

ON THE FIRST NON-TYPE LOCALITY RECORD
OF THE RECENTLY DESCRIBED SUBSPECIES
DUVALIUS (BIHAROTRECHUS) DURMITORENSIS BULBOSUS
JANÁK, 2025 (COLEOPTERA: CARABIDAE: TRECHINAE)

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Abstract

The newly described endogean ground beetle subspecies, *Duvalius (Biharotrechus) durmitorensis bulbosus* Janák, 2025, was found for the first time outside its type locality, Bendovac Peak, Mt. Bjelasica, eastern Montenegro. Recently, specimens of this taxon were collected in the nearby Bracanovića Pećina Cave in the village of Lubnice, near the town of Berane, on the slopes of Mt. Bjelasica. Morphological analysis confirmed that adult specimens from both localities belong to the same subspecies and that there are no significant differences between them.

KEYWORDS: Ground beetles, trechine, endogean, cave, Montenegro

Introduction

The Dinaric mountain range, which extends across Montenegro and several neighboring countries, represents an impressive global hotspot of beetle diversity (Polović, 2024). In Montenegro, the troglobitic and endogean ground beetle fauna is particularly rich and diverse (Pretner, 1977; Ćurčić et al., 2014; Hlaváč et al., 2017; Čeplík, 2023). Nevertheless, the hypogean fauna of several trechine genera in Montenegro remains insufficiently studied. This is the case with *Duvalius* Delarouzée, 1859, one of the world's most diverse and species-rich trechine genera, distributed from the Mediterranean to northwestern China (Jeannel, 1928), but represented in Montenegro by only six species: *Duvalius (Biharotrechus) droveniki* Magrini, 1998 (Mt. Hajla), *D. (B.) durmitorensis* (Apfelbeck, 1904) (Mts. Durmitor, Ljubišnja and Bjelasica), *D. (B.) maglicensis* Winkler,

1933 (Mt. Maglić), *D. (B.) speiseri* (Ganglbauer, 1892) (Mts. Volujak and Bioč), *D. (Duvalius) sturanyi* (Apfelbeck, 1904) (Mts. Durmitor, Komovi and Prokletije, as well as the vicinity of Andrijevica), and *D. (Neoduvalius) gejzadunayi* Lohaj, Čeplík & Lakota, 2013 (Pećina u Dubokom Potoku Cave near the town of Rožaje) (Hlaváč *et al.*, 2017; Janák, 2025).

Materials and Methods

The species *D. (B.) durmitorensis* comprises two endogeal subspecies, which inhabit high-altitude sites of the Dinarides in northern and eastern Montenegro: *D. (B.) durmitorensis durmitorensis* (Apfelbeck, 1904) from Mts. Durmitor and Ljubišnja, and *D. (B.) durmitorensis bulbosus* Janák, 2025 from Mt. Bjelasica (Apfelbeck, 1904; Jeannel, 1928; Janák, 2025).

The recently described trechine *D. (B.) durmitorensis bulbosus* has to date been recorded exclusively at its type locality – Bendovac Peak on Mt Bjelasica – first by Pavel Vonička in June 2003, and then by Jiří Janák in June 2022 (Janák, 2025). The quantity of material (two males and four females) collected during the initial sampling, along with its rediscovery nearly two decades later (Janák, 2025), indicates that the population of this taxon at the type locality is stable.

Two field trips conducted in 2023 by the Institute of Zoology, University of Belgrade - Faculty of Biology to the Bracanovića Pećina Cave (42°51'25.1" N, 19°45'36.6" E, 1,062 m a.s.l.) in the village of Lubnice, near the town of Berane, Mt. Bjelasica (eastern Montenegro), close to Bendovac Peak, resulted in the first discovery of the subspecies *D. (B.) durmitorensis bulbosus* outside its type locality.

The first expedition by biospeleologists from the Institute of Zoology in Belgrade to the Bracanovića Pećina Cave was organized on 28th June 2023. During this visit, pitfall traps with rotten meat as bait were placed in the cave, and the studied trechine was not found by manual search. On the second visit on 7th September 2023, one male and seven females of *D. (B.) durmitorensis bulbosus* were collected in the traps by Srećko Ćurčić, Nikola Vesović, and Vukašin Gojšina, while hand searching was again unsuccessful. Specimens of this taxon were collected in the deepest part of the cave, on damp limestone walls with trickling water, in complete darkness. Interestingly, Pretner (1977) reported a *Duvalius* species from the same cave (a single female collected by pitfall trapping on 29th May 1968), which most likely represents the same taxon. The cave is 218 m long and has beautiful speleothems, fossil channels, a channel with water, and a small lake (Karaman, 2018). In addition to *D. (B.) durmitorensis bulbosus*, the cave is also inhabited by the following leptodirine leiodid beetle taxa: *Laneyriella andrijevicensis* (Jeannel, 1924), *Blattochaeta remyi* Jeannel, 1931, and *Anthroherpon taxi remyi* Jeannel, 1931 (Pretner, 1977; Polak & Jalžić, 2019; Čeplík *et al.*, 2021). The collected trechine specimens are deposited in the collection of the Institute of Zoology, University of Belgrade - Faculty of Biology, Belgrade, Serbia.

Results and Discussion

The discovery of the trechine beetle in the Bracanovića Pećina Cave is not surprising, as the speleological site is geographically close (approximately 12 km) to Bendovac Peak, the type locality of *D. (B.) durmitorensis bulbosus* (Fig. 1). This is the easternmost record of the species *D. (B.) durmitorensis* and also its first record in a cave.

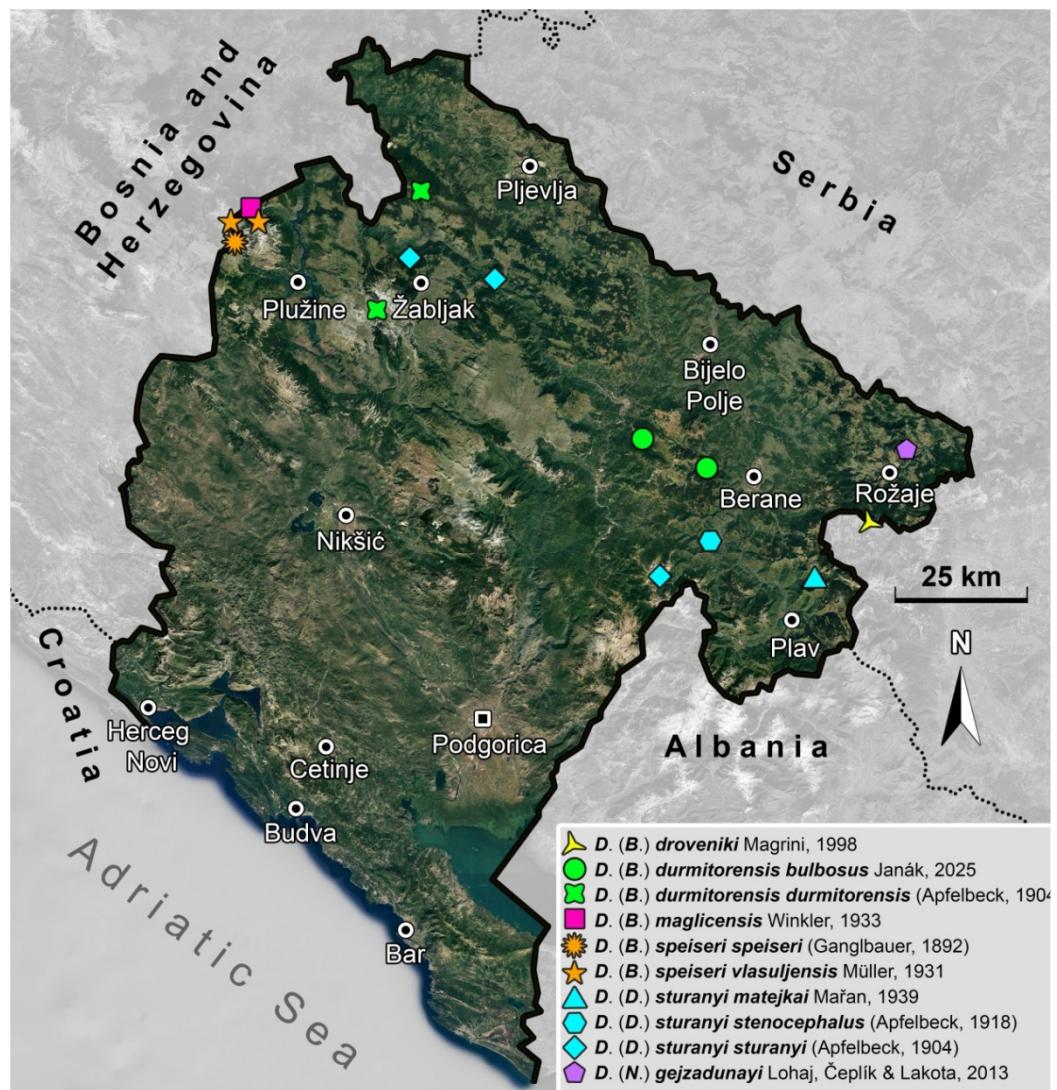


Figure 1. Distribution map of *Duvalius* taxa in Montenegro.

Morphological differences between the specimens from the two aforementioned sites are observed only in body length and aedeagus length. Specimens from the Bracanovića Pećina Cave (Figs. 2 and 3) are somewhat shorter (average body length 4.37 mm, range 4.21-4.58 mm) than those from Bendovac Peak (average body length 4.80 mm, range 4.60-5.05 mm) and have a slightly shorter aedeagus (0.89 mm vs. 0.90-0.95 mm) (Janák, 2025). The aedeagus and copulatory piece are identical; therefore, specimens from the two populations can be regarded as consubspecific.

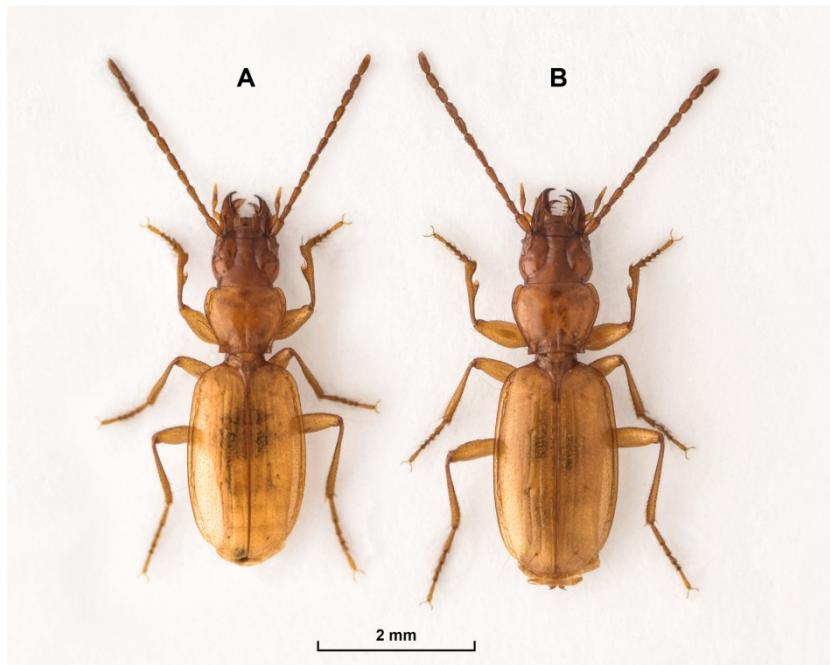


Figure 2. Dorsal view of *Duvalius (Biharotrechus) durmitorensis bulbosus* Janák, 2025 from the Bracanovića Pećina Cave. A – male; B – female. Photo: N. Vesović.

We assume that the studied trechine ground beetle may also occur in other subterranean habitats and in the mesovoid shallow substratum (MSS) near the two localities from which *D. (B.) durmitorensis bulbosus* is currently known. Its occurrence in the surrounding area and its precise distribution will become clearer after systematic investigations in this part of the Dinaric Alps.

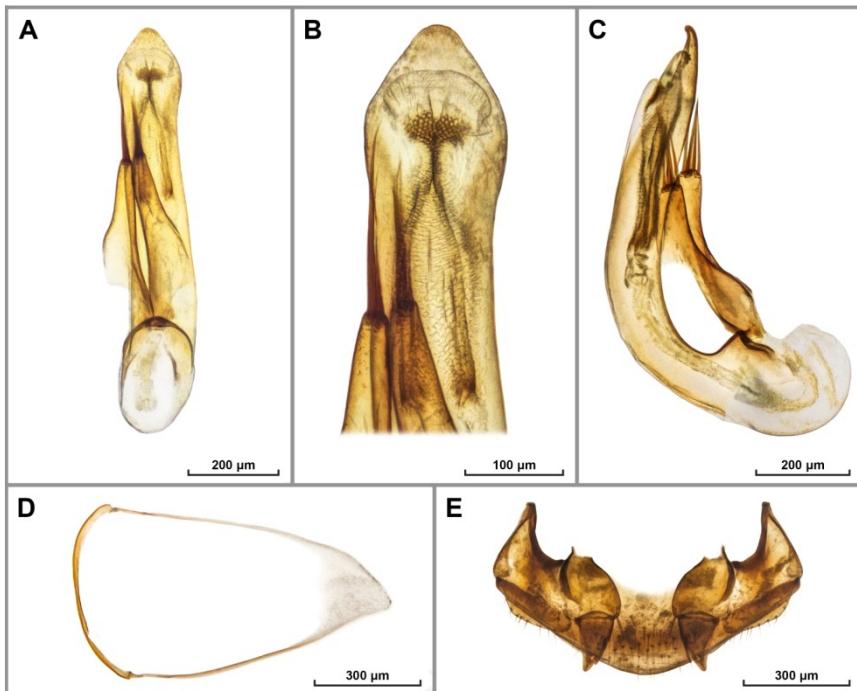


Figure 3. Morphology of selected structures of a male (A-D) and a female (E) of *Duvalius (Biharotrechus) durmitorensis bulbosus* Janák, 2025 from the Bracanovića Pećina Cave. A – aedeagus (dorsal view); B – copulatory piece (dorsal view); C – aedeagus (lateral view); D – abdominal sternite IX (urite) (dorsal view); E – gonocoxites IX and gonosubcoxites IX (dorsal view).

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О ПРВОМ НАЛАЗУ НЕДАВНО ОПИСАНЕ ПОДВРСТЕ
DUVALIUS (BIHAROTRECHUS) DURMITORENSIS BULBOSUS
JANÁK, 2025 (COLEOPTERA: CARABIDAE: TRECHINAE)
ВАН ТИПСКОГ ЛОКАЛИТЕТА

СРЕЋКО ЂУРЧИЋ, ВУКАШИН ГОЈШИНА, НИНА ЂУРЧИЋ И НИКОЛА ВЕСОВИЋ

ИЗВОД

Новоописана ендогејска подврста трчулька, трехина *Duvalius (Biharotrechus) durmitorensis bulbosus* Janák, 2025, први пут је пронађена ван свог типског локалитета (врх Бендовац, планина Ђеласица, источна Црна Гора). Примерци овог таксона су недавно сакупљени у оближњој Браџановића пећини у селу Лубнице, у околини Берана, на обронцима Ђеласице. Морфолошка анализа је потврдила да адултни примерци са оба локалитета припадају истој подврсти, као и да не постоје значајније разлике између њих.

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