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Original paper

A new species of *Scotoplanetes* Absolon, 1913 (Coleoptera; Carabidae; Trechini) from Durmitor Mt., Montenegro

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Summary. *Scotoplanetes nonveilleri*. sp. nov. (Coleoptera, Carabidae, Trechini) is described from Jama na Vjetrenim brdima pit ("Pit on the Windy Hills"), Durmitor Mt., Montenegro. The new species is a third representative of the genus *Scotoplanetes*. It differs from known species by general morphology and the form of the male aedeagus.

Keywords: Carabidae, Coleoptera, Durmitor Mt., new species, *Scotoplanetes*, Trechini.

INTRODUCTION

An extensive research program on the fauna of the Durmitor Mt. in Montenegro, organized by the Academy of Sciences and Arts of Montenegro and former Yugoslav Entomological Society, began in 1980. Faunistical explorations of caves and pits were included, initiated and performed by the late prof. Dr. Guido Nonveiller and the first author of this contribution (D. P.). An important number of different cave dwelling beetles (Coleoptera) has been collected, first among these representatives of Leptodirini (Coleoptera, Leiodidae) and Trechinae (Coleoptera, Carabidae), including new genera and species (Pavićević 1990, 2001; Nonveiller and Pavićević 1999). Some of the most interesting findings were in the Jama na Vjetrenim brdima pit ("Pit on the Windy Hills") situated at an elevation of 2196 m a.s.l. The pit was speleologically explored in 1984 for the first time, and in 1985 again by the speleological societies from the former Yugoslavia and abroad. In the scope of these faunistical explorations, the pit was biospeleologicaly investigated in July 1991 for the first time. At a depth of -300 m speleologists found one glass jar left by members of former speleological expedition (in 1985), reclined on the pit wall in an hygropetricolous ecological niche (Sket 2004). This jar was filled with water and deposit in which we found a lot of rests of different cave dwelling beetles and other arthropods which were washed down from the pit wall. The most interesting discovery in this jar was one male of aphaenopsoid trechine from the genus *Scotoplanetes*. The male was in one piece, but without legs, antenae and chetae as a result of its long standing in water. All of our efforts to find some live specimens of this trechine in forthcoming years were unsucessful. In the meantime, prof. Non-

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veiller passed away, and the first author of this article (D. P.) was getting older, so we made the decission to describe this, without doubt, as a new species. In the moment of discovery, the genus S*cotoplanetes* was montypic, with *Scotoplanetes arenstorffianus* Absolon, 1913 known from Hercegovina, Vjetrenica cave near Zavala (Absolon 1913; Jeannel 1928). In the meantime, additional species of the same genus have been described, *Scotoplanetes aquacultor* Lakota, Lohaj et Dunay, 2010 from Vodna jama pit, Dragaljsko polje near Grahovo in Montenegro (Lakota et al. 2010). The species was also found in a hygropetric habitat.

MATERIAL AND METHODS

The morphological features of the holotype were eximened using a WILD M 8 ZOOM, LEICA MZ 16 stereomicroscope and CARL ZEISS AXIOSCOPE 40 microscope. Male genitalia were dissected, cleaned and mounted in Canada balsam on transparent slides under the examined specimen.

Abbreviations of measurements used in the text are as follows:

TL: total body length (measured from the anterior margin of clypeus to the apex of elytra).

L: overall length (from apex of mandibles to apex of elytra, measured along the sutura).

HL: head length (measured from the base of the neck to the front margin of clypeus).

HW: maximum head width.

PL: pronotum length (measured along the median line).

PW: maximum width of pronotum.

EL: elytral length (measured along sutura from the elytral base to the apex).

EW: maximum elytra width.

RESULTS

***Scotoplanetes nonveilleri* sp. nov.**

(Figs 1-2)

Description

Medium sized, apterous and depigmented trechine with aphaenopsoid characters: elongated body, long and narrow head and pronotum, long mandibles, elytra subovate elongate, strongly flattened.

TL = 5.7 mm, L = 6.5 mm. Colour yellowish brown, mandibles darker, head, pronotum and elytra with isodiametric microsculpture, the last two with transverse meshes as well.

Head (Fig. 1A) large, elongated, slightly wider than pronotum, with its maximum at the level of insertion of the anterior supraorbital pores, HL = 1.2 mm, HW = 0.8 mm; with two pairs of supraorbital pores, anterior pair before middle, posterior pair at hind part of head, close to the neck. Frontal furrows complete, deep, regularly arcuated, more superficial in posterior part, where they are vanishing just after the second pair of supraorbital pores. Genae almost straight, eyes totally absent. Labrum is missing. Mandibles elongate and moderately slender, inwardly arcuate, apices acute; right mandible 0.8 mm, with bidentate retinaculum: anterior tooth big and strong, posterior small. Left mandible longer than right, 1 mm, with an obtuse tooth. Mentum imperfectly fused with submentum, with an expressed median anterior convexity (Fig. 1B). Mouthparts, such as maxilla, their and labial palps are missing. Antennae are missing too.

Pronotum (Fig. 1C) elongate, slightly narower than head, with maximum width in first third, from where it is strongly narrowing, almost straight, to the obtuse hind angles. PL = 1.0 mm, PW = 0.7 mm. Anterior angles gently rounded. Lateral groove shallow, not constricted along its full length, with a single pair of pores situated in the anterior fourth of pronotum length; posterior pair absent. Propleura visible from dorsal view. Base of the pronotum with shallow elongated median impression with four pores; median furrow visible.

Elytra (Fig. 1D) elongated, subovate, with maximum width in posterior third, strongly flattened, posteriorly little bit convex, EL = 3.5 mm, EW = 2.0 mm. Elytral striae 1-3 weakly expressed, superficial, finelly punctated; further striae vanished, replaced with rowes of small shallow pores. Scutellar striae missing; scutellar pores present. Stria 3 with eight pores on each elytron. Stria 5 with one pore on left and two on right elytron. The lateral umbilicate series of eight pores, more agregated in humeral region. Elytral sutura elevated in scutellar region, fused together. Scutellum well defined, subtriangular.

Legs are missing.

Aedeagus (Fig. 2) 0.65 mm long, moderately sclerotized, waekly asymetrical, median lobe almost straight (Fig. 2B). Parameres wide, apex with four long and strong apical setae. Endophalic structure consist of weakly chitinized lamella coated with bunch of scales and spicules.

Type locality

Montenegro, Mt. Durmitor, Vjetrena brda, Jama u Vjetrenim brdima pit, 2196 m. a.s.l., -775 m.

Type material

Holotype male: Montenegro, Mt. Durmitor, Vjetrena brda, jama u Vjetrenim brdima pit, 2196 m a.s.l., -300 m, 23.07.1991, leg. S. Ognjenović.

Deposition

Holotype is deposited in the Dragan Pavićević collection in Belgrade.

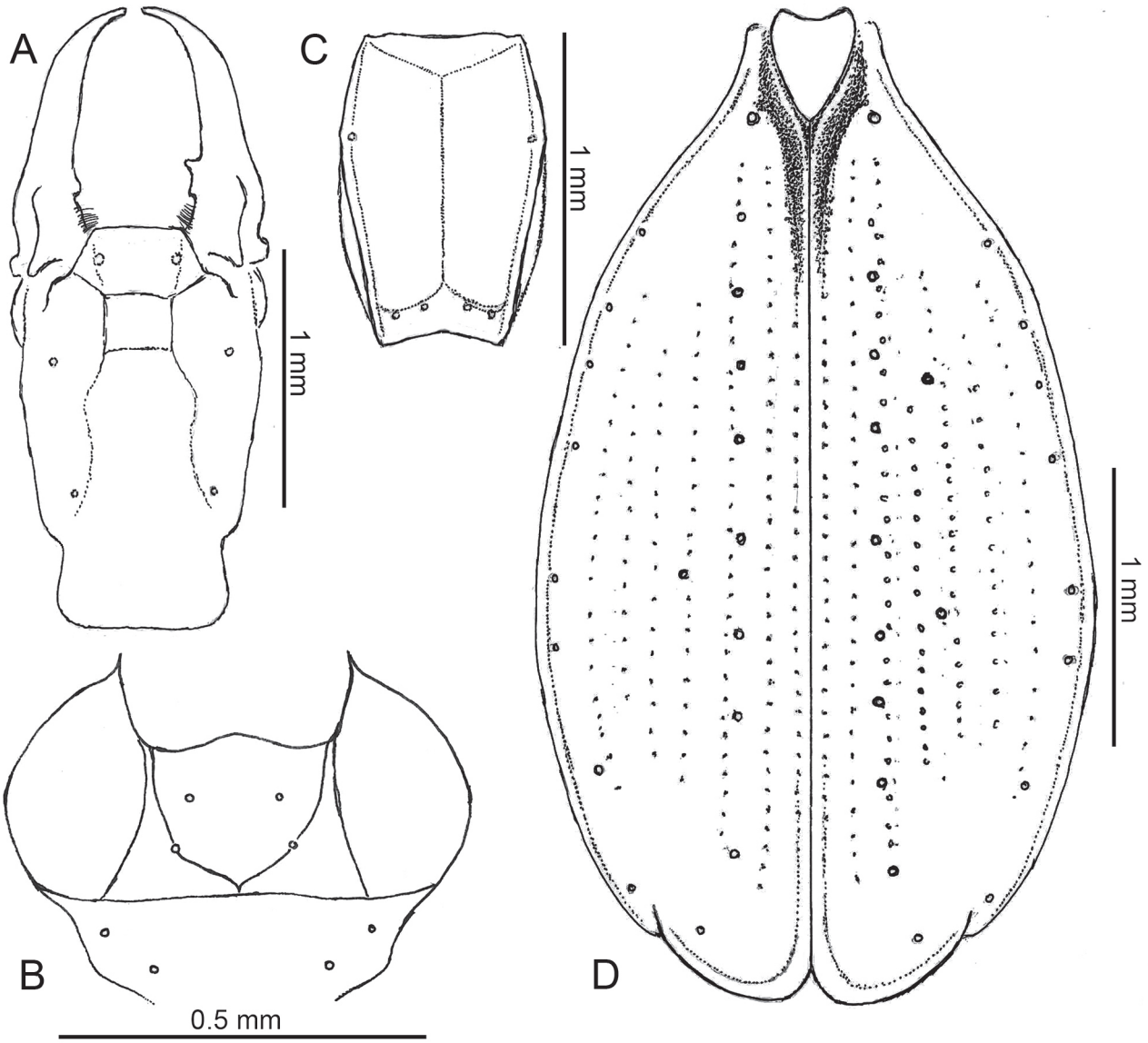

Fig. 1. *Scotoplanetes nonveilleri* sp. nov. holotype, male. **A**, head (dorsal view); **B**, mentum; **C**, poronotum (dorsal view); **D**, elytra (dorsal view).

Etymology

Patronymic, named after our longtime collaborator and colleague, prof. Dr. Guido Nonveiller (1913–2002), Zemun, Serbia.

Differential diagnosis

The new species *S. nonveilleri* is closely related to *S. aquacultor* from Vodena jama pit in Dragaljsko polje near Grahovo (Montenegro). It differs from it through its peculiar facies, such as almost straight genae (Fig. 1A), left mandible with an obtuse tooth (Fig. 1A), lateral sides of pronotum from the anterior pore almost straight to posterior obtuse angles (Fig. 1C), elytral striae hardly visible, superficiall and smooth, from the third one almost brushed out, only with rows of small shallow pores instead and different shape of aedeagus (Fig. 1D).

DISCUSSION

The genus *Scotoplanetes* so far includes two species, *S. arenstorffianus* and *S. aquacultor*.

The first was described from Vjeternica cave in the Herzegovina; and the second from the Vodna jama pit in Dragaljsko polje, near Grahovo in Montenegro (Fig. 3). The third species, *S. nonveilleri* sp. nov. was found in jama na Vjetrenim brdima pit, Mt. Durmitor in Montenegro. The common feauture of all three species is the fact that they are sporadicaly found and because of that they are rare in col-

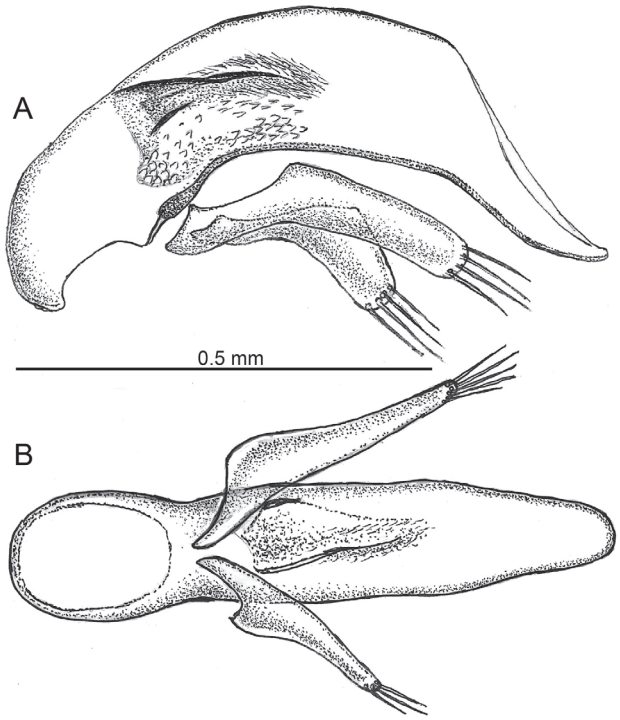

Fig. 2. *Scotoplanetes nonveilleri* sp. nov. holotype, male. **A**, aedeagus with endophalic structures (lateral view); **B**, aedeagus (ventral view).

lections. This fact makes it difficult to study them. The great morphological resemblance between the taxa in the genus *Scotoplanetes* can be a result of their adaptability to specific hygropetric ecological niches in which they live. Today we know where to search to find *Scortoplanetes* representatives, but our knowldege about their bionomy is still lacking. From the same pit (Fig. 4), in a hygropetric niche, *Tartariella durmitorensis* Nonveiller et Pavićević, 1999 (Leiodidae) was

Fig. 3. Map of the distribution of the known species of the genus *Scotoplanetes*.

discovered and described as a new species and genus. This species belongs to the so called "ultra-specialized" leiodids with modified mouth parts for water filtering (Nonveiller and Pavićević 1999). Such specialization is not characteristic for *Scotoplanetes*, despite the fact that they inhabit the same niche. They have predatory mandibles with teeth, so it still remains unknown what prey they hunt in such a hygropetric habitat.

In the same pit we found another aphaenopsoid trechine, *Adriaphanops zupcense tartariensis* (Pavićević 2001). The nominotypical subspecies *Adriaphaenps zupcense zupcense* (Pavićević 1990) was found on an adjacent mountain ridge, Zupci, in the locality Sedlo in Pećina u Zupcima cave, 2100 m a.s.l. It is very rare to find two different aphaenopsoid trechines in the same speleological object.

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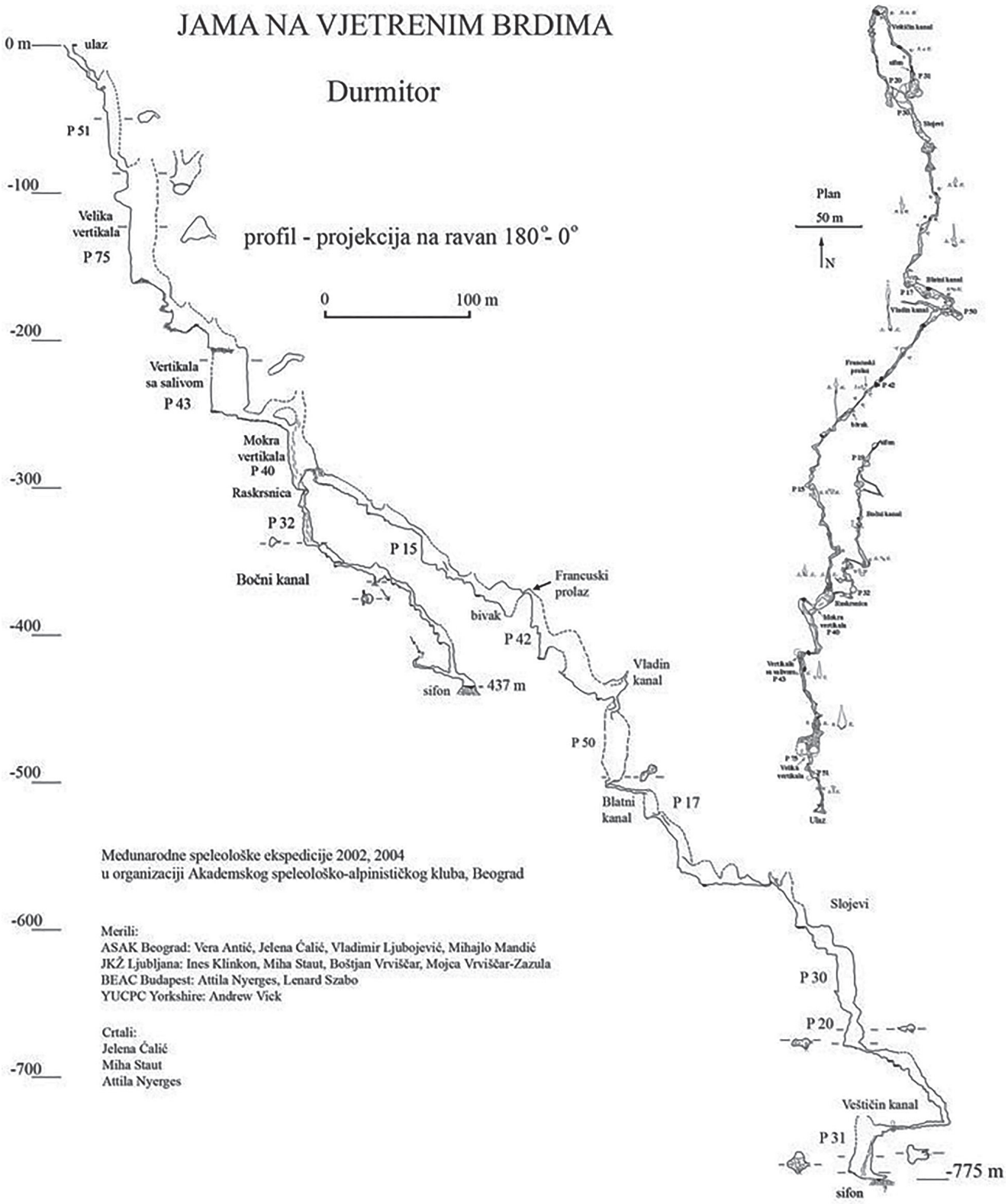

Fig. 4. Map of the Jama na Vjetrenim brdima pit ("Pit on the Windy Hills") (courtesy of Dr. Čalić).