescents; they are separated by a well-developed medial ridge. In central part of disc, depressions merge through the medial line, forming a single butterfly-shaped depression. In addition, there is one small unpaired oval depression along the medial line near the apex (Fig. 2).



Figs 3–8. Genitalia of *Carpelimus*: 3−5 — *C. cemarensis*, **sp.n.**; 6−8 — *C. pseudocemarensis*, **sp.n.**; 3, 6 — aedeagus, ventral view (holotypes); 4, 7 — aedeagus, lateral view (holotypes); 5, 8 — spermatheca (paratypes). Scale bar: 0.25 mm.

Рис. 3–8. Гениталии *Carpelimus*: 3−5 — *C. cemarensis*, **sp.n.**; 6−8 — *C. pseudocemarensis*, **sp.n.**; 3, 6 — эдеагус, снизу (голотипы); 4, 7 — эдеагус, сбоку (голотипы); 5, 8 — сперматека (паратипы). Масштаб: 0,25 мм.

Ratio of length of elytra to their combined width approximately as 29:31. Scutellum area with less developed oval depressions (Fig. 1). Surface of 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, quite shining.

Abdomen delicately shagreened.

Aedeagus of characteristic structure (Figs 6, 7).

Female. Sexual dimorphism absent, female morphologically similar to male. Spermatheca of characteristic structure (Fig. 8).

COMPARATIVE REMARKS. The new species is similar in colouration, body morphology and integument microsculpture [Gildenkov, 2020a] to *Carpelimus* (*Trogophloeus*) *moluccanensis* Gildenkov, 2020. Very similar and closely related to *C. cemarensis* described above. It reliably differs only in the structure of the aedeagus (Figs 3, 4, 6, 7).

DISTRIBUTION. Indonesia (West Papua).

ETYMOLOGY. Named due to the great similarity and closeness of the new species with *C. cemarensis*.

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