ISSN 0013-8738, Entomological Review, 2018, Vol. 98, No. 9, pp. 1177–1180. © Pleiades Publishing, Inc., 2018.

Microdaccus bushehricus sp. n., a New Carabid Species from Iran (Coleoptera, Carabidae: Lebiini)[1]

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Received March 9, 2019
Revised March 11, 2019
Accepted March 11, 2019

Abstract—A new species of the genus *Microdaccus* Schaum, 1864, *M. bushehricus* **sp. n.,** is described from Bidkhun in Bushehr Province, southern Iran.

DOI: 10.1134/S001387381809004X

The genus *Microdaccus* Schaum, 1864 includes eight species, which are distributed mainly in the eastern Mediterranean region from Greece and Turkey in the north to southern Iran in the south. One species is known from Southern Kazakhstan, and one is described from Afghanistan (Kabak, 2017a).

The diagnostic characters of this and the related genus *Psammodromius* Peyerimhoff, 1927 were described by Mateu (1981). In the material of Hayk Mirzayans Insect Museum, we found a specimen of a new species of the genus *Microdaccus*, which had been collected in Bushehr Province in southern Iran. This species is described below.

MATERIALS AND METHODS

The present study is based on the examination of a specimen of the new species and a dozen specimens of the genus *Microdaccus* from different regions of Palaearctic Asia.

Specimen was examined and measured using a Leica MZ 12.5 stereomicroscope with an ocular micrometre. Macrophotographs were taken with a Canon 750D DSLR digital camera and Canon MP-E 65 mm macrolens or a Nikon 10x objective. The genitalia were dissected and cleaned in 10% KOH.

The following measurements were taken: body length (BL), from the anterior margin of the clypeus to the elytral apex; head width (HW), maximum width of head across the eyes; pronotal length (PL), pronotum length along its median line; elytral length (EL), from the apex of the scutellum to the apex of the elytra; the width of the pronotum (PW) and elytra (EW), at their broadest point; and of the pronotal base (PB), between the hind angles of pronotum.

Genus ***MICRODACCUS*** Schaum, 1864

Microdaccus bushehricus Muilwijk et Kabak, sp. n. (Figs. 1, 2)

Material. Holotype, male: "**Iran**, *prov. Bushehr*, Bidkhun, Mangrove Forest, 9.I.1996, Ardeh/Badii/ Naz.V. leg."/ *Microdaccus bushehricus* Muilwijk & Kabak / Holotype (red label) (Hayk Mirzayans Insect Museum, Tehran, Iran).

Diagnosis. A very large (size exceeding 5 mm), one-colored yellowish *Microdaccus* species with small head, strongly protruding eyes and ample ovoid elytra.

Description. Large-sized species (BL = 5.07 mm), body subconvex, antennae and legs long and slender (Fig. 1). Winged. Color, including appendages, yellow, only apices of mandibles darkened.

Head small, PW / HW = 1.22; eyes very large, hemispheric; tempora very short. Two pairs of su-

[1] This article was originally submitted by the authors in English and is first published here.

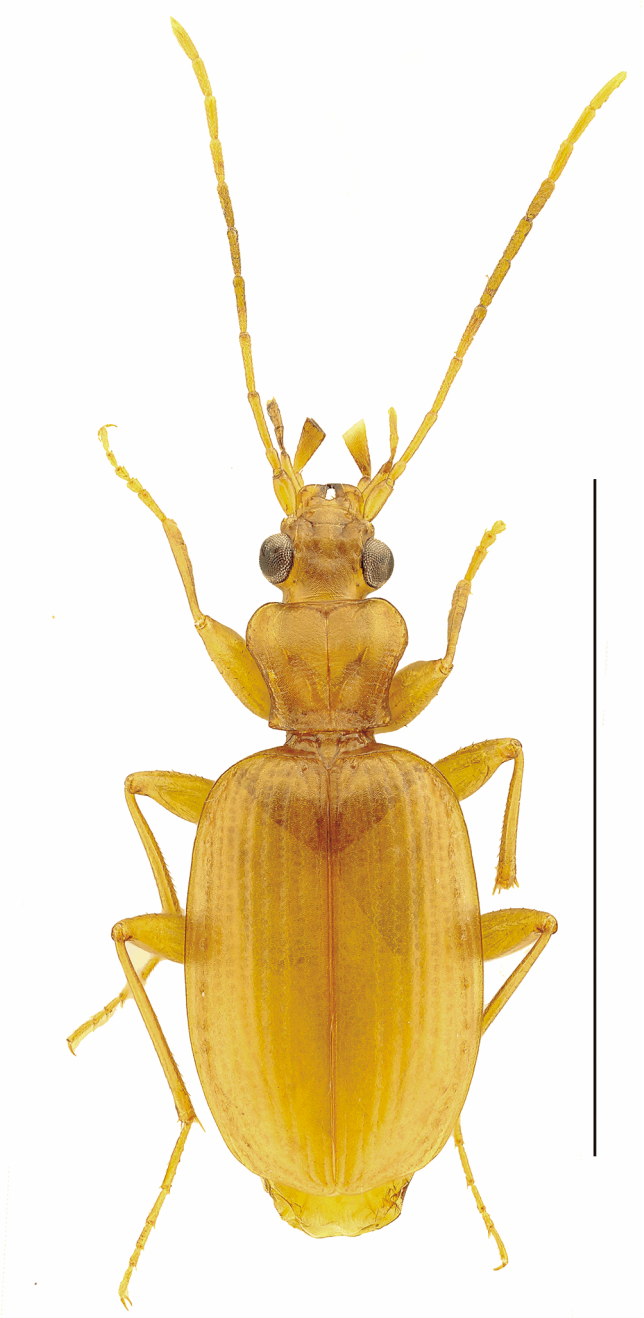

Fig. 1. *Microdaccus bushehricus* sp. n.: male, holotype, scale: 5 mm.

praorbital setiferous pores, anterior pair deeply foveolate, located at the eyes mid-length level, posterior pair close to posterior margin of eyes. Clypeus with a pair of deep setiferous pores. Labrum with two pairs of setiferous pores, the lateral pores deeper than median ones; the anterior margin of labrum markedly concave medially, rounded laterally. Frons subconvex, with a pair of round impressions, joint medially; frontal furrows deep. Mandibles short and broad, abruptly bent in distal half, with thin distal part, inner margin of mandibles with a tooth. Ultimate segment of labial palpi very long, triangular. Maxillary palpomeres long and slender, especially the first one. Mentum flat, tooth broadly rounded at apex. Antennae very long and slender, surpassing the elytra mid-length.

Pronotum cordiform, rather narrow (PW / PL = 1.19), widest in anterior third. Lateral margins strongly rounded anteriorly. Lateral gutter broad basally, narrow apically. Anterior margin slightly concave, anterior angles broadly rounded. Base wide (PW / PB = 1.33), basal margin subrectilinear; basal surface broadly flattened; basal foveae superficial. Posterior angles large, acute, directed outward. Two lateral setiferous pores on each side of pronotum, anterior one placed near the broadest part of pronotum, posterior one just in front of hind angles. Median line deep.

Elytra rather large (EL / PL = 3.11, EW / PW = 1.83), broad (EL / EW = 1.42), oval, widest in posterior third. Humeri broadly rounded, lateral margins almost evenly arcuate, obliquely emarginate apically. Disc slightly flattened along suture. Intervals subconvex; striae continuous, moderately deep, superficially punctate, stria 8 short and very superficial. Two small discal pores attached to stria 3, anterior one located in middle, posterior one in apical part. Basal border not sinuate. Lateral groove narrow, slightly widened at middle. Umbilicate series consisting of 15 pores. Two preapical setae: in the 2nd and 5th striae.

Dorsal side matt, with dense microsculpture, consisting of isodiametric meshes on head and pronotum, more transverse on pronotal disc, elytral microstructure consists of overlapping sculpticells.

Ventral side. Head, prothorax and abdomen matt with dense transverse meshes, metathorax shiny with polygonal meshes. Metepisterna slightly longer than wide. Metatrochanters with five very fine setae along the posterior margin. One paramedian seta on each side of abdominal sternites 3–5.

Legs rather long, metatibia distinctly longer than metatarsus. Dorsal surface of tarsi finely pubescent, claws simple. Male protarsus with three basal segments slightly dilated.

Median lobe of aedeagus (Fig. 2) swollen medially, only slightly curved in lateral view; apical lamella straight, rather broad, rounded apically. Endophallus

armature consisting of two sclerotized structures located slightly behind the middle of aedeagal tube. The aedeagus of the holotype has been lost after examination and cannot be illustrated in details.

Comparative notes. The new species is rather isolated within the genus *Microdaccus*, differing from all its currently known members in the following combination of characters: large-sized and unicolorous yellow body, proportionally small head, large hemispheric eyes, oval elytra with rectilinear basal border and medially swollen median lobe of the aedeagus. *Microdaccus bushehricus* sp. n. is most similar to *M. sugonjaevi* Kabak, 2015 from Afghanistan (Kabak, 2015) in the following external characters: large-sized body, long appendages, pale color, deeply concave anterior margin of labrum, narrow pronotum with large, outward-directed hind angles, and presence of a tooth on inner margin of mandibles. The new species differs in the more markedly curved mandibles, less transverse ultimate segment of the labial palpi (in male), narrower base of pronotum (PW / PB = 1.33 vs. 1.28 in *M. sugonjaevi*), and lack of the dark spot on the elytra.

Microdaccus bushehricus sp. n. is distributed close to *M. escalerai* Morvan, 1977 and *M. opacicolor kharoumensis* Mateu, 1981. The descriptions of both latter taxa are based on the specimens collected by M. Escalera in the same locality (named "Kamenogri" by Morvan and "Kaemenogra" by Mateu), in the Karun (= Kharoum) Valley in the Zagros Mt. (Morvan, 1977; Mateu, 1981). The only known specimen of *M. escalerai* is yellowish testaceous with brownish transverse stripe on the posterior half of the elytra. *Microdaccus opacicolor kharoumensis* is variable in colour: two type specimens are bicolorous (with dark forebody and posterior part of the elytra), and one specimen is completely testaceous. Both taxa clearly differ from *M. bushehricus* sp. n. in having parallel-sided elytra which is a common character among the *Microdaccus* species. Considering that Mateu (1981) did not cite the work by Morvan (1977) and taking into account the variability, we may assume that the name *M. opacicolor kharoumensis* Mateu, 1981 is a junior synonym of *M. escalerai* Morvan, 1977, but we refrain from changing the nomenclature before studying the type specimens.

Apart from the above mentioned characters (large size, small head, oval elytra with rectilinear basal border, swollen median lobe of the aedeagus), *M. bushehricus* sp. n. is easily distinguished from the also unicolorous yellowish *M. glasunovi* Emetz, 1979 from Southern Kazakhstan (Emetz, 1979; Kabak, 2017b) by the following characters: integument without micropilosity, tempora shorter, appendages longer (antennae clearly longer than elytra while they are as long as elytra in *M. glasunovi*), anterior margin of the labrum deeply concave (almost straight in *M. glasunovi*), penultimate segment of the labial palpi is more strongly dilated, the pronotum is narrower (PW / PL = 1.19 vs. 1.29–1.32 in *M. glasunovi*), and its hind angles are larger.

Fig. 2. *Microdaccus bushehricus* sp. n.: aedeagus, right lateral view.

Distribution. The new species is only known from the type locality near Bidkhun Village (27°28'N, 52°39'E) in Bushehr Province, southern Iran.

Etymology. The species' epithet refers to the type locality, Bushehr Province, Iran.

ACKNOWLEDGMENTS

We are very grateful to the collectors J. Ardeh and late M. Badii (Iranian Research Institute of Plant Protection) as well as Vazric Nazari (Canadian National Collection of Insects, Arachnids and Nematodes, Ontario, Canada), who collected the new species.

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