

A NEW CAVERNICOLOUS SPECIES OF THE GENUS *BRYAXIS* (COLEOPTERA: STAPHYLINIDAE: PSELAPHINAE) FROM THE ISLAND OF MLJET

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Bryaxis krilei sp. nov., a new cavernicolous species of the tribe Bythinini from the island of Mljet, Croatia is described and illustrated, and the systematic position of the species is discussed.

Key words: Coleoptera, Staphylinidae, Pselaphinae, Bythinini, *Bryaxis krilei* sp. nov., biospeleology, Croatia, taxonomy

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U radu se opisuje nova špiljska vrsta tribusa Bythinini, *Bryaxis krilei* sp. nov., s otoka Mljeta te se raspravlja o njenom položaju u sistematici.

Ključne riječi: Coleoptera, Staphylinidae, Pselaphinae, Bythinini, *Bryaxis krilei* sp. nov., biospeleologija, Hrvatska, taksonomija

INTRODUCTION

The genus *Bryaxis* with 417 described species and subspecies (NEWTON & HLAVÁČ, pers. data) is by far the largest pselaphine genus of the world. *Bryaxis* are usually found in various kind of litter, mainly in forested areas, but some species have developed an interesting, cavernicolous way of life. Only ten cave-dwelling species of *Bryaxis* are known so far from the Balkan peninsula (HLAVÁČ, OZIMEC & PAVIČEVIĆ, 2008). During a recent biospeleological exploration of caves of the island of Mljet (Fig. 1.) by Branko Jalžić and his team, another new cavernicolous species was found in the »Male ponte jama«, and the species is described below. The following abbreviations are used in the text: CNHM – Croatian Natural History Museum, Zagreb; CPH – coll. Peter Hlaváč.



Fig.1. Geographical position of the island of Mljet

***Bryaxis krilei* sp. n.**
(Figs. 2–8)

Etymology: Named after Prof. Kristo Krile from Dubrovnik, in recognition of his efforts to improve our knowledge of the caves on the island of Mljet (KRILE, 1913).

Material studied: HOLOTYPE, 1♂: CROATIA: Mljet, Ropa, Grabova glava, Male ponte jama, 9.IV.2007, B. Jalžić lgt. / HOLOTYPE *Bryaxis krilei* sp. n. P. Hlaváč det., 2007. CNHM. Paratypes (2♂, 4♀) the same data as holotype but one specimen collected on 8.IV.2007 and another one (♂) on 27.IV.2008, collectors of paratypes are B. Jalžić, M. Pavlek and H. Bilandžija. All paratypes bear the following label: PARATYPE *Bryaxis krilei* sp. n. P. Hlaváč det., 2007. CNHM, CPH (paratype ♂ in euparal).

Description. Body shiny, light reddish brown, sparsely pubescent, legs, antennae and maxillary palpi slightly lighter, length 1.73–1.79 mm, maximal width of elytra 0.74–0.78 mm. Head (Fig. 2) smooth, about as long as wide, with very prominent small eyes, composed of only 3–4 facets, rostrum slightly prominent, frons between antennal tubercles with deep excavation, reaching almost half of head, joint to base with median vertexal carina, tempora rounded, vertexal foveae deep and large; maxillary palpi normally developed, all segments smooth, segment IV 0.24–0.25 mm long, regularly and densely pubescent; antennae (Fig. 3) long and slender, scape slightly less than four times as long as wide, subcylindrical, simple, about 3

times as long as pedicel, pedicel elongate, about 1.5 times as long as wide, antennomeres III–VII elongate, VIII–X transverse, antennomere X about 1.3 times as long as IX, terminal antennomere three times as long as X and 1.3 times shorter than scape, pointed at apex.

Pronotum smooth, about as long as wide and 1.2–1.3 times longer than head, strongly swollen laterally in apical third, here widest, lateral antebasal foveae well defined, joint by fine antebasal sulcus.

Elytra long, slightly convex, elytron at suture about 1.6 times as long as wide, evenly widened from base to apex, two basal foveae joined by a fine sulcus, discal stria completely absent, sutural stria fine but well defined through whole length of elytra. Abdomen about 1.5 times shorter than elytra, pointed apically.

Legs slender and relatively long, protibiae in male (Fig. 4) with a small tubercle on mesal margin located in apical third, metatibiae simple.

Aedeagus (Figs. 5, 6) 0.55 mm long, parameres short and narrow, slightly pointed at apex, each with two apical setae, endophallous very large, with two subequal, sclerotized pieces.

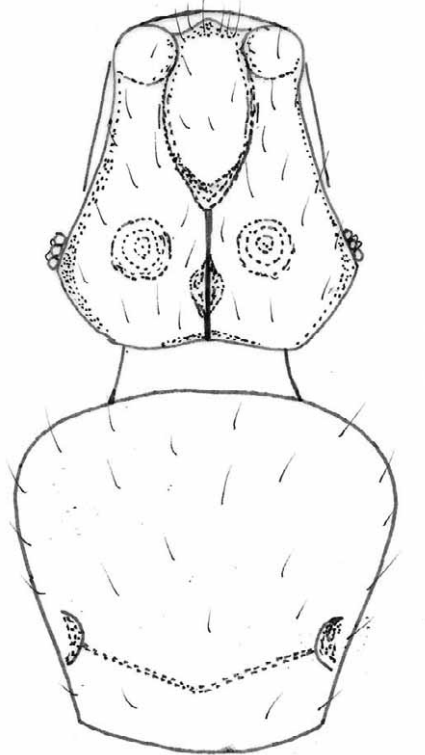


Fig.2. head and pronotum; scale 0.2 mm

Sexual dimorphism: Females with protibiae simple, lacking tubercle on mesal margin, there is no difference between sexes on scape and pedicel, which is rather unusual for the genus *Bryaxis*.

Biology: All specimens were collected under stones near the cave entrance (Fig. 7, 8). This part of the cave is relatively well illuminated, with residual sunlight at certain times of the day. No insects were found in deeper parts of the cave. The temperature of the air on 9th April 2007 was 15.1 °C. Another two beetles were found in this cave, a relatively common Leptodirine (Leiodidae) *Speonesiotes gobanzi* Reitter, 1898 and a very interesting, new species of blind *Scydmorephes* (Scydmaenidae) which will be described later.

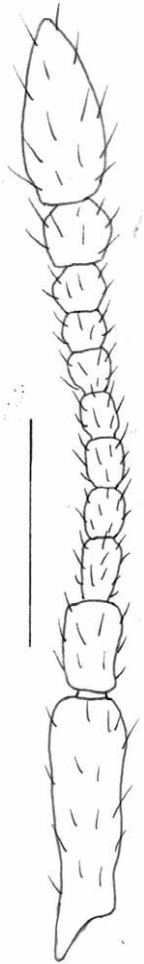


Fig. 3. antennae; scale 0.2 mm

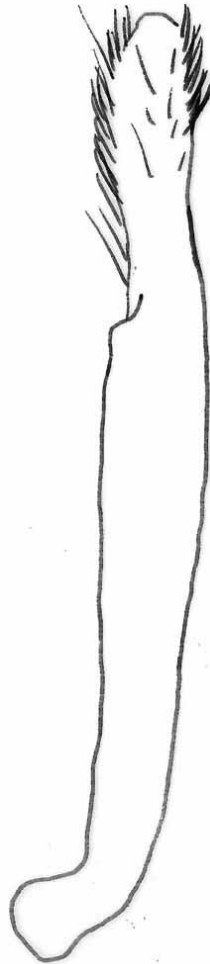


Fig. 4. right protibia; scale 0.2 mm

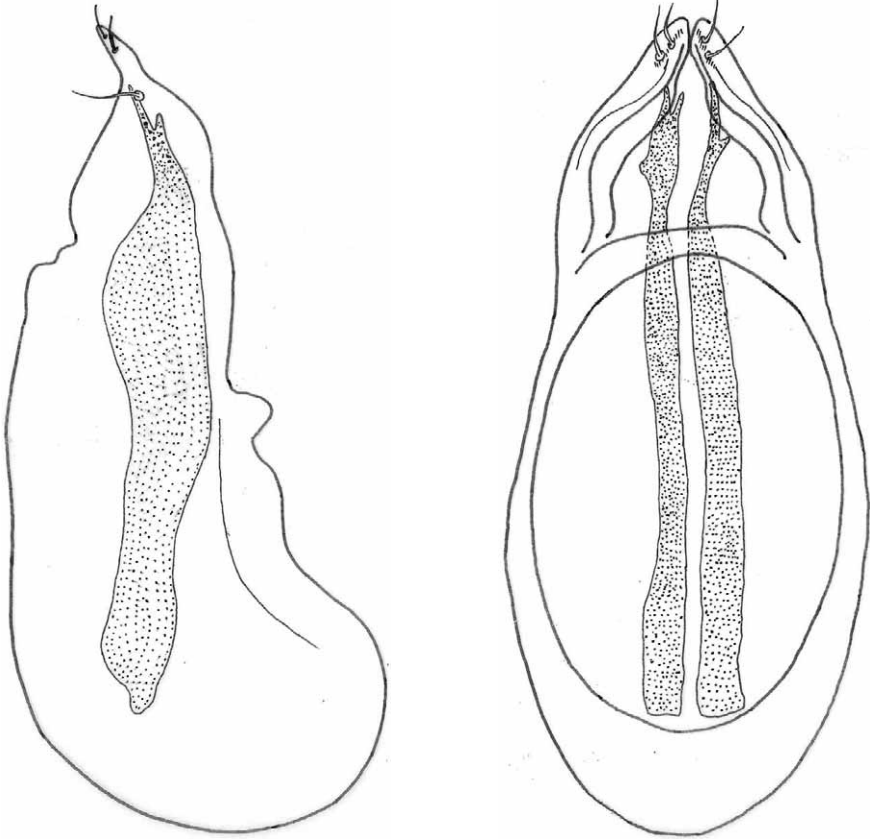


Fig. 5. aedeagus, lateral view; scale 0.2 mm Fig. 6. aedeagus, dorsal view; scale 0.2 mm

DISCUSSION

The existence of a group of cavernicolous, closely related, species of the genus *Bryaxis* was recognized for the first time by Claude Besuchet (NONVEILLER, PAVIČEVIĆ & BESUCHET, 2003: 291). He placed in the *trogloodytes* group the following species: *B. troglodytes* s.l., *B. persicoi* (Rasetti), *B. casalei* Poggi and the newly described species *B. tuberculiceps* Nonveiller, Pavičević and Besuchet. The group is defined by the combination of following characters: (1) large species, 1.8–2.2 mm; (2) antennae long and slender; (3) scape very long, about as long as antennal club, which is 3-segmented; (4) antennomeres IX and X longer than wide; (5) segment II of maxillary palpi smooth or with not more than three granules; (6) aedeagus large 0.49–0.57 mm. *B. krilei* sp. n. fits perfectly with these characteristics except for the shape of antennomeres IX and X, which are slightly wider than long, which is usual for the genus *Bryaxis*. *B. krilei* sp. n. is closely related to *B. tuberculiceps* from which it can be

readily distinguished by its smaller size, by having transverse antennomeres IX and X and the different structure of the aedeagus and with parameres that are not truncate at their apex.

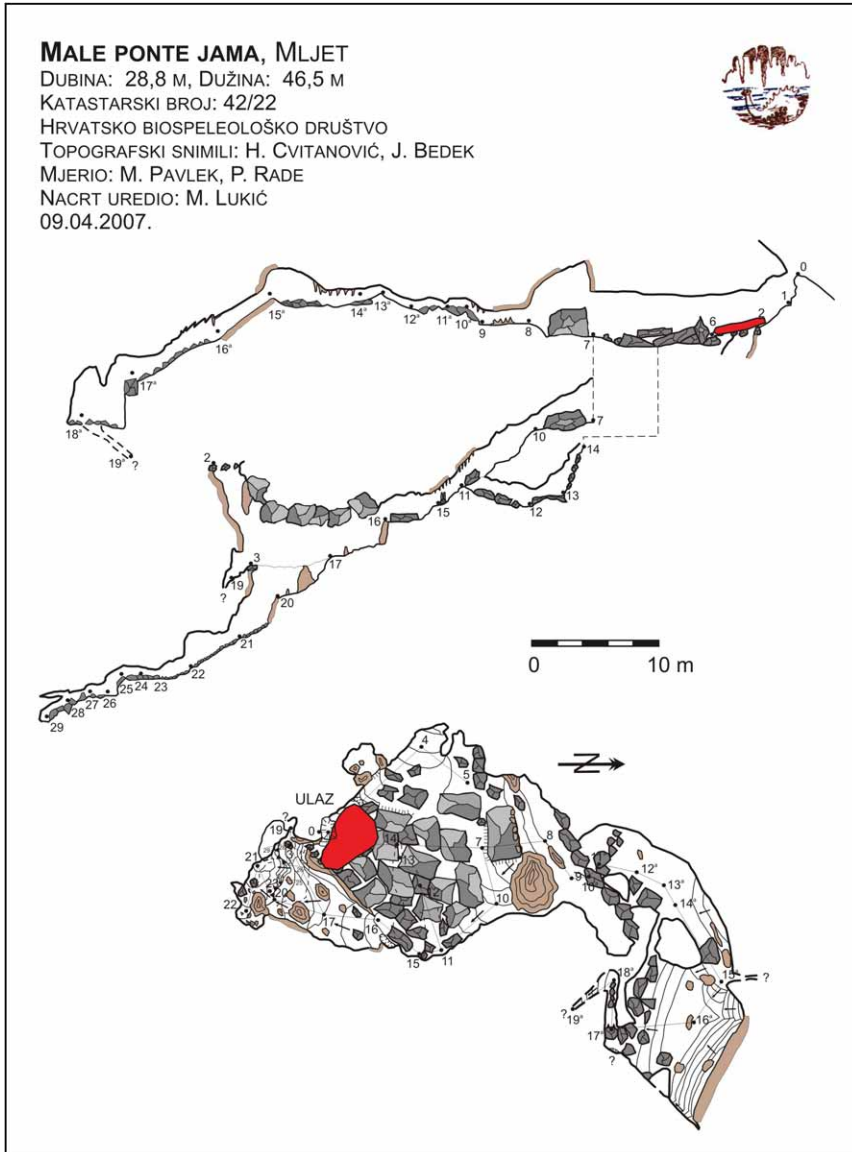


Fig. 7. Male ponte jama, topographical map (the finding place of the n. sp. is marked red, speleothems are marked brown)



Fig. 8. *Bryaxis krilei* sp. n. in Male ponte jama (Photo: B. Jalžić)

List of *Bryaxis* actually attributed to the *trogloodytes* group:

Bryaxis casalei Poggi, 1992: 218. Italy, Friuli-Venezia Giulia, Taipana (UD), Grotta di Taipana (=Barloch jama), Fr 61, m 800.

Bryaxis krilei sp. n. Croatia, island Mljet, Ropa, Grabova glava, Male ponte jama

Bryaxis persicoi (Rasetti, 1939: 80). Italy, Friuli-Venezia Giulia, Fontana della Ciuvita, Monte Ciaurles, more caves (Poggi, 1992)

Bryaxis tuberculiceps Nonveiller, Pavićević & Besuchet, 2003: 287. Montenegro, Krivošije Mts, Kameno more, village Knezlaz, 600m, gouffre »Maksina jama«,

Bryaxis troglodytes troglodytes (Fiori, 1900: 105). Italy, Veneto, Grotta di Oliero, near Bassano Veneto

Bryaxis troglodytes pierottii Besuchet, 1980: 628. Italy, Veneto, Province Belluno, Grotta del Marmo, Schievenin

Bryaxis troglodytes lausbergeri Daffner, 1984: 133. Italy, Veneto, Province Vicenza, Val Sugana, Solagna, Buso de la Torta

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