

A New Species of the Genus *Triodontus* (Coleoptera, Scarabaeidae, Orphninae) from Southern Madagascar

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Abstract—A new scarab beetle species of the endemic Madagascan genus *Triodontus* Westwood, *T. hanskii* sp. n., is described from a specimen collected in Southern Madagascar. The new species differs from similar *Triodontus* species with two medial pronotal tubercles and simple last abdominal sternite in a distinctive shape of the parameres. The type specimen of the new species originates from the southernmost remnant of indigenous rain forest of the island.

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The Madagascan Orphninae are represented by four genera endemic to the island (Frolov and Montreuil, 2009; Paulian, 1937, 1977, 1992). *Triodontus* Westwood, 1846, is one of the two large genera and currently comprises 14 described species. The members of the genus can be recognized by a relatively large size, long clypeal horn, the presence of prothoracic ridges and excavations in the males, and especially by a complex structure of the male genitalia. In *Triodontus*, the parameres are divided into the upper (outer) and lower (inner) lobes, and their shape is distinctive for each species (Paulian, 1977).

Recently I had the opportunity to examine a male specimen of *Triodontus* collected by Prof. Illka Hanski (Helsinki) and his research group in the course of their studies of the forest dung beetle fauna of Madagascar. Comparison of this specimen with types of the known *Triodontus* species has shown that it belongs to an undescribed species.

Triodontus hanskii Frolov, sp. n.

Diagnosis. From other species with two medial tubercles on the pronotum and simple shape of abdominal sternite VI in males (*T. owas* Westwood, *T. itremoi* Paulian, *T. copridoides* Paulian), *T. hanskii* sp. n. can be distinguished by the parameres without teeth and sinuations laterally (Figs. 4, 5–7).

Description. Body length 10.1 mm. Body strongly shiny, uniformly colored (Figs. 1, 2). Color of head,

pronotum and elytra dark brown; legs, antennae and underside of the body brown.

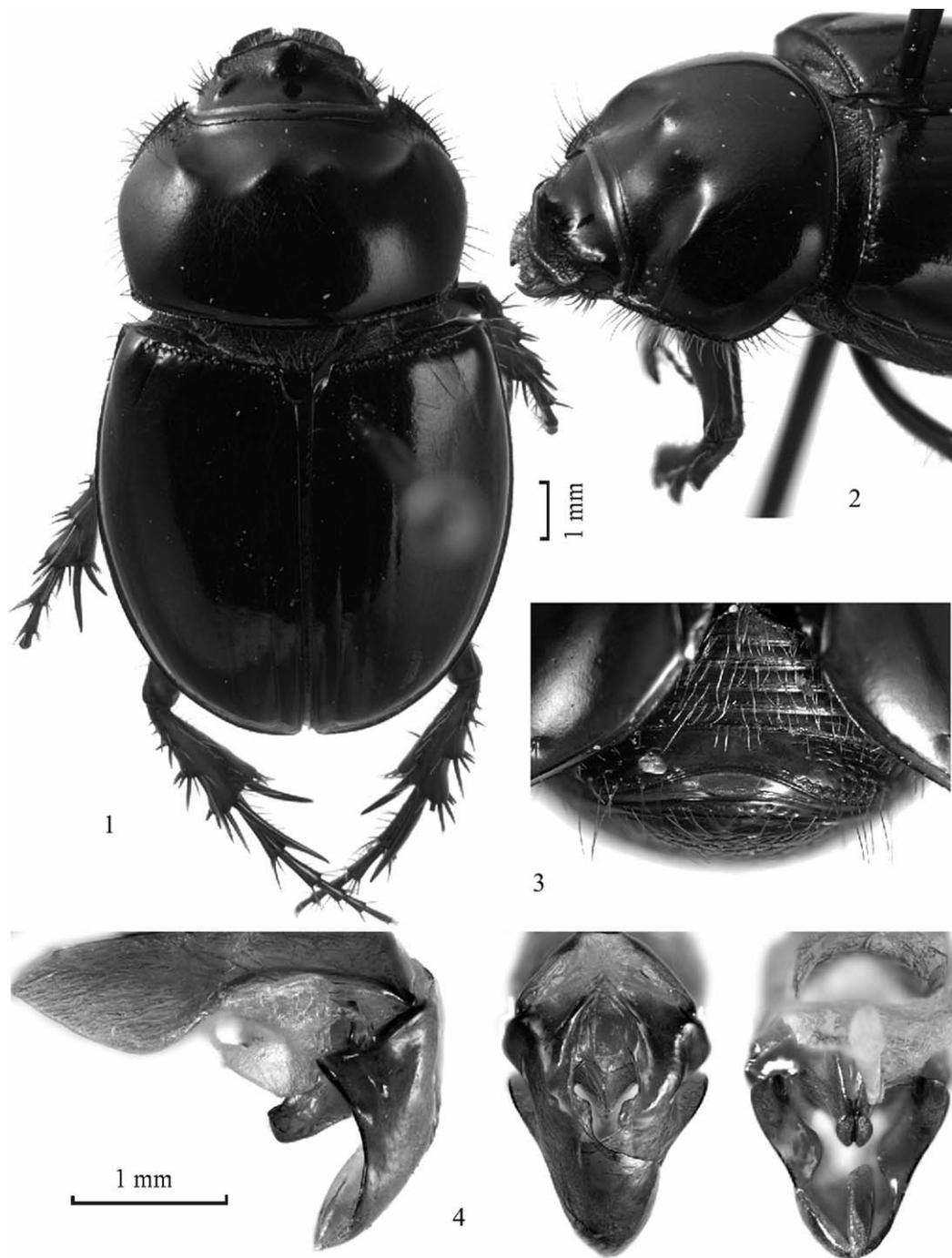
Clypeus convex anteriorly, rounded laterally, anterior margin crenulate and setose in dorsal view. Genae small, not protruding past eyes. Eyes relatively small (their diameter slightly smaller than the distance between eye and gula in ventral view), incompletely divided by canthus into small dorsal and large ventral parts. Frontal suture absent. Clypeus with small but distinct tubercles mediad of each eye and with short horn in the center of the clypeus.

Labrum bilobate, sinuate in the middle and protruding past clypeus. Length in the middle is 1/6 width (in dorsal view). Mandibles of subequal length.

Pronotum with two obtuse tubercles in the middle and with excavations aside the tubercles. Lateral margins with wide border appearing somewhat crenulate in dorsal view. Anterior margin with wide, smooth border. Posterior margin with very fine border, not crenulate, punctate with small, narrow, longitudinal punctures laterally. Surface of most pronotum smooth, anterior angles with a few coarse punctures.

Scutellum rounded apically, its visible part is about 1/15 length of elytra.

Elytra convex, with distinct humeral umbones. Maximum width approximately at the middle. Elytra with 10 feebly visible striae and with oblique line from

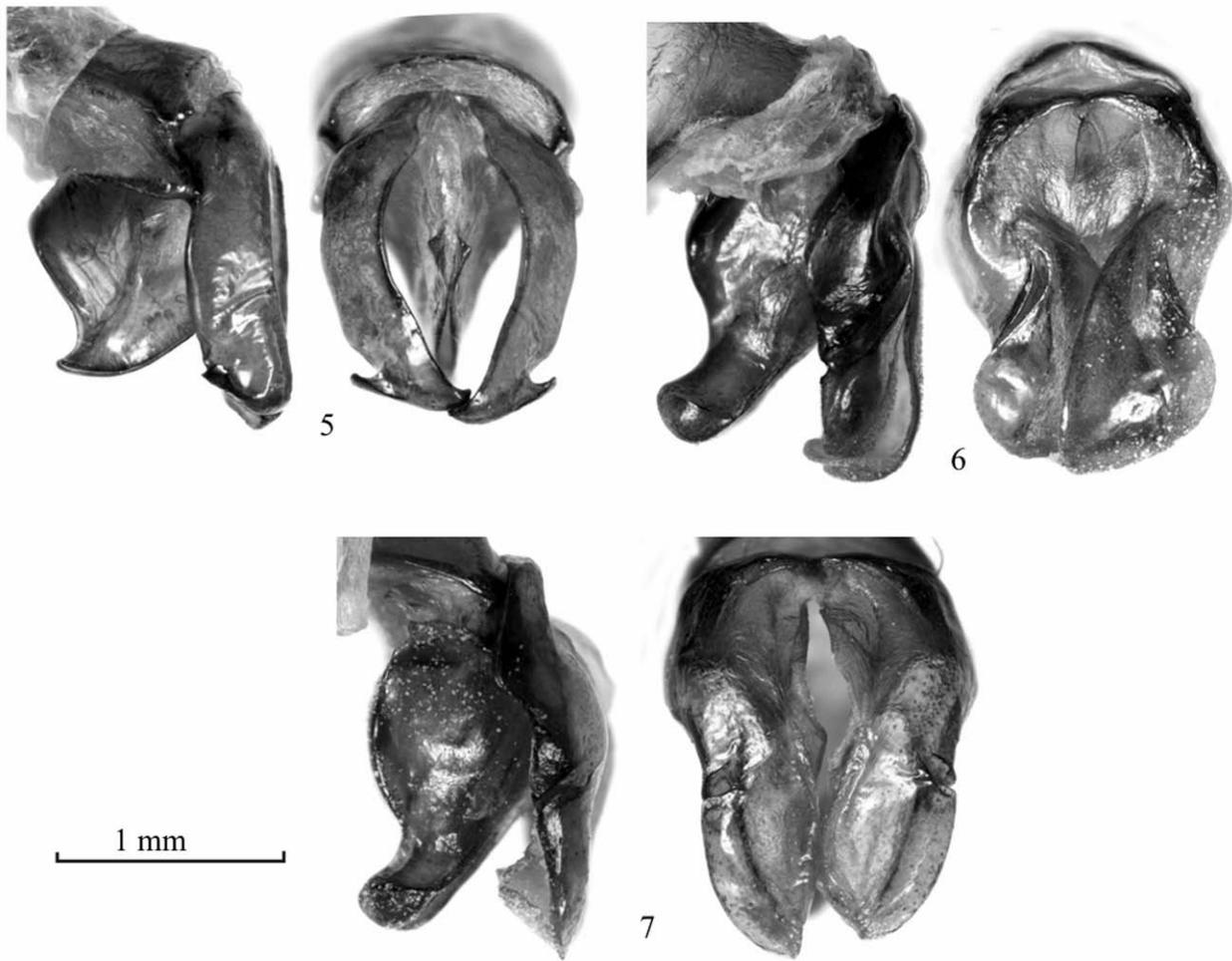


Figs. 1–4. *Triodontus hanskii* sp. n.: (1, 2) habitus; (3) abdomen, ventral view; (4) parameres, lateral, dorsal, and ventral view.

base of 6th stria to approximately middle of 8th stria. Stria with small, indistinct punctures. Intervals with minute punctures, almost smooth. Base of elytra with an irregular row of coarse punctures each bearing small yellowish seta.

Wings fully developed.

Fore tibiae of typical shape of *Triodontus*, with 3 outer teeth, not crenulated basad of the teeth. Apices with 3 robust, spur-like setae and a few small ones. Fore tarsi about 3/4 length of protibiae. Claws 1/3 length of apical tarsal segment. Apical segment of fore tarsus as long as segments 3 and combined, slightly more slender than other



Figs. 5–7. *Triodontus* spp., parameres, lateral and dorsal view: (5) *T. owas* Westwood, (6) *T. itremoi* Paulian, (7) *T. copridoides* Paulian].

segments. Ventral surface of fore tibiae with a longitudinal keel.

Middle and hind legs similar in shape; hind femora and tibiae slightly longer than middle ones. Tibiae somewhat triangular, with two apical spurs, with inner margin only slightly concave. Longer tibial spur slightly shorter than two basal segments of tarsus. Claws about 1/3 length of last tarsal segment. Ventral sides of femora almost impunctate, with sparse long setae.

Abdominal sternite VI medially about three times as short as other sternites combined, slightly sinuate apically, without tubercles or distinct concavities in the middle (Fig. 3).

Pygidium transverse, irregularly punctate and setose, mostly hidden under elytra.

Parameres with upper lobes somewhat tapering apically and sinuate on lateral margin basally (Fig. 4). Internal sac of aedeagus with a somewhat pentagonal main sclerite and smaller auxiliary sclerites.

Female unknown.

Distribution. The species is known from the only specimen collected in Ambatotsirongorongo forest in Tolagnaro Region of Southern Madagascar. This is the southernmost locality of *Triodontus* species known to date and it is also the southernmost remnant of the indigenous rain forest on the island (Fig. 5).

Biology. The type specimen of *T. hanskii* was collected with a pitfall trap baited with a fish carrion. A short trap exposure (1 day and night) suggests that the specimen was attracted to the carrion rather than captured accidentally. Facultative necrophagy is

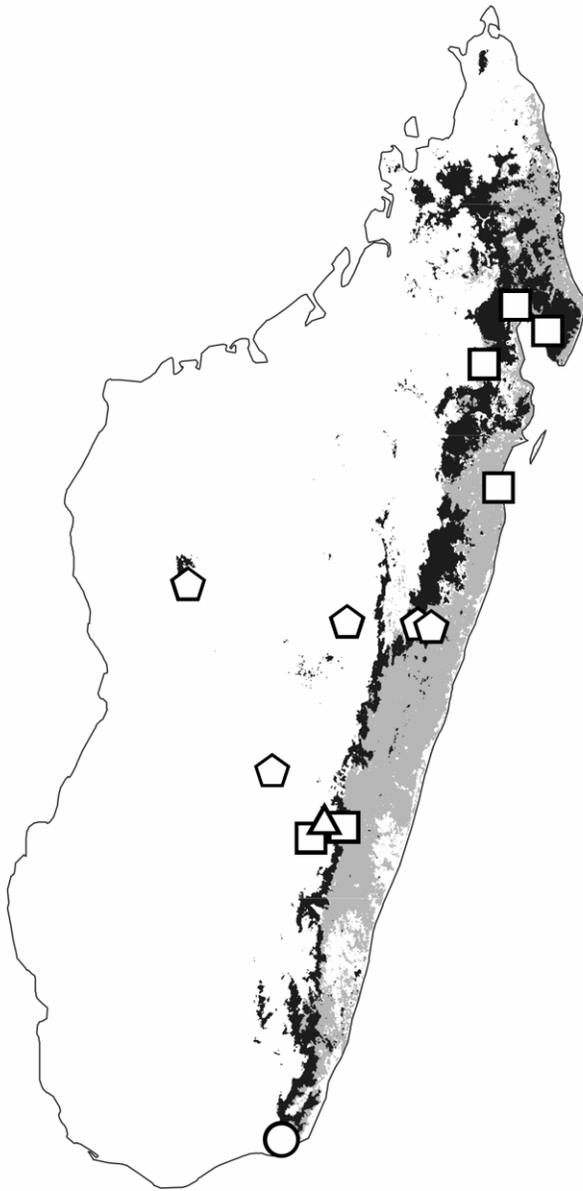


Fig. 8. Distribution of species of the genus *Triodontus* Westw. (Madagascar Island). Circle designates *T. hanskii* sp. n.; triangle, *T. copridoides* Paulian; square, *T. owas* Westw., pentagon, *T. itremoii* Paulian. Black shading shows rain forest regions; gray shading, degraded rain forest regions.

also supposed for other Madagascan Orphninae (Frolov and Montreuil, 2009), but most Orphninae species are considered generalist saprophagous litter dwellers.

Etymology. The new species is named after Ilkka Hanski (Helsinki), who collected the type specimen.

Type material. Holotype, male: Madagascar, Ambatotsirongorongo, February 2005, fish baited trap, Ilkka Hanski leg. (Zoological Institute, Russian Academy of Sciences, St. Petersburg).

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REFERENCES

1. Frolov, A.V. and Montreuil, O., "A New Genus of Orphninae (Coleoptera, Scarabaeidae) from Madagascar," *Zoosyst. Ross.* **18** (1), 65–69 (2009).
2. Paulian, R., "Faune entomologique de Madagascar. Coleoptera Lamellicornia, Scarabaeidae Acanthocerini, Trogini, Aulonocnemis, Hybosorini, Orphnini et Ochodaeini," *Bull. Acad. malgache (nouvelle série)* **19**, 129–143 (1937).
3. Paulian, R., "Les Orphnidae de Madagascar", *Bull. Mus. Nation. d'histoire natur., Ser. 3.* **411**, 1199–1223 (1977).
4. Paulian, R., "Un nouveau genre et une nouvelle espèce d'Orphnidae de Madagascar (Coleoptera, Scarabaeoidea)," *Rev. Française d'Entomol. (N.S.)* **14** (4), 169–171 (1992).