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NEW AND LITTLE-KNOWN SPECIES OF THE GENUS *HOLOARCUS* (ORTHOPTERA: TETRIGIDAE) FROM INDONESIA

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Summary. Two new species of the genus *Holoarcus* Hancock, 1909 are described: *Holoarcus waigeoensis* **sp. n** from Waigeo Island (Southwest Papua province) and *Holoarcus tumbrincki* **sp. n.** from Manokwari City (West Papua province). *Holoarcus intermedius* (C. Willemse, 1932) is recorded from Batanta Island for the first time.

Key words: Tetrigidae, Cladonotinae, taxonomy, new species, fauna, new records, New Guinea and adjacent islands.

С. Ю. Стороженко. Новые и малоизвестные виды рода *Holoarcus* (Orthoptera: Tetrigidae) из индонезийской провинции Юго-Западное Папуа // Дальневосточный энтомолог. 2024. N 498. С. 23-28.

Резюме. Описаны два новых вида рода *Holoarcus* Hancock, 1909: *Holoarcus waigeoensis* **sp. n.** с острова Вайгео (провинция Юго-Западное Папуа) и *Holoarcus tumbrincki* **sp. n.** из Маноквари (провинция Западное Папуа). Впервые для острова Батанта приводится *Holoarcus intermedius* (C. Willemse, 1932).

INTRODUCTION

The genus *Holoarcus* Hancock, 1909 was established for three species, *H. altinotus* (type species), *Piezotettix arcuatus* and *P. sulcatus* from New Guinea and Aru Islands (Hancock, 1909). Now it consists of six species, of them *H. belingae* Günther, 1929 is known from Papua New Guinea (Madang and Sandaun provinces), while other species recorded from Indonesia: *H. altinotus* Hancock, 1909 from Maluku province (Aru Islands), *H. arcuatus* (Haan, 1843) from West and Central Papua provinces, *H. ferwillemse* Tumbrinck, 2014 from West Papua province (Irian Jaya Barat: Siwi), *H. truncatus* (Hancock, 1909) from the Southwest Papua province (Misool Island), and *H. intermedius* (C. Willemse, 1932) from Southwest Papua and Maluku provinces (Hancock, 1909; Günther, 1929, Willemse, 1932; Günther, 1938; Blackith, 1992; Tumbrinck, 2014; Cigliano *et al*., 2024). Two new species of *Holoarcus* are described below and a new data on distribution of *H. intermedius* in Indonesia is given.

The morphological terminology and measurements follow those of Tumbrinck (2014). Photographs were taken with an Olympus SZX16 stereomicroscope and an Olympus DP74 digital camera, and then stacked using Helicon Focus software. The final illustrations were

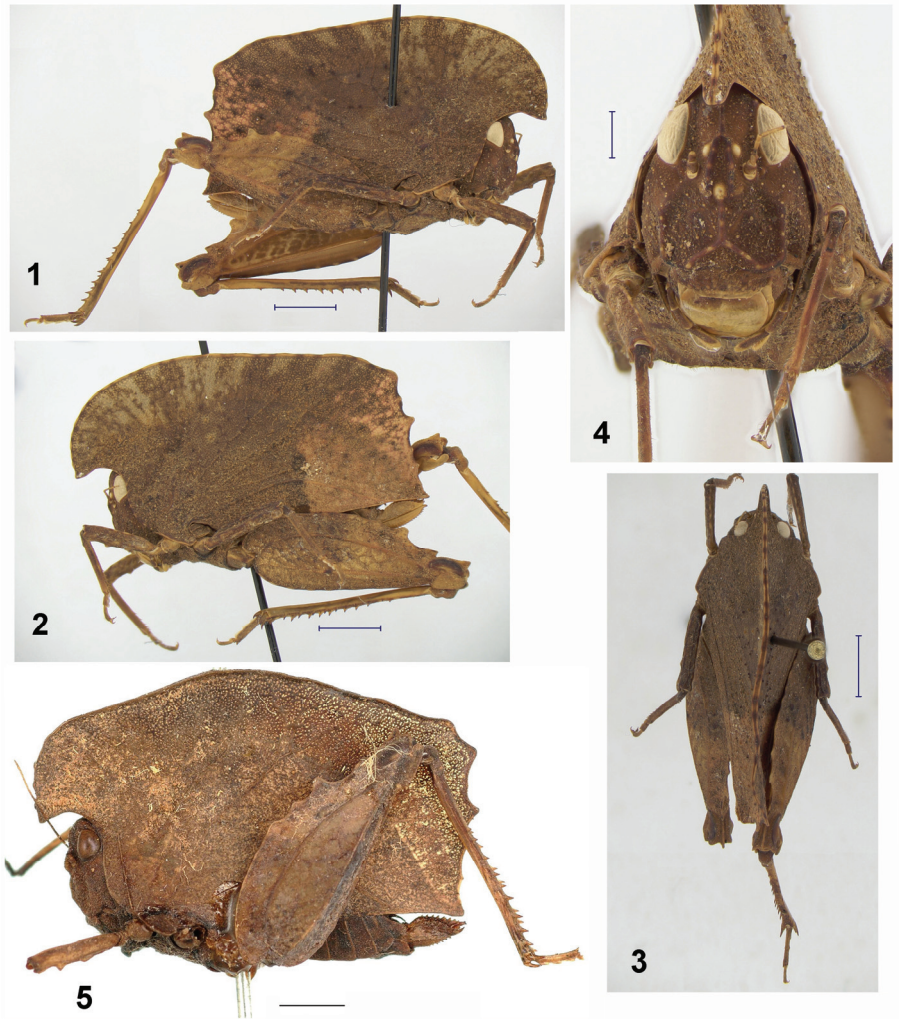
post-processed for contrast and brightness using Adobe® Photoshop® software. All specimens including the holotypes of two new species are deposited in the Zoological Institute, Russian Academy of Sciences, St. Petersburg (ZIN).

DESCRIPTIONS OF NEW SPECIES

***Holoarcus waigeoensis* Storozhenko, sp. n.**

https://zoobank.org/NomenclaturalActs/5833A238-E45D-475D-9D48-09A307E7761C

Figs 1–4



Figs 1–5. *Holoarcus* spp. 1–4 – *H. waigeoensis* sp. n., female holotype: 1 – body from right side, lateral view; 2 – same, from left side; 3 – same, dorsal view; 4 – head, frontal view; 5 – *H. ferwillemsei,* female, body from left side, lateral view (after Tumbrinck, 2014). Scale bars: 3 mm for figs 1–3, 5 and 1 mm for fig. 4.

MATERIAL. Holotype: ♀, **Indonesia**: Southwest Papua province, Raja Ampat Archipelago, Waigeo Island, Saporken village, 4–16 December 2017, leg. M. Mironov (ZIN).

DESCRIPTION. Female. Body large sized for genus. Head in frontal view with vertex broadly rounded. Antennae filiform, apical segments broken. Antennal sockets situated slightly below lower margins of eyes. Eyes large. Lateral ocelli situated at the lower one-third of eyes. Width of frontal ridge near the base of the antennae broad, 2.75 times as wide as width of the 1st antennal segment. Median carina of pronotum in profile high; dorsal line in the middle part almost straight; dorsal and posterior sides of the pronotum almost perpendicular; posterior part of the pronotum distinctly sinuate. Lower side of fore femur with two lappets, upper side straight. Upper and lower sides of mid femur almost straight. Fore femur 4.1 times, mid femur 5.3 times as long as wide. Hind femur 2.85 times as long as wide; upper side with 1-2 lappets; lower side unarmed. First tarsal segment of hind legs 2.5 times as long as 3rd segment (without claws); ventral side of 1st segment with 3 subequal and distinctly pointed pads. Subgenital plate subsquare; posterior side of the plate weakly triangular near middle. Cerci conical, with pointed apices. Valves of ovipositor narrow, dentate; length of upper valve 3.4 times its maximum width; length of lower valve 4.6 times its maximum width.

General coloration of body brown with light brown marks. Face brown with small light spots; clypeus brown with narrow light stripes along anterior margin; labrum light brown with blackish base. Scapus and pedicel dark brown, other part of antenna light brown. Disc of pronotum dorsally brown; in lateral view, upper part of the pronotum brown with light brown vertical stripes; posterior part of the pronotum light brown with a few indistinct blackish spots. Fore and mid legs blackish brown. Basal half of hind femur blackish, apical half light brown. Hind tibia and tarsal segments brown. Sternal plate and sternites brown; subgenital plate blackish with light brown apex. Ovipositor light brown.

Male unknown.

MEASUREMENTS. Female: length of body 13.5; pronotum 17.5; fore femur 3.7; mid femur 5.3; hind femur 11.4; ovipositor 2.7 mm.

DIAGNOSIS. New species is similar to *H. ferwillemsei* but latter species is characterized by more large size (length of female pronotum 19–23 mm, length of hind femur 15–16 mm) and by arch-like elevated middle part of the pronotum (Fig. 5).

DISTRIBUTION. Indonesia: endemic to Waigeo Island.

ETYMOLOGY. The new species is named after the type locality.

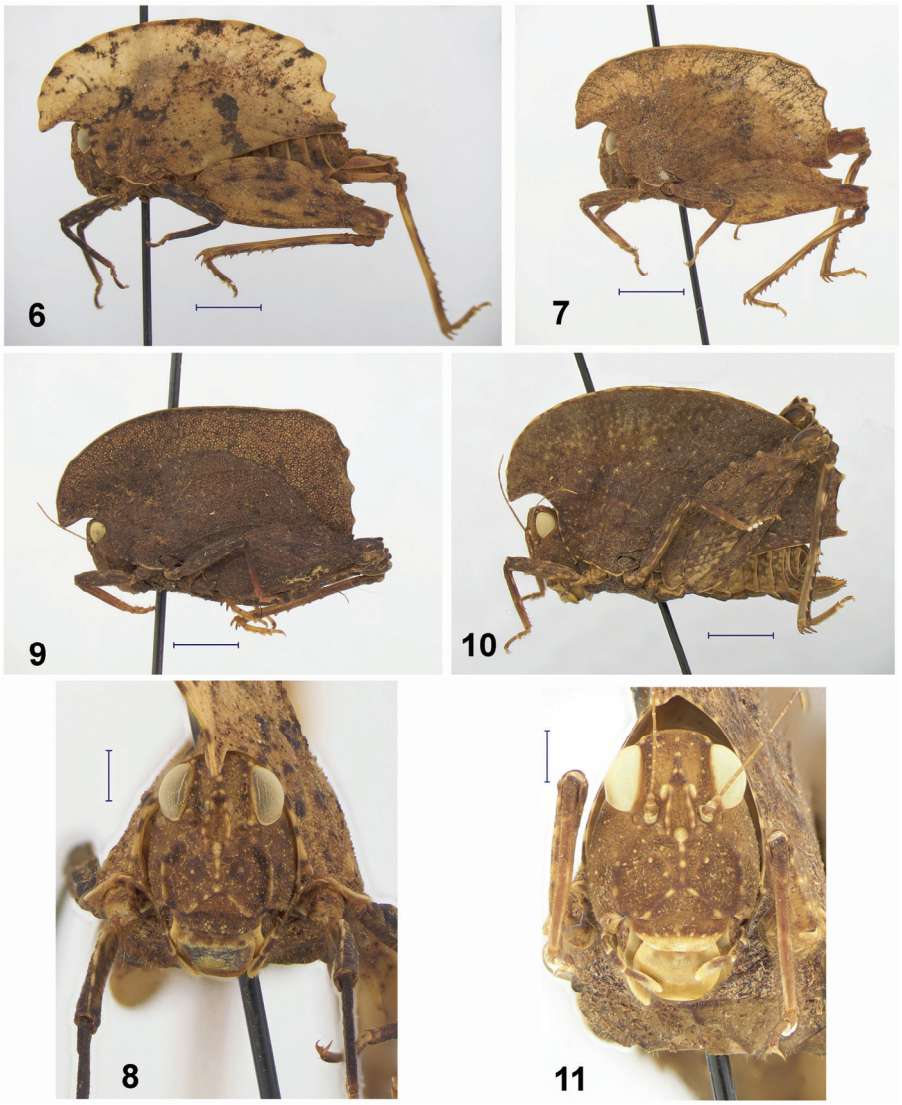
Holoarcus tumbrincki **Storozhenko, sp. n.**

https://zoobank.org/NomenclaturalActs/26FE7598-EB97-4A38-9447-E3FB208CB4C5

Figs 6–8

MATERIAL. Holotype: ♀, **Indonesia**: Southwest Papua province, env. of Manokwari City, primary forest on hills near sea, 4–6 November 2004, leg. A. Gorochov (ZIN). Paratypes: 2 ♂, 2 ♀, same data as for holotype (ZIN).

DESCRIPTION. Female. Body small sized for genus. Head in frontal view with vertex broadly rounded. Antennae filiform, 13-14 segmented. Antennal sockets situated slightly below lower margins of eyes. Eyes large. Lateral ocelli situated at the lower one-third of eyes. Width of frontal ridge near the base of the antennae broad, 2.8–3.0 times as wide as width of the 1st antennal segment. Median carina of pronotum in profile high; dorsal line in the middle part weakly rounded; dorsal and posterior sides of the pronotum rounded; posterior part of the pronotum distinctly sinuate. Lower side of fore femur with two lappets, upper side straight. Upper side of mid femur almost straight, lower side sinuate. Fore femur



Figs 6–11. *Holoarcus* spp. 6–8 – *H. tumbrinski* sp. n.: 6 – female holotype, body from left side, lateral view; 7 – male paratype, body from left side, lateral view; 8 – female head, frontal view; 9 – *H. belingae*, male (Papua-New Guinea: Madang City), body from left side, lateral view; 10, 11 – *H. intermedius*, female: 10 – body from left side, lateral view; 11 – head, frontal view. Scale bars: 3 mm for figs 6, 7, 9, 10 and 1 mm for figs 8, 11.

4.1–4.2 times, mid femur 4 times as long as wide. Hind femur 2.7 times as long as wide; upper side with one lappet; lower side unarmed. First tarsal segment of hind 2.9 times as long as 3rd segment (without claws); ventral side of 1st segment with 3 subequal and distinctly pointed pads. Subgenital plate subsquare; posterior side of the plate weakly triangular near middle. Cerci conical, with pointed apices. Valves of ovipositor narrow, dentate; length of upper valve 3.5–4 times its maximum width; length of lower valve 4.5–4.8 times its maximum width.

General coloration of body light brown with black marks. Face brown with light and black marks; clypeus brown with light spots along anterior margin; labrum blackish brown. Antennae light brown. Pronotum, in lateral view, light brown with numerous black spots. Fore and mid legs black with small brownish spots. Hind femur brown with black spots. Hind tibia and tarsal segments brown. Sternal plate, sternites and subgenital plate brown. Ovipositor light brown.

Male. Similar to female but smaller. Width of frontal ridge near the base of the antennae 2.9–3.0 times as wide as width of the 1st antennal segment. Fore femur 3.7 times, mid femur 3.7–3.9 times as long as wide. Hind femur 2.5–2.6 times as long as wide; upper side with 1–2 small lappets; lower side unarmed. Subgenital plate ventrally triangle, apex weakly excised.

General coloration of body light brown; black marks indistinct. Face brown with light and black marks; clypeus brown; labrum light brown. Antennae light brown. Pronotum, in lateral view, light brown with small black spots. Fore and mid femora black; fore and mid tibia brown. Hind femur brown without black spots. Hind tibia and tarsal segments brown. Sternal plate, sternites and subgenital plate brown.

MEASUREMENTS. Length body: ♀ 13.3–13.4, ♂ 10.9–11.1; pronotum: ♀ 14.6–15.1, ♂ 12.2–12.5; fore femur: ♀ 3.2–3.3, ♂ 2.6; mid femur: ♀ 3.6–3.7, ♂ 3.1–3.3; hind femur: ♀ 9.6–10.1, ♂ 8.0–8.1; ovipositor 2.2–2.4 mm.

DIAGNOSIS. *Holoarcus tumbrincki* sp. n. is most similar to *H. belingae* but differs from latter by shape and color of the pronotum. In *H. belingae*, in lateral view, dorsal and posterior sides of the pronotum are almost perpendicular and pronotum dark brown, without black spots and stripes (Fig. 9).

DISTRIBUTION. Indonesia: Southwest Papua province.

ETYMOLOGY. The new species is named in honor of German entomologist Dr. Josef Tumbrinck.

NEW RECORDS

***Holoarcus intermedius* (C. Willemse, 1932)**
Figs 10, 11

MATERIAL. **Indonesia**: Southwest Papua province, Raja Ampat Archipelago, Batanta Island, 3 January 2020, 1 ♂, 1 ♀, leg. M. Mironov.

MEASUREMENTS. Length body: ♀ 13.7, ♂ 13.2; pronotum: ♀ 16.1, ♂ 15.0; fore femur: ♀ 3.5, ♂ 3.0; mid femur: ♀ 4.0 ♂ 3.5; hind femur: ♀ 10.7, ♂ 9.5; ovipositor 2.0 mm.

DISTRIBUTION. Indonesia: Southwest Papua province. This species was known only from New Guinea Island. Here *H. intermedius* is recorded from Batanta Island for the first time.

REMARK. This species is easy to identify, in lateral view, by the concave emargination at the posterior end of the pronotum. Record of *H. intermedius* from Maluku province of Indonesia (Tumbrinck, 2014) needs confirmation because specimens from Walir Island characterized by more flattened in the middle pronotum.

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