Studies and Reports
Taxonomical Series 15 (1): 171-175, 2019

Blackburneus banari sp. nov., a new species of Aphodiinae from Zambia (Coleoptera, Scarabaeidae)

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Taxonomy, description, new species, Scarabaeidae, Aphodiinae, Aphodiini, *Blackburneus*, Zambia

Abstract. A new species of genus *Blackburneus* Schmidt, 1913, *Blackburneus banari* sp. nov. from Zambia is described and photographed.

INTRODUCTION

Examination by one of us (ŁM) of unidentified Aphodiini preserved in the Moravian Museum in Brno has identified an African species which was proved new to the science.

Due to the shape of the habitus, the aedeagus and the epipharynx, the new species belongs to the genus *Blackburneus* Schmidt, 1913, as redefined by Dellacasa et al. (2001) taking into account the morphological characteristics of the type species.

This genus essentially contains species included in the intertropical zone and an update was made by Dellacasa et al. (2011) for Neotropical species.

For Afrotropical fauna, 43 species are listed in the catalogue of Dellacasa M. (1988) but a revision would reduce the number considerably. However, this work requiring the study of all types of species would go well beyond the scope of this note.

MATERIAL AND METHODS

The specimens were observed with a Nikon SMZ-U stereoscopic microscope. The photographs published here were taken with a Canon EOS 5D Mark III connected with Canon MP-E 65mm macro lens. Photographs were edited using Helicon Focus programme, and Abobe Photoshop Elements 2018.

For morphological terms used in the description of specimens we follow Dellacasa et al. (2001, 2010).

All specimens of new species from typical series are indicated by a red, printed label and bearing the status of the specimen, its name, name of the authors, and year of the designation.

The holotype and twelve paratypes are part of colection of Moravian Museum (Brno, Czech Republic) (MMB), two paratypes are part of private collection of Łukasz Minkina deposited in Institute of Systematics and Evolution of Animals (Kraków, Poland) (ŁM), two paratypes are part of colection of National Museum of Praha (NMP), two paratypes are part of private collection of Patrice Bordat (Saint-Cirq, France) (PBOC).

TAXONOMY

Blackburneus banari sp. nov.
(Figs. 1-8)

Type locality. Zambia, 45 km SE Kitwe.

Type material. Holotype (♂): Zambia, 45 km SE Kitwe, 12.01 - 15.01.2003, leg. Jiři Chromý [MMB]. Paratypes: (1 spec.): Zambia, 45 km SE Kitwe, 12.01 - 15.01.2003, leg. Jiři Chromý [MMB]; (6 spec.): Zambia, 45 km SE Kitwe, 12.01-15.01.2003, leg. Arnošt Kudrna Jr. (4exx. MMB, 1 ex. ŁM, 1 ex. PBOC); (9 spec.): Zambia, 20 km SE Mwinilunga, 07-08.01.2003, leg. Arnošt Kudrna Jr. (7exx. MMB, 1ex. ŁM, 1 ex. PBOC); (2 spec.): Zambia NW, 20km SE Mwin[i]lunga, 08.01.2003, leg. J. Halada (NMP).

Description. Dorsum (Fig. 1). Body length of holotype 4.0 mm, elongate, shiny, orange-brownish, with only few barely noticeable, very short macrosetae on apex of elytra.

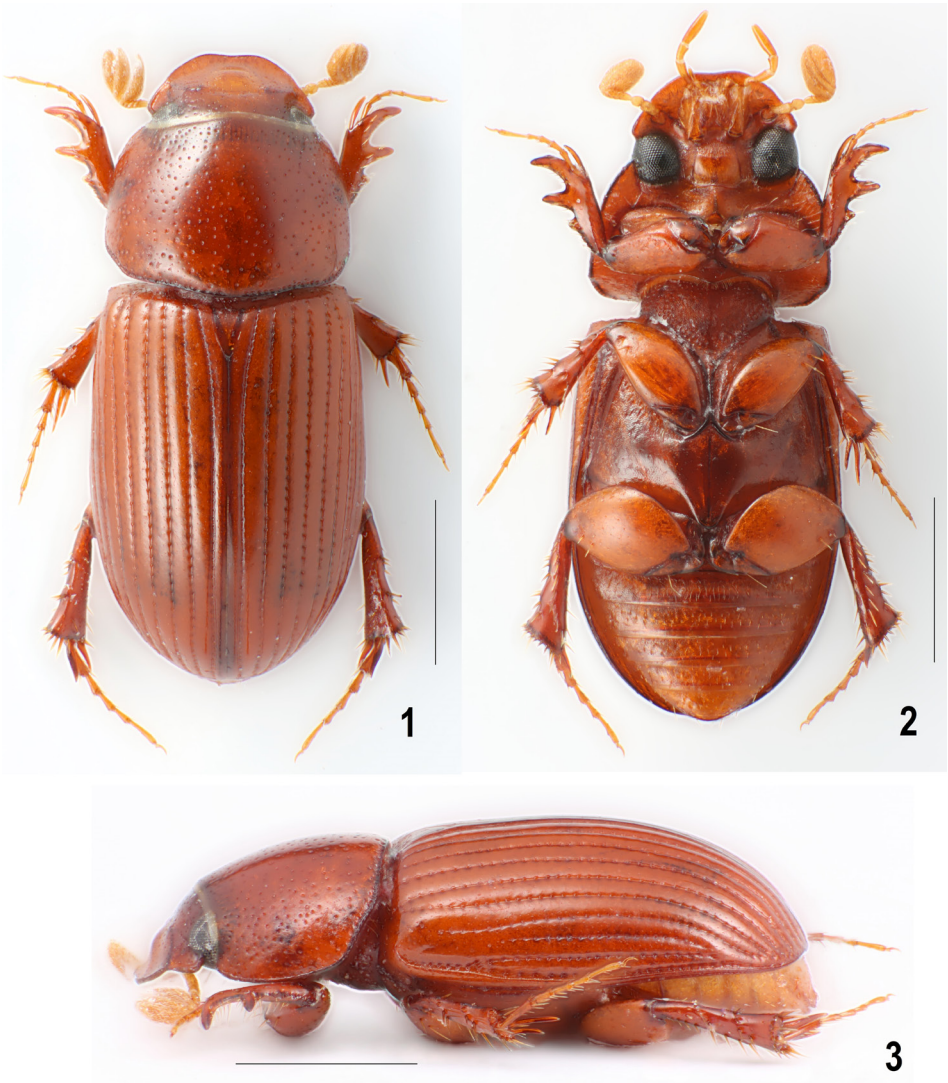
Head (Fig. 4) trapezoidal, slightly convex, shiny, without microreticulation. Clypeus very feebly bordered, with sides flattened and feebly upturned, feebly sinuate anteriorly, widely rounded laterally, feebly notched before genae, clypeal border with extremely short macrosetae. Genae obtuse, slightly exceeding eyes, with few very short macrosetae. Frontal suture rather distinct, without gibbosities; central epistomal gibbosity distinct, rather high. Clypeus distinctly, doubly punctate: larger punctures rather not dense, located mainly on the frons and nearby frontal suture, about 3-5 times larger than smaller, rather irregularly spaced, rather regular in size; smaller rather sparse, irregularly spaced, rather regular in size. Eyes relatively large.

Epipharynx (Fig. 8) transverse, with sides broadly rounded, anterior margin of pedia concave, corypha is recessed, with two distinct celtes. Epitorma nearly triangular, with sides straight, evenly narrowed to the apex.Tormae thin, relatively short.

Pronotum transverse, approximately as wide as base of elytra, widest near the base, convex, shiny, without microreticulation, with double punctation: larger punctures irregularly spaced, moderately large, rather regular in size, four to six times larger than the smaller ones, rather dense; smaller punctures rather regularly spaced, regular in size, rather dense; base slightly unclearly, shallowly bordered, sides bordered, indistinctly visible from above, anterior part not bordered; sides with very short, quite dense macrosetae. Anterior angles widely rounded; base of pronotum before hind angles truncate.

Scutellum small, pentagonal with sides parallel, with few medium-sized punctures, shiny, with a trace of microreticulation.

Elytra rather elongate, convex, slightly widened posteriorly, widest nearby the middle, shiny, without microreticulation; without humeral denticles; with ten striae and ten intervals. Striae distinctly, densely and rather coarsely punctate; punctures distinctly indenting margins of intervals. Striae before apex becoming deeper and wider, they are not joined together before apex; striae eighth and ninth shortened before apex; striae seventh to ninth shortened before base. Intervals rather shiny, distinctly convex, more convex before apex; intervals eighth to tenth joined before apex; punctate; punctures as large as smaller punctures of pronotum, quite dense, irregularly spaced. Apex of elytra with few very short, barely noticeable macrosetae.



Figs. 1-3. *B. banari* sp. nov., ♂, holotype: 1- dorsal view, 2- ventral view, 3- lateral view. Figs. 1-3: scale lines: 1.0 mm.

Pygidium with similar structure to ventrites but with two thin setae at apex and four others transversally aligned on disc.

Legs. Femora wide, shiny, without microreticulation, finely and sparsely punctate, with a part of punctures bearing short macrosetae. Protibiae very distinctly tridentate laterally, proximally with row of few, very small teeth; dorsal side smooth, shiny, with few very fine punctures; apical spur longer than the first protarsal segment, broadened in the middle, feebly downwardly bent, with acute apex. Meso- and metatibiae with two strong transverse

Figs. 4-5. *B. banari* sp. nov, heads: 4- ♂, holotype, 5- ♀, paratype. Figs. 4-5: scale lines: 1.0 mm.

carinae, fimbriate apically with row of spinules of nearly unequal length with two long setae on the metatibiae. Metatibiae superior apical spur slightly longer than basal metatarsomere, latter nearly as long as next two following metatarsomeres combined. Claws rather thick, feebly arcuate.

Macropterous.

Venter (Fig. 2). Metasternal plate shiny, nearly flat, with distinctly visible median longitudinal line; with few moderately large punctures. Abdominal ventrites shiny, densely, moderately coarsely punctate; all punctures bearing rather short and thin macrosetae; without microreticulation.

Aedeagus (Figs. 6-7). Parameres slightly shorter than phallobase, narrowing, with small membranous process at apex, apically acute. Only peak of parameres, when visible from the side feebly downwardly directed.

Sexual dimorphism. Central epistomal gibbosity more distinct in females. Clypeus usually more distinctly notched before genae in females. Females with apical spur of protibiae slightly more distinctly downwardly bent, and slightly more clearly acute at apex. Females with metasternal plate feebly convex.

Variability. Body length 3.5-4.4 mm. Sometimes striae eighth and ninth joined before apex. Punctation of body is slightly variable.

Etymology. This species is named after Petr Banař (MMB), who enabled us to examine a

Figs. 6-8. *B. banari* sp. nov., ♂, holotype: 6- aedeagus in lateral view, 7- aedeagus in dorsal view, 8- epipharynx. Figs. 6-8: scale lines: 0.2 mm.

large part of the type material and who gave us part of it for our collections.

Differential diagnosis. The newly described species undoubtedly belongs in the genus *Blackburneus* Schmidt, 1913, because of: size and colour of body, relatively large eyes, distinctly, strongly dentate protibiae, shape of aedeagus and epipharynx, shape of apex of elytra, with specific shape of striae and intervals however because of the base of the pronotum is only indistinctly bordered its placement in the genus, based on the key to type species of Dellacasa et al. (2001) could be difficult.

By the size, shape of the head and anterior tibiae, the new species bears great resemblance to *Blackburneus furcatus* (Schmidt, 1909). But in this species, the cheeks are rounded, the base of the pronotum is not bordered and especially it lives in the Neotropical region. Using the key of *Blackburneus* species of Endrödi (1964), we arrive at *Aphodius calvus* Schmidt, 1909, which is not suitable because in this species, the cheeks are rounded, the lateral margins of the head are clearly ciliated, the base of the pronotum is clearly bordered, and so on...

ACKNOWLEDGEMENTS. Cordial thanks go to Petr Banař (Brno, Czech Republic) for possibility of loan of part of examined material from MMB, and gift to author's collections. Special thanks go to Robert Angus (Great Britain) who checked our English.

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Received: 28.9.2018
Accepted: 20.10.2018
Printed: 31.3.2019