

***Odontolochus lackneri* sp. nov. from Angola
(Coleoptera: Scarabaeidae: Aphodiinae: Odontolochini)**

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Abstract. A new species of the genus *Odontolochus* Schmidt, 1916, *Odontolochus lackneri* sp. nov. from Angola (Bilé and Huambo Provinces), is described and illustrated. Results of studying a type specimen of *Odontolochus raffrayi* Paulian, 1942, are presented including appropriate illustrations.

INTRODUCTION

When studying material of Aphodiinae collected in Angola, the first author encountered specimens, which belonged to a new species of the genus *Odontolochus* Schmidt, 1916. In a monograph of Aphodiinae (Schmidt 1922), three Afrotropical species of the genus are mentioned within the tribe Eupariini. In the first comprehensive work dealing with Afrotropical Aphodiinae (Endrődi 1964), 13 species of the genus are keyed (also within the framework of Eupariini). Stebnicka & Howden (1996) removed the genus from the tribe Eupariini and transferred it into a newly established tribe Odontolochini. Between 1961 and 1975, four Afrotropical species not included in the work by Endrődi (1964) were described (by Balthasar (1961 and 1963), Petrovitz (1966) and Endrődi (1976)), but on the other hand, six species of the genus from the Afrotropical Region were synonymized by Stebnicka (2009) in her recently published revision of Afrotropical *Odontolochus* species. As a result of this, the last work mentioned here (Stebnicka 2009) included 11 valid species of the genus *Odontolochus* from the Afrotropical Region.

When taking into account the new species described below, then total of 12 species of the genus *Odontolochus* are currently known from the Afrotropical Region.

MATERIAL AND METHODS

The specimens were observed by using the MBS-10 and SZP 1120-T stereoscopic microscopes. The photos published here were taken by the use of the Meopta laboratory microscope, CMOS 5 digital camera and the Helicon Focus programme.

The following acronyms stand for collections, in which the specimens studied here are kept:

- BMNH The Natural History Museum [former British Museum (Natural History)], London, United Kingdom;
DKCP David Král collection (deposited in National Museum Prague), Czech Republic;
LMCT Ladislav Mencl, private collection, Týnec nad Labem, Czech Republic;
MRCD Miloslav Rakovič, private collection, Dobřichovice, Czech Republic;
MNHN Muséum national d'Histoire naturelle, Paris, France (Antoine Mantilleri);
NMPC National Museum Praha, Czech Republic;
PBCS Patrice Bordat, private collection, Saint-Cirq, France.

Each specimen of the newly described species is provided with a printed red label: "HOLOTYPE (♂) [or] ALLOTYPE (♀) [or] PARATYPE No. [1 to 17] (♂) [or] (♀) / *Odontolochus lackneri* sp. nov. / M. Rakovič, L. Mencl & D. Král det. 2014". Exact label data are specified below in the paragraph Type material. Our remarks and addenda are found in brackets, separate label lines are indicated by a slash (/), separate labels by a double slash (//).

For morphological terms used in the description of epipharyngeal structures we follow Dellacasa et al. (2001).

RESULTS

Odontolochus lackneri sp. nov.

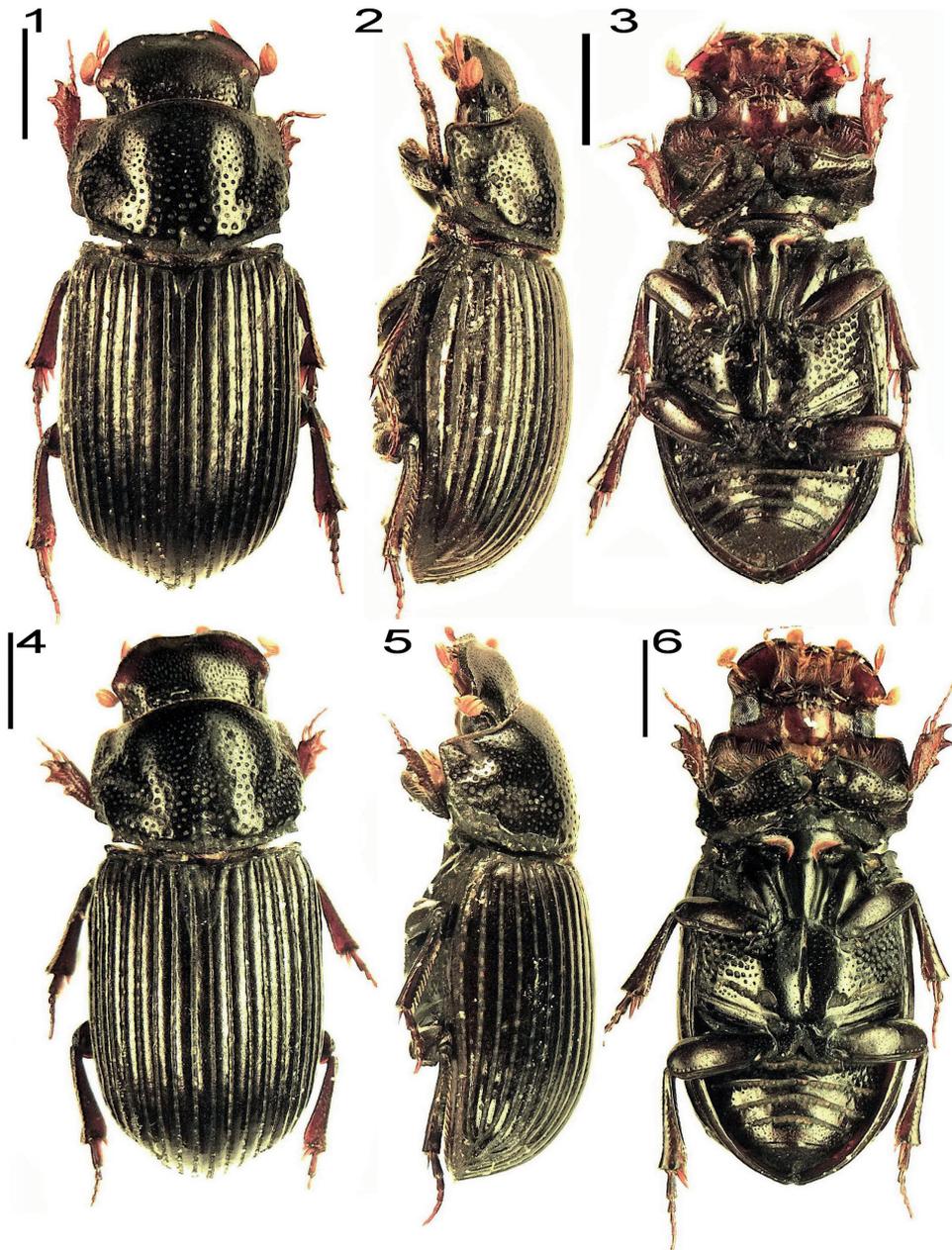
(Figs 1-10)

Type locality. Angola central, Bié prov., Kuemba env.

Type material. Holotype (♂) (BMNH): "ANGOLA central / Bié prov., Kuemba env. / 17.xi.2012/T. Lackner leg. [white printed label] // 1668, Dok. L. Mencl [pale green printed label, related to the photo-documentation system of the second author]". Allotype (♀) (BMNH): "ANGOLA central / Bié prov., Catabola env. / 19.-27.xi.2012 / T. Lackner leg. [white printed label] // 1670, Dok. L. Mencl [pale green printed label, related to the photo-documentation system of the second author]". Paratypes (not sexed) with the following white labels: (Nos 1-3): same as with HT; (No 4): same as with HT except for different date (16.xi.2012); (Nos 5-11): same as with AT; (No. 12): "ANGOLA Central, Bié prov. / road from Kuemba to Munhango / cca 25km from Kuemba / 24.xi.2012, T. Lackner leg."; (Nos 13-15): "ANGOLA, Bié prov. / between Calucinga & / Cambonga, at light / 16.xi.2013, T. Lackner leg."; (Nos 16-17): "4-xii-2012, Alto Hama / 12°10'07"S 15°32'02"E, /Huambo Prov., Angola / S. Rojkoff leg."; Nos 18-21, "19.xi.2013 Bié Prov. / near Calucinga, 1776m / ANGOLA / 11°13'82'S, 16°09'383'E / P. Schüle leg. The paratypes are deposited in BMNH (Nos 1, 4-7, 12, 13-15), DKCP (Nos 2-3), LMCT (Nos 10-11), MRCD (Nos 8-9, 22) and PBCS (Nos 16-21).

Description. Oblong oval, convex, glabrous, relatively large (4.8-5.9 mm long), dorsal surface with very fine microscopic structure only and thus, fairly shining, mostly black (genae and small areas of clypeus margin before genae sometimes translucent – brown), antennae and palpi yellowish brown, legs brown; ventral surface dark brown to black; dorsal and ventral aspects of males and females as in Figs 1-3 and 4-6, respectively.

Head convex, strongly transversal, with weak frontoclypeal suture and distinct median gibbosity. Clypeus with shallow, round anteromedian emargination, broadly rounded each



Figs 1-6. *Odontolochus lackneri* sp. nov.: 1- holotype, ♂, dorsal view; 2- holotype, ♂, lateral view; 3- holotype, ♂, ventral view; 4- allotype, ♀, dorsal view; allotype, ♀, lateral view; 6- allotype, ♀, ventral view. Scale lines: 1 mm for all figures.

side of it, lateral margins continuously arcuate up to genae; clypeus anterior margin and part of lateral margin, nearly up to gena, moderately upturned; genae moderately exceeding beyond clypeus lateral margins, obtusely rounded, bare, distinctly exceeding beyond eyes; eyes visible from above. Head surface punctate; punctures of median gibbosity rather dense, fine and longitudinal, vanishing toward anterior and lateral clypeus margins; punctures behind frontoclypeal suture sparser and slightly larger.

Epipharynx (Fig. 7). Anterior margin regularly, shallowly sinuate at middle, anterior corners obtusely angulate; epitorma widely campaniform; two apical spinules of corypha strong, short, rounded apically; pedia covered with microtrichiae and elongate, strongly sclerotized area on each side; chaetopariae with two rows of spinules; outer row consisting of considerably long, closely arranged spinules; inner row shorter, consisting of moderately long, not very closely arranged spinules.

Pronotum strongly transversal, with shallow (sometimes even indistinct) posterior longitudinal furrow, pair of deeper oblique furrows and impressions in anterior corners. Posterior margin bisinuate, with deep, coarsely punctate furrow along posterior margin, anterior corners moderately rounded, lateral margins straight anteriorly (to about midlength), then shallowly emarginate in front of strongly excised posterior corner, the corner excision producing tooth on each side together with edge of coarsely punctate furrow extending along pronotum basal margin. Surface mostly with large punctures on finely, sparsely microscopically punctate background; large punctures varying in their size as well as separation; most coarse and dense punctation present in depressed areas (neighbouring punctures separated by less than puncture diameter); beyond these areas, coarse punctures separated by more than puncture diameter and present particularly in posterior half (stepwise decreasing in size toward anterior margin of pronotum).

Scutellum small, triangular.

Elytra with ten striae and ten intervals, with distinctly margined base and humeral teeth; elytral striae quite distinct, their punctures longitudinal, distinct, but not very deep and not crenating elytral intervals, separation between neighbouring punctures comparable to puncture length; elytral intervals convex, wider than striae, finely, sparsely microscopically punctate; interval 10 relatively lower, but still convex, posteriorly narrowed and shortened; intervals not fused apically, intervals 1 to 4 complete (reaching the apex), lateral intervals more or less reduced in length posteriorly (Figs 2-5).

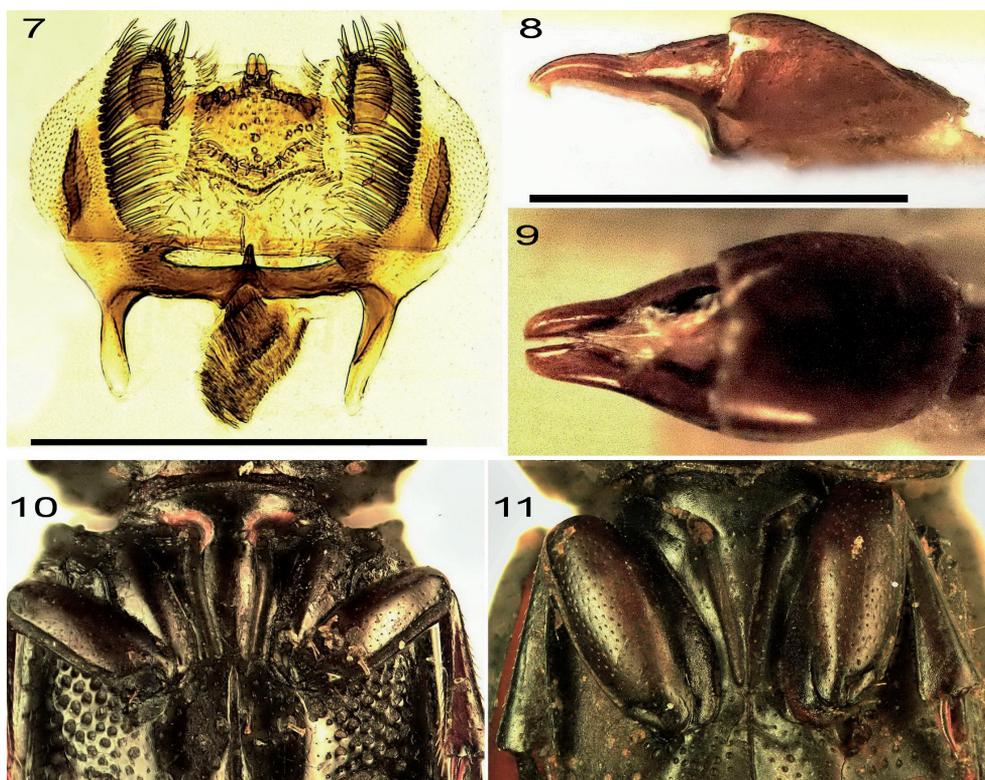
Legs dark brown. Protibia with three outer teeth in apical half, not denticulate in basal half; apical spur longer than protarsomere 1, but shorter than protarsomeres 1 and 2 combined; apex with few macrosetae of different lengths; dorsal surface punctate, with longitudinal, macrosetaceous edge; outer and inner margins with rows of short macrosetae. Mesotibia with shortly macrosetaceous superior, inferior and intermediate (outer) edges; apex with few quite short spinules and two apical spurs, superior spur and inferior spur longer and shorter, respectively, than mesotarsomere 1. Metatibia structural elements (apical spurs, spinules, macrosetaceous edges) quite similar to those of mesotibia; inner surface with two longitudinal rows of enormously short (much shorter and finer than those on edges) macrosetae.

Ventral surfaces (Figs 3, 6) mostly glabrous (except for setaceous proventrum, macrosetae along posterior margin of profemur and individual macrosetae on trochanters), punctate

and shining, dark brown to black. Profemur anterior and posterior margins and mesofemur as well as metafemur posterior margins strongly grooved throughout their whole lengths; profemur surface with medium-sized punctures, mesofemur and metafemur surfaces with fine punctures; a row of few medium-sized punctures also present along posterior margin of metafemur from metafemur apex to about one third metafemur length. Meso-metaventral plate (Figs 3, 6) with distinctly impressed longitudinal line, areas each side of the furrow finely punctate, lateral meso-metaventral areas very coarsely punctate, posteriorly with a pair of transverse furrows produced by rows of confluent coarse punctures followed by a narrow, finely punctate zone; anterior meso-metaventral area (in front of the longitudinal furrow) with pair of moderately diverging grooves having anteriorly spots of yellow material (probably dried secreta). Abdominal ventrites finely punctate, fluted along anterior margins.

Pygidium finely punctate, visible in dorsal view.

Aedeagus as in Figs 8-9. Apical part of parameres bent downward in characteristic way and producing acute tip as shown in lateral view.



Figs 7-11. *Odontolochus lackneri* sp. nov., holotype, ♂, habitus (Figs 7-10) and *Odontolochus raffrayi*, holotype, ♂ (Fig. 11): 7- epipharynx; 8- aedeagus, lateral view; 9- aedeagus, dorsal view; 10- meso-metaventral part of underside surface of *O. lackneri*; 11- meso-metaventral part of ventral surface of *O. raffrayi*. Scale lines: 0.5 mm for Fig. 7, 1 mm for Figs 8-9.

Sexual dimorphism. In female, the protibia apical spur is moderately shorter and thicker compared to the male one (Fig. 4). The pygidium of males is longer compared to females.

Variability. In addition to the variability in size (body length of 4.8 to 5.9 mm), certain (rather unimportant) characters mentioned above in the description are more or less distinct in some individuals: the translucent brown spots at genae are more or less extensive and the posterior pronotal longitudinal furrow is sometimes not impressed but only indicated by the arrangement of coarse punctures.

Differential diagnosis. Compared to the new species, most African species of the genus *Odontolochus* are smaller and/or have elytra continuously narrowed from about two thirds their length to the elytral base. The only species having a comparable body size and elytra narrowed immediately at the elytral base is *Odontolochus raffrayi*. The new species described here is, however, quite shining and has a shallow posterior pronotal longitudinal furrow, never reaching the anterior half of the pronotum (in some individuals, the furrow is even only vestigial, indicated by the arrangement of coarse punctures only). *Odontolochus raffrayi* is quite matte and its pronotal longitudinal furrow is deep and extending far into the anterior half of the pronotum. The pronotum base is strongly furrowed and posterior corners are strongly excised and extended in teeth in *O. lackneri* sp. nov. (Fig. 1); in *O. raffrayi*, there is no furrow along the pronotal base and posterior corners are only slightly sinuate, at most with obtuse, small denticles (Figs 12-13). Punctures on the pronotum disc are enormously coarse in *O. raffrayi*, separation between punctures being smaller than the puncture diameter; in *O. lackneri* sp. nov., the punctures on the pronotum disc are less coarse, the separation between punctures being larger than the puncture diameter (Figs 1, 4, 12-13). For differences in the punctation on the underside see Figs 3, 6, 14. In *O. lackneri* sp. nov., the paramere (as observed in lateral view) is bent downward before the apex with producing a sharp tip (Fig. 8); neither the bending downward nor the extension of the paramere into a sharp tip appears in *O. raffrayi* (Fig. 16).

Collection circumstances. Tomáš Lackner collected type specimens attracted to a light source (T. Lackner, pers. comm. 2014).

Name derivation. Patronymic, named in honour of our friend and collector of most type specimens, a specialist in Histeridae, Tomáš Lackner (Czech University of Life Sciences Prague, Czech Republic).

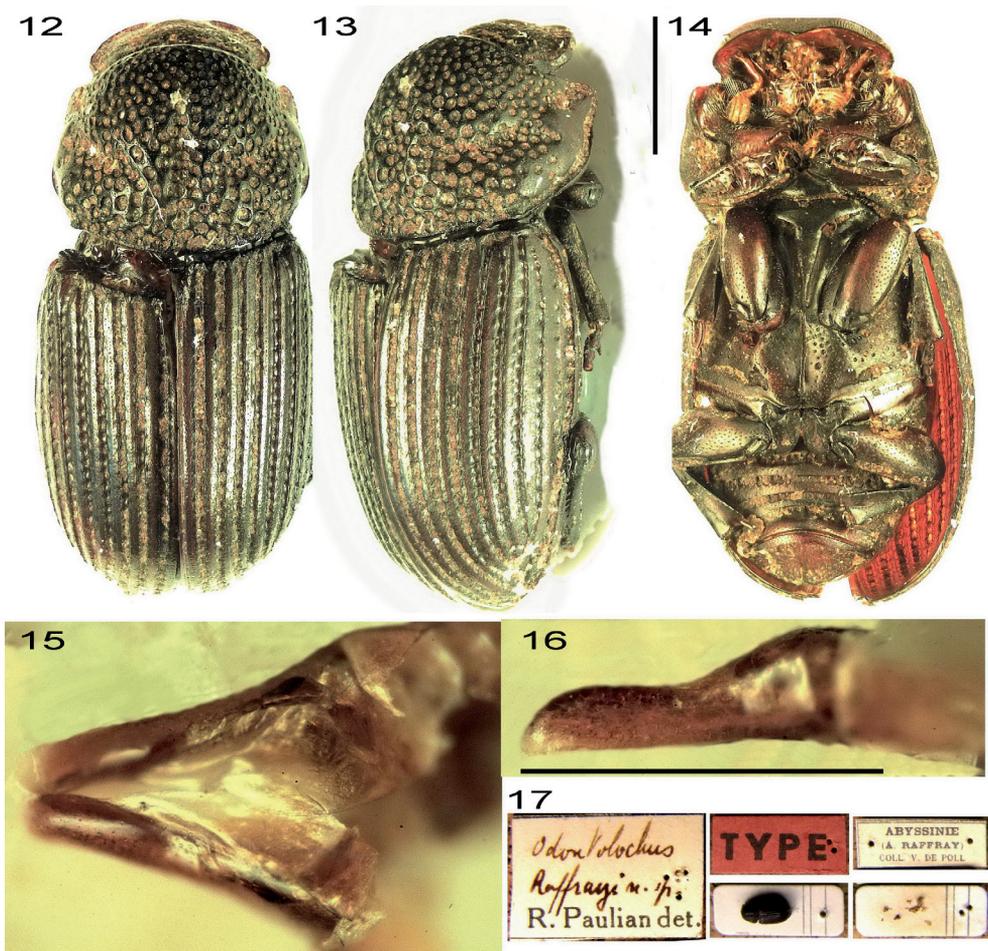
Distribution. Angola (Bié Province, Huambo Province).

***Odontolochus raffrayi* Paulian, 1942**
(Figs 11-16)

Odontolochus raffrayi Paulian, 1942: 125. Type locality: "Abyssinie".

Type material examined. Holotype equipped with labels as shown in Fig. 17 (MNHN).

Notes. In the revision of Afrotropical *Odontolochus* species quoted in the Introduction (Stebnicka 2009), there is a mention "holotype (sex not determined)", but we found a card with mounted aedeagus under the card with the mounted holotype specimen.



Figs 12-17. *Odontolochus raffrayi* Paulian, 1942, holotype, ♂: 12- habitus, dorsal view; 13- habitus, oblique view; 14- habitus, ventral view; 15- aedeagus, dorsal view; 16- aedeagus, lateral view; 17- original labels and cards with holotype material. Scale lines: 1 mm for Figs 12-14, 0.5 mm for Figs 15-16.

DISCUSSION

Odontolochus is a prevalently Afrotropical genus (13 species). Two species have also been described from Australia (Stebnicka & Howden 1966). Species formerly described from the Western Hemisphere were removed from the genus and transferred into relevant South-American genera of the tribe Eupariini by Stebnicka & Galante (2007).

Different members of the genus *Odontolochus* are known from many countries, from all parts of the Afrotropical Region, i.e. from East Africa, West Africa, Central Africa as well as South Africa. It is of interest to point out the fact that the new species described here represents the first record of the genus from Angola.

Within the description presented here, the character “eyes visible from above” is included. The statement concerning the tribe Odontolochini in general (Stebnicka 2009) “Eyes small or reduced, concealed under pronotal margin” probably resulted from observations of specimens mounted with head retracted and inclined downward. We disagree in the point that the tribe is related to Odochilini. On the other hand we agree that members of the tribe Odontolochini probably inhabit nests of termites (or possibly ants). The presence of the yellow material (probably dried secreta) at anterior ends of two (paired) grooves found in the anterior meso-metaventral area of the species described here (see the description of the underside and Fig. 10) stands in support of this concept.

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